

The Eighty-Eighth  
Annual Catalogue

of

# Denison University

For the Year 1918-1919

Denison University, Granville, O.



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## The University Calendar

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1919

March	21	Friday	Spring recess begins at 3:30 P. M.
March	31	Monday	Spring recess ends, 8 A. M.
June	8	Sunday	Baccalaureate Sermon, and Sermon before Christian Associations.
June	9	Monday	Graduating exercises of Doane Academy, 10 A. M. Samson Talbot Bible Reading, 2 P. M. Lewis Literary Prize Contest, 8 P. M.
June	10	Tuesday	Class Day exercises, 10 A. M. Meeting of Alumni, 2 P. M. Meeting of Board of Trustees, 3 P. M. President's Reception, 8 P. M.
June	11	Wednesday	University Commencement, 10 <sup>30</sup> A. M. Alumni Dinner, 1 P. M.

### SUMMER VACATION, JUNE 11 TO SEPTEMBER 17

September	17	Wednesday	Opening of First Semester. Examinations for admission. Registration of new students.
September	18	Thursday	Registration completed. First Convocation, Baptist Church, 11:30 A. M.
November	27	Thursday	Thanksgiving Day. Scholastic exercises suspended.
December	19	Friday	Holiday recess begins at 3:30 P. M.

1920

January	5	Monday	Holiday recess ends, 8 A. M.
February	3-5	Tues.-Thurs.	Mid-year examinations.
February	9	Monday	Second Semester begins, 8 A. M.
February	12	Thursday	Day of Prayer for Colleges. Scholastic exercises suspended.
February	23	Monday	Washington's Birthday celebration. Charter Day.
March	26	Friday	Spring recess begins, 3:30 P. M.
April	5	Monday	Spring recess ends, at noon.
June	17	Wednesday	Commencement.

# Board of Trustees

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## OFFICERS OF THE BOARD

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\*CHARLES T. LEWIS, A. B., President.

COL. EDWARD A. DEEDS, B. S., Vice President.

MILLARD BRELSFORD, D. D., Secretary.

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## Members

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### *Ex-Officio*

CLARK W. CHAMBERLAIN, A. B., PH. D. . . . . Granville  
*President of the University*

### *Class 1.—Term Expires June, 1919.*

G. MOORE PETERS, A. M., LL. D. . . . . Cincinnati  
\*CHARLES T. LEWIS, A. B. . . . . Toledo  
EDWARD CANBY, ESQ. . . . . Dayton  
CHARLES H. PRESCOTT, ESQ. . . . . Cleveland  
JOHN M. AMOS, A. M. . . . . Cambridge  
REV. MILLARD BRELSFORD, A. B., D. D. . . . . Granville  
JULIUS G. LAMSON, ESQ. . . . . Toledo  
FRANKLIN G. SMITH, ESQ. . . . . Cleveland  
CYRUS S. EATON, A. M. . . . . Cleveland  
REV. TILESTON F. CHAMBERS, A. M. . . . . Granville  
REV. HENRY T. CRANE. . . . . Cincinnati  
THOMAS W. WARNER, ESQ. . . . . Toledo

\*Deceased

*Class II.—Term Expires June, 1920.*

REV. GEORGE W. LASHER, A. M., D. D.	Cincinnati
REV. CHARLES J. ROSE, A. B., D. D.	Granville
FREDERICK P. BEAVER, ESQ.	Dayton
BURTON CASE, ESQ.	Granville
PROFESSOR ALFRED D. COLE, A. M.	Columbus
WALLACE H. CATHCART, B. S.	Cleveland
PROFESSOR OSMAN C. HOOPER, A. M., L. H. D.	Columbus
WILLARD D. CHAMBERLIN, ESQ.	Dayton
COL. EDWARD A. DEEDS, B. S.	Dayton
DAVID E. GREEN, B. S.	Cleveland
GEORGE H. OLMSTED, ESQ.	Cleveland
CHARLES F. LANG, ESQ.	Cleveland

*Class III.—Term Expires June, 1921*

JACOB R. DAVIES, A. M.	Newark
BENJAMIN F. McCANN, A. M.	Dayton
AMBROSE SWASEY, SC. D.	Cleveland
TORRENCE HUFFMAN, ESQ.	Dayton
VINTON R. SHEPARD, A. M.	Cincinnati
REV. HERBERT F. STILWELL, A. M., D. D.	Cleveland
JOHN M. SWARTZ, A. M.	Granville
REV. JOHN F. HERGET, A. M.	Cincinnati
LEWIS R. ZOLLARS, ESQ.	Canton
REV. J. LORING CHENEY, A. M., PH. D.	Cleveland
FRED D. BARKER, PH. B., M. D.	Dayton
JOHN C. HASWELL, ESQ.	Dayton

## Committees

### *Executive Committee*

CLARK W. CHAMBERLAIN, *Chairman*

JACOB R. DAVIES

MILLARD BRELSFORD

JOHN M. SWARTZ

BENJAMIN F. McCANN

### *Finance Committee*

BENJAMIN F. McCANN, *Chairman*

Term expires 1922

FREDERICK P. BEAVER

Term expires 1919

EDWARD CANBY

Term expires 1920

JOHN C. HASWELL

Term expires 1921

WILLARD D. CHAMBERLIN

Term expires 1923

### *Finance Examining Committee*

TORRENCE HUFFMAN

WILLARD D. CHAMBERLIN

### *Committee on Library and Laboratories*

CHARLES H. PRESCOTT, *Chairman*

FRANKLIN G. SMITH

GEORGE W. LASHER

JULIUS G. LAMSON

JOHN F. HERGET

### *Committee on Instruction*

WALLACE H. CATHCART, *Chairman*

HERBERT F. STILWELL

MILLARD BRELSFORD

CYRUS S. EATON

ALFRED D. COLE

### *Committee on Conservatory of Music*

OSMAN C. HOOPER, *Chairman*

VINTON R. SHEPARD

LEWIS R. ZOLLARS

FRED D. BARKER

### *Committee on Campus and Buildings*

COL. EDWARD A. DEEDS, *Chairman*

AMBROSE SWASEY

EDWARD CANBY

### *Committee on Doane Academy*

DAVID E. GREEN, *Chairman*

TILESTON F. CHAMBERS

ALFRED D. COLE

## The Faculty of Instruction

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CLARK W. CHAMBERLAIN, A. B., PH. D., *President*  
Professor of Physics on the Eugene J. Barney Foundation

GEORGE F. MCKIBBEN, A. M., PH. D.,  
Professor Emeritus of the Romance Languages

CHARLES L. WILLIAMS, A. M., L. H. D.,  
Professor of Rhetoric and English Literature

WILLIAM H. JOHNSON, A. M.,  
Eugene J. Barney Professor of the Latin Language and Literature

H. RHODES HUNDLEY, A. M., SC. D.,  
Dean Doane Academy, with rank of Professor

WILLIS A. CHAMBERLIN, A. M., PH. D.,  
Professor of the German Language and Literature  
(Absent in Military Service, 1918-1919)

MALCOLM E. STICKNEY, A. M.,  
Professor of Botany

PAUL BIEFELD, A. B., PH. D.,  
Professor of Astronomy and Director of the Swasey Observatory

FORBES B. WILEY, A. B., PH. D.,  
Benjamin Barney Professor of Mathematics

CLARENCE D. COONS, M. S.,  
Henry Chisholm Professor of Physics

THEODORE S. JOHNSON, M. S.,  
Professor of Civil Engineering

THOMAS A. LEWIS, A. M., PH. D.,  
Professor of Education and Philosophy

HAROLD D. FISH, M. S.,  
Professor of Zoology

BUNYAN SPENCER, A. M.,  
Professor of Logic

WILLIAM CLARENCE EBAUGH, PH. D.,  
Professor of Chemistry

KENNETH S. LATOURETTE, A. M., PH. D.,  
Professor of History

## DENISON UNIVERSITY

WALTER LIVINGSTON, B. S.,  
Professor of Physical Education

KIRKLEY F. MATHER, PH. D.,  
Professor of Geology

KARL H. ESCHMAN, A. M.,  
Professor of Music and Director of the Conservatory

ROLLIN H. TANNER, A. M., PH. D.,  
Professor of the Greek Language and Literature

ROBERT J. KELLOGG, PH. D.,  
Professor of Modern Languages

MAURICE G. MEHL, PH. D.,  
Acting Professor of Geology

ANNA B. PECKHAM, A. M.,  
Associate Professor of Mathematics

AUGUST ODEBRECHT, A. M.,  
Associate Professor of Modern Languages

ROGER P. McCUTCHEON, A. M., PH.<sup>5</sup>D.,  
Associate Professor of English

EVERETT P. JOHNSTON, A. B.,  
Assistant Professor of Public Speaking

LILY B. SEFTON, B. S.,  
Assistant Professor of Chemistry  
(Absent on leave, in Government service, 1918-1919)

LOUYS A. RUMSEY, M. S.,  
Assistant Professor of Chemistry

FREDERICK G. DETWEILER, A. B.,  
Assistant Professor of Bible Study

FANNIE J. FARRAR,  
Instructor in Piano, and Head of Department

CARRIE M. HOWLAND,  
Instructor in Art

.....  
Instructor in Physical Training



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RUTH ORCUTT, M. S.,  
Instructor in Biology

ANNIE M. MACNEILL, A. B.,  
Instructor in English

CORINNE TETEDOUX, A. B.,  
Instructor in Domestic Science

MARJORIE McCUTCHEON SEARS, A. M.,  
Instructor in English

MARIE PORTER MATHER, Ph. B.,  
Instructor in Mathematics

ERI J. SHUMAKER, A. B.,  
Instructor in English

SAMUEL G. BRIDGES, A. B.,  
Instructor in Latin

GAYLE I. SMITH,  
Instructor in Violin

LEILA C. BROWN,  
Instructor in Organ and Piano

RALPH W. SOULE,  
Instructor in Voice and Head of Department

FRANCES HENRY,  
Instructor in Piano

## Officers of Administration

---

CLARK W. CHAMBERLAIN, A. B., Ph. D.,  
President of the University

FRED G. BOUGHTON, A. B.,  
Secretary of the University

H. RHODES HUNDLEY, Sc. D.,  
Dean of Doane Academy

CLARA M. BRUMBACK,  
Principal of Shepardson College

ELMER E. HOPKINS, A. B.,  
Treasurer and Business Manager

KATE S. HINES, A. M.,  
Librarian

WILLIAM H. JOHNSON, A. M.,  
Editor of University Bulletins

RUTH I. HOPKINS,  
Assistant to the Treasurer

MARTHA GEACH,  
Assistant to the Treasurer

CORINNE TETEDOUX, A. B.,  
Secretary to the President

IMOGEN A. HAMBLÉN, Ph. B.,  
Recorder

DOROTHY M. ROESER,  
Stenographer

MRS. ALICE K. HERRICK,  
Matron of Shepardson College

MRS. CARRIE M. ALTROGGE,  
Director of Shepardson Commons

## Committees of the Faculty

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*Committee on Curriculum:*

W. H. JOHNSON, P. BIEFELD, W. A. CHAMBERLIN.

*Committee on Registration:*

F. G. BOUGHTON, H. R. HUNDLEY, ANNA B. PECKHAM, F. G. DETWEILER.

*Committee on Student Aid:*

PRESIDENT CHAMBERLAIN, H. R. HUNDLEY, B. SPENCER, E. E. HOPKINS, F. G. BOUGHTON, MRS. C. M. BRUMBACK, MRS. A. K. HERRICK.

*Committee on Student Affairs:*

K. S. LATOURETTE, T. S. JOHNSON, MRS. C. M. BRUMBACK.

*Committee on Advanced Degrees:*

B. SPENCER, R. P. McCUTCHEON, W. A. CHAMBERLIN.

*Committee on Rules and Regulations:*

F. B. WILEY, M. E. STICKNEY, K. F. MATHER.

*Committee on Schedule:*

C. D. COONS, A. ODEBRECHT, R. H. TANNER.

*Committee on Teaching Appointments:*

T. A. LEWIS, C. D. COONS, W. H. JOHNSON.

*Committee on Student Publications:*

R. P. McCUTCHEON, W. H. JOHNSON, K. F. MATHER.

*Committee on Athletics:*

C. D. COONS, T. S. JOHNSON, W. LIVINGSTON, H. D. FISH.

*Committee on Inter-Collegiate Debating:*

B. SPENCER, C. L. WILLIAMS, E. P. JOHNSTON.

*Committee on Community Service:*

W. A. CHAMBERLIN, C. W. CHAMBERLAIN, T. S. JOHNSON.

*Committee on Library Expenditures:*

W. H. JOHNSON, C. W. CHAMBERLAIN, W. A. CHAMBERLIN, T. A. LEWIS, F. B. WILEY.

*Committee on Constitutions:*

K. ESCHMAN, K. F. MATHER, R. J. KELLOGG.

# Denison University

## General Information

### ORIGIN

The early settlers of the Middle West, largely men of religious principle and moral character, felt deeply the need of educated leaders, not merely in the pulpit but among laymen as well, in building up the new communities in which they and their children after them were to dwell. This feeling led to the establishment of various colleges under the care of the different religious denominations, among them the institution which later took the name of Denison University. In this college, as in most colleges of its type, the courses of study, from the start, were not drawn to give the technical training needed for the work of the pulpit, but to furnish that broad and deep educational foundation which fits a man to get more out of life and to put more into it for others, no matter what his calling may be. Some instruction in theology was offered during the earlier years of the college, but was withdrawn as soon as provision could be made for it in Theological Seminaries elsewhere, since the authorities of the college felt that special theological training should follow, not accompany, an undergraduate course of study. Thus there has been neither desire nor opportunity to force instruction into sectarian channels, and the facilities here amassed have from the outset been offered as freely to young men and women of other denominations as of that by which the college was founded and is maintained.

### LOCATION

Granville, the home of Denison University, is situated on the Toledo and Ohio Central Division of the New York Central Railway system, near the geographical center of Ohio. By electric car to Newark, six miles distant, it has access to the Pennsylvania

system, the Baltimore and Ohio, and connecting lines. It has hourly trolley car connections with the Ohio Electric system, and is provided with local and long distance telephone service. It lies among the moderately elevated and partly wooded hills which mark the transition from the more level portion of the State to the more diversified surface of the southeastern sections, conditions of natural environment admirably suited to the spirit and purpose of college life. The community is of New England origin, and similar to the traditional New England village in the high estimate which it places upon intellectual, moral and religious forces. It has long been free from saloons.

## GROUNDS AND BUILDINGS

### THE NEW CAMPUS

The campus of Denison University, for a good many years past, consisted of about twenty-five acres of land, lying in the north side of the village of Granville. Through the generosity of Colonel Edward A. Deeds, Vice President of the Board of Trustees, this has been extended by the purchase of two farms, lying directly to the north, and a number of smaller tracts on the south, east and west borders, making in all a little over two hundred and thirty acres. These new additions make provisions for contemplated building enlargement, for the growth of a good share of many of the farm products needed for the table in Shepardson College Commons, and for outdoor student recreation.

The development of recreation grounds for students of both sexes has already been begun. Colonel Deeds has employed landscape architects of the highest standing to assist in working out the plan, and its completion will give Denison an unusually fine equipment for open air exercise, embracing not only grounds for formal athletic games, but a winding pathway more than two miles in length, through woods and fields, with provision at different points for class picnics and other such outdoor social pleasures. It is expected that the extent of grounds available for such sport as football, baseball and tennis will largely increase the number

of participants and thus help to develop healthful contests within the college, as a counterpoise to an exaggerated attention to inter-collegiate athletics.

#### BUILDINGS

For dormitory purposes, the University has so far provided two buildings for young men, Marsh Hall and Talbot Hall, and three for young women, Burton Hall, King Hall and Stone Hall. These buildings are all supplied with modern conveniences, including lavatories on each floor, and are served by the central heating and lighting plant. \*Marsh Hall and Talbot Hall are four-story brick structures, furnishing accommodations together for about one hundred and fifty young men, standing on the elevated portion of the Campus known as College Hill. Burton Hall, King Hall, and Stone Hall, furnish together accommodations for about one hundred and twenty young women, together with reception parlors, reading rooms, apartments for members of the faculty of Shepardson College, officers, and several class-rooms. They are but a few steps distant from Shepardson Commons, in which students and teachers living on Shepardson College grounds take their meals. Until the erection of additional dormitory halls shall be accomplished, a portion of the young women of Shepardson College occupy houses leased by the college authorities outside the college grounds. Such houses are under the same supervision as the residence halls on the grounds.

The work of instruction occupies Barney Memorial Hall entire, the larger portion of the Doane Academy building, two floors and the basement of Talbot Hall, the Swasey Observatory, a portion of the Conservatory building, and a few rooms on the Shepardson College portion of the Campus. Barney Memorial Hall was built and equipped for the college by the late Eugene J. Barney, LL. D., of the Board of Trustees, in memory of his father, Eliam E. Barney, who was one of the most generous and devoted supporters of the institution in its early days. The building is of fireproof structure throughout, and is devoted to the de-

\*While this catalogue was in course of construction, Marsh Hall was almost completely ruined by fire. It is expected that the building will be restored or replaced in time to accommodate students next September.

partments of Physics, Geology and Civil Engineering. The Doane Academy building was erected as the gift of the late Dr. W. Howard Doane, primarily for the use of the Academy, but is at present used largely for college purposes pending the erection of other buildings. Swasey Observatory, a structure of white Vermont marble, equipped in all details in accordance with the most modern ideas of astronomical work, is the gift of Ambrose Swasey, Sc. D., of the Board of Trustees. The former residence of Professor Almon U. Thresher, with some enlargement and rearrangement, constitutes the main building of the Conservatory of Music. It was presented by Professor Thresher and Mrs. Thresher for that purpose. Adjacent to it is Recital Hall, employed for instrumental and vocal practice and for public musical entertainments.

The recreational needs of students are provided for by Cleveland Hall and the Doane Gymnasium. Cleveland Hall contains the men's gymnasium, the rooms of the Young Men's Christian Association, and halls for the Franklin and Calliopean Literary Societies. A basket ball floor, running track and swimming pool are among the indoor athletic facilities provided. Immediately at the east end of this building, but on a lower level, lies the central heating and lighting plant, from which all buildings of the University are supplied with heat, electric light, and hot and cold water for the lavatories. The Doane Gymnasium, on the Shepardson College portion of the Campus, was presented by Dr. Doane for the use of Shepardson College women.

#### PLANS FOR FUTURE BUILDING

While college experience has everywhere demonstrated that building should proceed only in carefully adjusted proportion to income producing endowment, every growing institution must realize its building needs far in advance, and conceive them in definite form, having regard not only to the specific purpose in each case but to its relation to the contemplated plan for the institution as a whole.

The serious over-crowding of the Denison Library suggests a new Library building as one of the most pressing needs, the sup-

plying of which would add immediately and very materially to the effectiveness of every department of instruction. A building for this purpose should of course be much larger than immediate library needs would require, to prepare for future growth, and in the meantime the extra space would provide quarters for certain departments of instruction, such as the Greek and Latin, which now suffer serious disadvantage from the lack of convenient, attractive and rightly adapted housing.

A Chemical Laboratory building is also a seriously pressing requirement. Here also a proper regard for certain growth in the future would provide space which could be used to house other scientific work, now crowded into inconvenient quarters, until further laboratory buildings can be provided. It is not the plan of Denison to enter into competition with the great technological schools in the special applications of science, but to furnish the broad basis, including fundamental mathematical and scientific training, upon which such special courses may be built. This of course requires adequate laboratory facilities for Physical, Chemical, Biological, and Geological instruction, the chemical need being at present the most pressing.

The proper housing of students is continually becoming a more urgent problem. This is especially true in the case of young women for whom it is difficult to secure satisfactory quarters off the college grounds. Young women are now being turned away every year because of the lack of room in the residence halls of Shepardson College and their unwillingness to take such scattered and temporary quarters as are available outside. This situation calls for the speediest possible realization of the plan for Shepardson College dormitories on the new grounds at the east end of College Hill. To meet this need there must be not only money for the erection and furnishing of the buildings themselves but also such an increase in general endowment as will provide for the enlarged administrative expense involved and the increased cost of instruction due to the enlarged enrollment which will follow additional housing room.

Suggestions as to provision for any of these needs, or others of like character, will be gladly received, either verbally or in writing,



by President Chamberlain, or by the Committee on Campus and Buildings, of which Colonel Edward A. Deeds is Chairman.

### SCIENTIFIC EQUIPMENT

*Physics*—The Department of Physics occupies the first and second floors of Barney Memorial Hall. Its thirty-one rooms include offices of administration, library, lecture and recitation rooms, general and research laboratories, photometric and photographic dark-rooms, instrument and preparation rooms, fire-proof vault, constant temperature vault, chemical kitchen, and mechanician's shop. The laboratories are supplied with natural gas, air under pressure, hot and cold water, soft water, time service, electrical distribution from storage battery, and alternating or direct current generators. A full complement of modern apparatus is available for lecture demonstrations and student work in course, while special facilities are provided for thesis and research work.

*Geology*—The Department of Geology occupies the lecture room and laboratories, library and offices on the third floor of Barney Memorial Hall. The lecture room, seating 75, is equipped with stereopticon and permanent screen for use of slides, the collection of which numbers about 5000. The geographic laboratory contains tables and map cases, including a specially designed case of 140 drawers in which is filed a complete muslin-backed set of the topographic sheets issued by the U. S. Geological Survey. The equipment of relief models and roll maps is unusually extensive and includes a large number of block diagrams representing the various theatres of the World War. For the study of minerals and rocks, more than 300 drawers of specimens are available; the fossil collections are especially rich in Waverly material from the local outcrops, much of which was identified by C. L. Herrick. The departmental library, with its spacious reading room, is named in honor of the late G. K. Gilbert whose personal collection of geological books and pamphlets was presented to Denison in recognition of the valuable contributions to geology which have been made here. The equipment for

geological photography is especially complete and efficient. In the work-shop is a specially designed table for mounting maps on cloth.

*Civil Engineering*.—The Department of Engineering occupies the fourth and fifth floors of Barney Memorial Hall. The equipment for field work includes transits, solar attachments, bevels, plane tables, compasses, leveling and topography rods of all patterns, together with the smaller implements needed. As an aid in class-room work the department has gathered a well-selected supply of shop drawings of railway and highway bridges, roof trusses, culverts, etc., with many drawings and specifications for sewers, water systems and other municipal work. From the Highway Commissions of various States the department has secured plans and specifications for every form of modern highway construction. The drafting rooms occupy the top floors of the central division and of both wings of Barney Hall, are well lighted by large skylights, and furnished with all requirements for a thorough course in drafting. The department library and reading room is supplied with the best current technical periodicals and a carefully selected list of important books on all branches of engineering work. There is also a large collection of lantern slides.

*Chemistry*.—The Chemical Laboratories occupy the whole basement floor of the Doane Academy building. There are nine rooms, forming three laboratories, store rooms, balance room, lecture room and office, where is located a chemical library.

The equipment is ample for the needs of the courses. One store-room is well stocked with glass, wood, iron and procelain ware, issued to the students in quantities amply sufficient for the demands of the best work. The other store-room is stocked with chemicals. The equipment and supplies are selected with special reference to the aim of the course, which is to give a broad theoretical basis. The first three years of the work are devoted entirely to this end. Only students who acquire such a foundation are invited to continue work in chemistry. For all who are ready for advanced work the laboratories offer excellent means for entering upon special and technical subjects. Those

who are interested in medicine, pharmacy, industrial chemistry, mining, chemical engineering and other allied branches will find in the laboratories abundant opportunity for securing preparatory training.

*Botany and Zoology.*—The Departments of Botany and Zoology occupy temporary quarters in Talbot Hall. The rooms provide for library and seminar work, lectures, recitations, elementary and advanced laboratory classes, and independent laboratory work. The opportunity for bacteriological studies is very good, and ample provision is made for the study of plant and animal genetics.

The University Herbarium embraces representative collections from all parts of the United States and Mexico and is especially full in local flora, affording equipment for work in systematic botany. A number of the leading botanical and zoological journals in English, French and German are accessible to students. The library of the Scientific Association receives in exchange for the *Bulletin of the Scientific Laboratories* the Proceedings and Transactions of many learned societies at home and abroad, together with the scientific publications of the various States and of the United States Government. This library, located in Barney Memorial Hall, is open for consultation every working day of the college year.

*Astronomy.*—The Department of Astronomy occupies the Swasey Observatory. Its equipment is intended primarily for teaching, but is of such extent as to serve also for research work along certain lines. The equipment consists of a nine-inch Equatorial of the standard Warner and Swasey type, with optical parts by Brashear. The accessories include a Warner and Swasey position micrometer and a wedge photometer, by Cooke and Sons, England. The transit room contains a Warner and Swasey combined transit and zenith telescope of four-inch aperture, provided with a silver circle reading to ten seconds of arc.

The library contains mean time and sidereal clocks by Riefler. A chronograph puts these in connection with both the transit and the equatorial. The library has been largely furnished with

standard astronomical periodicals, both American and European. A wireless receiving station has also been added, receiving the Arlington time signals.

### LIBRARY PRIVILEGES

The University Library is open to the instructors and students in all departments, with free access to the shelves. The overcrowded condition of the present library building has made it necessary to maintain special collections in several different departments, including Latin and Greek and the various scientific departments. The Denison Scientific Association has accumulated a very valuable scientific library, largely through exchange of the Bulletin of the Scientific Association with the publications of other scientific organizations, throughout the civilized world. The Department of Geology possesses the very valuable library of the eminent geologist, Dr. G. K. Gilbert, presented a few years ago in recognition of the valuable geological research work done by various members of the Denison faculty and Denison graduates. In King Hall is the Marsh Memorial Library, founded by Dr. Shepardson and Mrs. Shepardson in memory of their daughter, Mrs. Lide Shepardson Marsh, and containing a valuable collection of books for mission study and Bible study. The Conservatory of Music has its own library of musical literature. In addition to the special and general periodicals coming to the University Library and the various departments, reading rooms are maintained by the Y. M. C. A. and in the Shepardson College residence halls, supplying current daily, weekly and monthly periodicals.

### SCIENTIFIC PUBLICATIONS

The "Bulletin of the Scientific Laboratories," published under the auspices of the "Denison Scientific Association," affords an opportunity for the publication of original work by students and instructors in the several departments.

Among the contents of this Bulletin have been many of the important geological and biological studies of C. L. Herrick; various studies in physics, by A. D. Cole; studies in the pre-

glacial Drainage of Ohio, by W. G. Tight; a series of papers on the Clinton Group of Ohio, by August F. Foerste; studies on the nerve system of fishes, by C. J. Herrick; a Catalogue of the Phanerogams and Ferns of Licking County, by Herbert L. Jones; the Birds of Licking County, by Irving A. Field; papers on various phases of the Geology of Licking County, by C. J. Herrick, W. G. Tight, Frank Carney and others; studies in New Mexico Geology, by C. L. Herrick and Douglas W. Johnson, and a number of Thomas Leonard Watson's researches in the various ore-deposits of Virginia, Georgia, and North Carolina.

Correspondence concerning the Bulletin should be addressed to Kirtley F. Mather, Ph. D., Secretary Denison Scientific Association, Granville, Ohio.

#### SCIENTIFIC AND ACADEMIC ORGANIZATIONS

Within various departments of the University voluntary organizations have been formed, open both to instructors and to students, for the promotion of reading, discussion and research outside the limits of formal curriculum requirement. Among these may be named.

(1) *The Denison Scientific Association*, under the auspices of which the Bulletin of the Scientific Laboratories is published. Its scope includes all lines of scientific study, and through the agency of the Bulletin, by exchange with similar publications in all parts of the world, it has greatly enriched the library of the University in the literature of scientific investigation.

(2) *The C. L. Herrick Geological Society*, founded in 1907. Its membership is limited to twenty instructors and students in the Department of Geology, each member appearing on the programme of the Society each semester.

(3) *The Denison Chemical Society*, aiming to foster interest in the progress and applications of chemistry, and open to all who are interested in any way in the chemical sciences.

(4) *The Castle Genetics Club*, the work of which comprises systematic reviews of progress in genetic inquiry, the application of genetics in fields of common and useful practice, and the en-

couragement of investigation. Active membership is limited to instructors in the biological sciences, and twenty students in the departments. Associate membership is open to the entire student body.

(5) *The Denison Mathematics Club*, open to all interested, and meeting twice each month to discuss mathematical topics not regularly included in scheduled courses.

(6) *The Denison Language Association*, open to members of the faculty and students in all language departments, and aiming to increase the interest in linguistic and literary scholarship, both for its own sake and because of its fundamental relation to all other branches of educational progress.

(7) *The History and Political Science Association*, which aims to promote a study of the current literature of the "Social Sciences." Active membership is composed of instructors in the subjects concerned and of students who have acquired not less than twelve "points" in courses in History or Political Science.

### STUDENT ORGANIZATIONS

The organizations mentioned in the preceding paragraphs are for members of the faculty and students alike. The following are primarily student organizations, though faculty counsel and assistance are provided for in the constitution of the Council of Debate and Oratory, and of the Athletic Associations.

(1) *Literary Societies*. Five literary societies are maintained—the Calliopean and Franklin, open to all the young men of Granville College; the Euterpean, Philomathean and Thalian, open to the young women of Shepardson College. The two first mentioned date back to the early day of the college and have assembly rooms of their own on the upper floor of Cleveland Hall.

(2) *The Council of Debate and Oratory*. This organization aims to promote interest in effective public speaking. It usually maintains four debating teams and arranges for contests in debate with other colleges. Instruction in debating for this purpose is provided through a regularly organized class, in charge of a mem-

ber of the faculty, and a certain amount of scholastic credit is granted for satisfactory work.

(3) *Athletic Association.* Each male student in the University is a member of the Denison Athletic Association, and entitled to all its privileges, including a vote in its management, by virtue of an annual fee assessed by the University. A similar organization, the Shepardson Athletic Association, exists for the promotion of healthful athletic exercise among young women in the University. The development of the lands recently donated by Colonel Deeds will greatly enhance the usefulness of both these organizations.

### MORAL AND RELIGIOUS INFLUENCES

The religious motive actuating the founders of Denison determines its entire life and administration as positively and emphatically in favor of the Christian religion. At the same time, the honest carrying out of the purpose of the founders would forbid either the restriction of the facilities of the University to adherents of a particular religious denomination, or the warping of courses of instruction in the arts and sciences into a means of sectarian propaganda. The aim of Denison University is to provide college education of thoroughly sound scholastic quality, under such influences as will strengthen Christian faith and build up the highest type of what is generally known as Christian character. The University assembles regularly for worship, and this service each student is required to attend unless exemption is granted by the Dean for valid reason. All students are encouraged to attend morning and evening church services each Sunday, full liberty being allowed to conscientious denominational preference in selecting a place of worship. Students are gladly welcomed in the various Sunday Schools of the village, and in the Baptist Sunday School a special Student Department is maintained. Vigorous branches of the Y. M. C. A. and the Y. W. C. A. are maintained in the University, and the Y. M. C. A. offers a course of Bible Study leading to a certificate, upon successful examination, under the auspices of the International Committee

## THE COLLEGE YEAR

The scholastic year is divided into two semesters, beginning respectively in September and February. For details and exact dates, see the Calendar, on page 3. Short recesses are held during the Winter holiday season and near the close of March. The great majority of students of course enter at the opening of the first semester in September. The fact that many of the courses run through the year, the work of the first semester being prerequisite to that of the second, limits considerably the range of choice open to a student entering in February. Fairly satisfactory schedules can nevertheless be arranged for such students, and in cases where entrance in September has not been possible it is far better to enter in February, at the opening of the second semester, than to wait until the next year.

## HONORS AND PRIZES

## A. SPECIAL STUDY FOR HONORS

With the consent of the faculty, any regularly classified student who has maintained an A grade in not less than half his work during two successive semesters of the freshman and sophomore years, and has not fallen below a passing grade in any single study, may be enrolled as a student for Honors in some selected department of study. Application for such enrollment must be made prior to the first of April of the junior year. If the application be granted, the Professor in charge of the department of study selected shall assign work to the applicant substantially equal in amount to a three credit course for one college year.

Prior to the first of May of the senior year, an examination on this work shall be conducted by the Professor in charge, assisted by some other member of the faculty designated by the President, the examination covering also, in a general way, all other work which the applicant has taken in the same department. If the examination be creditably passed, the name of the applicant shall be placed upon the records of the University as having won Honors in this department, and the fact shall be announced on Commencement day and published in the next annual catalogue.



While working for Honors under this regulation, the student must maintain an A grade in all other work taken in the same department, and must not fall below B in any other department. He must also maintain an unblemished record in department. Work done for honors must not be elementary in its character, and in no case shall it be the only work done by the student in the department in which it is taken. It may consist either of advanced elective courses already offered, or of special topics assigned to suit individual cases; but in no case shall work upon which Honors have been bestowed be counted as any part of the student's requirement for his baccalaureate degree.

### B. PRIZES

1. *The Lewis Literary Prize Contest.* For some years previous to his death, Charles T. Lewis, of the Board of Trustees, offered four prizes each year to the Franklin and Calliopean literary societies, to be competed for in a literary contest, during commencement week. These prizes are continued by his sons, Howard Lewis, A. B., of the class of 1900, and Frank C. Lewis, A. B., 1902. The prizes are as follows: Forty dollars to the best debater, thirty dollars to the best orator, twenty dollars to the best essayist, and ten dollars to the best declaimer.

2. *The Samson Talbot Prize Reading.* This prize foundation is for the best reading of Scripture and is open to Seniors and Juniors. The prizes are \$40 and \$20 respectively.

3. *Lake Laboratory Scholarship Prize.* The University offers as a prize to students in the Department of Botany and Zoology a scholarship in the State University Lake Laboratory, for the summer session following the award. This prize is awarded on the basis of general excellence in the work done in these two departments. In case two applicants seem equally meritorious two such scholarships may be offered.

4. *The Harmon Freshman Latin Prize.* Ex-Governor Judson Harmon, of the class of '66, offers a prize of \$50 each year for the best work done in Freshman Latin, the award to be made on the basis of a special examination at the end of the year.

## SCHOLARSHIP FUNDS

For deserving students in need of assistance the University has at its disposal the annual income of the following funds:

1. The Mary K. Monroe Fund, \$30,000. The income of this fund is available for ministerial students in Granville College, and in the Theological Seminaries after graduation from Granville College.
2. The King Scholarship Endowment, of \$12,000, for the aid of young ladies in Shepardson College.
3. The Ebenezer Thresher Fund, of \$10,000, for the aid of young men of Granville College.
4. The M. E. Gray Fund, of \$5,000, for the aid of ministerial students of Granville College.
5. The David and Jane Harpster Fund, \$1,500, available for students in Granville College or Doane Academy.
6. The David Thatcher Fund, of \$1,500, available for ministerial students in Granville College or Doane Academy.
7. The Mary Arnold Stevens Fund, of \$500, for students in Granville College or Doane Academy.
8. The Shepardson Scholarship, income of \$1,000, for students in Shepardson College.
9. The Luse Scholarship, income of \$1,000, for students in Shepardson College.
10. The Bostwick Scholarship, of \$1,000, established by A. F. and A. A. Bostwick, of Seville, Ohio.
11. The Griswold Scholarship, the income of \$5,000, the gift of the late G. O. Griswold, Esq., of Warren, Ohio.
12. The Lewis Scholarships, contributed by Charles T. Lewis, Esq., of Toledo, affording free tuition annually to two students.
13. The Doyle Scholarship, contributed by John H. Doyle, Esq., of Toledo, Ohio, affording free tuition annually to one student.

14. The Gilpatrick Scholarship, endowed by a fund contributed through the Society of the Alumni by former students and friends of the late Professor John Lord Gilpatrick.

15. The Maria Theresa Barney Fund, from which the President of the University has a varying amount at his disposal each year to be loaned to students at his discretion, without interest.

16. The Ohio Baptist Education Society has at its disposal free tuition scholarships for its beneficiaries to the number of forty, if necessary.

17. By authorization of the Trustees the President of the University may remit the tuition of a limited number of students in case of special necessity.

18. A few scholarships which were sold in the early days of the college were afterwards surrendered by the original purchasers and are at the disposal of the Faculty.

Good class standing and exemplary conduct in all relations of life are prerequisite to the enjoyment of any of these scholarships. Pupils holding them may be called upon to render a certain amount of service to the University but never to an amount which will interfere with regular college studies.

# Granville College

## Historical Statement

The name "Granville College" was the official designation of the school now known as Denison University, for about ten years previous to the adoption of the present name. At various times during the succeeding years the re-adoption of the name has been informally discussed among the friends of the institution, but the matter has not been taken up officially. When the readjustment of the relations between Denison University and Shepardson College came before the Board, the necessity for some separate designation of the department of the University which has to do with the instruction of young men in the four college classes led inevitably to the revival of the name *Granville College*. Wherever this term is used, the reader will understand that it refers to the department of collegiate instruction for young men, as distinguished from the department dealing with the collegiate instruction of young women, known as Shepardson College.

## Conditions of Admission

*All statements in the following pages concerning entrance, requirements for graduation, courses of study, etc., apply equally to young men in Granville College and young women in Shepardson College.*

Regularly authenticated graduates of Doane Academy are admitted to the freshman class without further examination.

The graduates of certain approved high schools are credited with their certified high school work without examination, so far as such work coincides with the entrance requirements of the University. Candidates prepared elsewhere than in Doane Academy must in every case present certificates or diplomas officially signed and showing the amount of work done and credit

gained in each study. These must be presented when the student applies for admission.

Prospective students of college rank should send before September first a certified statement of their credits. Entrance blanks will be furnished upon request. Failure to forward entrance credits may cause delay in the completion of registration.

Examinations for admission will be held on the first day of the Fall Semester, at 9 a. m. (See Calendar.)

## Entrance Requirements

Fifteen units distributed as indicated below are required for entrance, and no student is admitted to Freshman rank who does not present at least fourteen units.

1. The following  $10\frac{1}{2}$  units are prescribed for all:

English, 3.	History, 1.
Foreign language, 4.	Science, $\frac{1}{2}$ .
Mathematics, 2.	

2. At least  $2\frac{1}{2}$  additional units must be selected from the following subjects, the number indicating the maximum number of units that will be accepted in any subject:

English, 4.	Physics, 1.
Latin, 4.	Chemistry, 1.
Greek, 3.	Phys. Geog., 1.
French, 3.	Botany, 1.
German, 4.	Zoology, 1.
Spanish, 3.	Physiology, 1.
History and Civics, 4.	Agriculture, 1.
Mathematics, 3.	

3. Not more than two units may be presented from the following subjects:

Mechanical Drawing, 1.	Manual Training, 1.
Freehand Drawing, 1.	Commercial Law, 1.
Domestic Science, 1.	Commercial Geography, 1.

Requests for entrance credit for subjects not here enumerated, but offered in preparatory schools of recognized standing, will be determined under direction of the faculty on their individual merit.

*Note.*—Students entering the Classical Course, leading to the degree of A. B., will present four units of Latin and two of Greek. For those who have not had Greek in the high school or academy, a course in beginning Greek is offered in college with full college credit. In general, students preparing to enter Denison are advised to look carefully over the courses offered in college and avoid the mistake of omitting in the preparatory school subjects essential to courses which they may desire in college.

It should be kept in mind that too liberal a use of "election" during the preparatory course may seriously limit one's power to elect in the college.

*Deficiencies in Certain Branches.* Students often apply for admission to regular classes, who are behind those classes in some study. If such students show ability, assistance is afforded them in compassing their purpose. It is sometimes, however, necessary for them to secure private instruction for a short time; but this may be obtained at reasonable rates.

### REGISTRATION OF STUDENTS

New students will present themselves at the office of the Registrar, on the opening day of the semester, for registration. By the Registrar they will be assigned to appropriate members of the faculty who will aid them, as temporary advisers, in filling out their schedule of studies and hours for the first semester. This initial registration does not necessarily require final decision as to the department in which the candidate for a degree shall take his major work. As soon as that choice shall have been made, which would normally be during the freshman year, if not at its beginning, the head of the department in which the student takes his principal sequence becomes his permanent adviser and must be consulted by him with reference to the studies to be chosen at each subsequent registration.

*Changes in Registration.* Ordinarily, no changes are allowed in registration after the registration card has been filed with the Registrar. For every change that is allowed, a fee of one dollar will be charged, unless remitted by the Registrar for satisfactory reason.

*Late Registration.* All students must complete their registration and settle with the Treasurer on the first day of each semester. Failure to do so will be counted as late registration, entailing a special fee.

*Normal Registration.* The average number of credit hours per semester which must be taken to make up the requirement of 128 credits for graduation, (including the four credits in Physical Training heretofore required, but not counted in the former total of 124 credit hours) is sixteen. Seventeen credit hours, including Physical Training if the student be a freshman or sophomore, may be considered as a normal registration. Without special permission, obtained through the office of the Registrar, no student is allowed to register for less than fourteen credit hours, or for more than nineteen, in any single semester. Students permitted to register for more than nineteen hours will pay an extra tuition charge of one dollar for each credit hour in excess. Continued permission to carry more than seventeen hours per semester will depend upon the grade of work done, under regulations established by the faculty.

*Dropping Work.* Work for which the student has once registered cannot be dropped except by formal permission secured through the office of the Registrar. A course abandoned without such permission will be counted as a failure and so recorded on the permanent record.

*Dismission.* Students leaving before the close of a semester will not be regarded as having honorably terminated their connection with the University unless dismissed by the President.

#### REQUIREMENTS FOR BACCALAUREATE DEGREES

The University confers the degrees of Bachelor of Arts, Bachelor of Science, and Bachelor of Philosophy, upon the satisfactory

completion of the respective courses of study indicated in the following paragraphs.

For convenience of reference, the various departments of study for which academic credit is allowed are grouped under two divisions, as follows:

DIVISION ONE	DIVISION TWO
Philosophy and Education (including Logic)	Mathematics
History and Political Science (including Sociology)	Astronomy
The Greek Language and Literature	Civil Engineering
The Latin Language and Literature	Physics
The Romance Languages and Literatures	Chemistry (including Household Economics)
The German Language and Literature	Geology (including Geography)
The English Language and Literature (including Public Speaking)	Botany
Music (theoretical and historical courses)	Zoology

*Common Requirements for all Baccalaureate Degrees*

All candidates for degrees must take English, courses 1-4; Mathematics, courses 1c-2c, or 1b-2b; six semester credits in the department of Philosophy; sixteen semester credits in Modern Language, and four semester credits in Physical Training.

*Special Requirements for the Degree of Bachelor of Arts*

In addition to the common requirements, as above, the candidate must take a sequence of not less than 32 semester credits from the combined departments of Latin and Greek. Elementary Greek courses, when taken in college by students of college standing, may be counted in fulfilling this requirement. Courses offered in the Greek and Latin departments not requiring a knowledge of these languages may be counted for this requirement, but not to exceed eight credits in all.



*Special Requirements for the Degree of Bachelor of Science*

In addition to the common requirements (second paragraph above) the candidate must take a principal sequence of not less than 20 semester credits in some of the departments listed under Division Two (third paragraph above) and a secondary sequence of not less than 12 credits from studies in the same Division.

*Special Requirements for the Degree of Bachelor of Philosophy*

In addition to the common requirements (third paragraph above) the candidate must take a principal sequence of not less than 20 semester credits in some one of the departments listed under Division One (fourth paragraph above) and a secondary sequence of not less than 12 credits from studies in the same Division. Applicants for this degree (Ph. B.) may reckon Mathematics as under Division One for either the principal or the secondary sequence.

NOTE. Candidates for either the A. B. or the Ph. B. degree must take at least ten semester credits in studies listed under Division Two, in addition to the common requirement of a year of Mathematics.

The term "sequence," as used in the preceding paragraphs, must be so interpreted as to insure a genuine logical relation between the courses of which the sequence is composed.

The granting of any of these degrees requires the completion of at least 128 units, or credits, of scholastic work including four credits in Physical Training, the unit consisting of one hour per week of lecture or recitation, or two hours per week of laboratory work, through one semester. The scholastic work of the student is graded as follows: A, excellent; B, good; C, fair; D, poor. For work of an A grade, two "points" are given for each semester hour; for work of a B grade, one and one-half points; for C, one point; for D, none. No degree will be given to a candidate whose work shall not have been of such standing as to earn 140 points. By the close of the Spring recess previous to graduation, the candidate for a degree must have to his credit at least one hundred and ten hours of college work, and one hundred and twelve points. Freshmen and sophomores are required to take three hours per

week of physical training, under the direction of the Professor of Physical Education, for which one scholastic credit each semester is granted.

#### SUBJECTS OPEN TO FRESHMEN

Courses 1-2 in English, and 1c-2c or 1b-2b in Mathematics, are required of all candidates for degrees and must be taken in the freshman year. Neither subject may be deferred to a later year except with the consent of the Registrar, on recommendation of the adviser. Students competing for the degree of Bachelor of Arts will take Latin or Greek, or both, during the Freshman year. Students looking forward to advanced courses in Mathematics, Physics, or Engineering, are advised to take Mathematics 1b-2b in the freshman year, a five hour course, rather than 1c-2c, which gives but three hours' credit. Students for the degree of Bachelor of Science will take at least two subjects in science during the freshman year. Students for the degree of Bachelor of Philosophy will take a foreign language in the freshman year, in addition to the common requirement of English and Mathematics.

The completion of the freshman schedule, in addition to the subjects mentioned in the preceding paragraph, will be determined by the student in consultation with his adviser. The following subjects are open to freshmen, when suited to the particular course of study upon which the student is entering:

Astronomy 1a-2a	Bible Study 1-2
Botany 1-2 (General Biology)	History 1-2 and 11
Chemistry 1-2	Music 1a-2a and 3-4
Civil Engineering 1-2, 4	Political Science 1-2
Geology 1-2	Public Speaking 1-2
Physics 1-2 and 1a-2a	Zoology 1-2

All beginning language courses are open to Freshmen, or more advanced courses if the elementary work has been done in the preparatory school.

#### CLASSIFICATION OF STUDENTS

No student will be classified as Freshman who is deficient at the beginning of the year in more than ten hours of preparatory work. For Sophomore standing the student must have removed

entrance conditions and gained credit for at least twenty-four hours of college work and twenty-six points by the beginning of the year. For Junior standing he must have completed at least sixty-two hours of college work and sixty-eight points, and for Senior standing at least ninety-six hours and one hundred and five points. Work required of Freshmen and Sophomores respectively in Physical Training must be completed before they will be advanced to Sophomore and Junior standing.

#### SECOND DEGREES

Candidates for the degrees of Master of Arts or Master of Science must pursue graduate work in residence. One year's work (not less than thirty credit hours) under the direction of the Committee on Advanced Degrees is required. Suitable courses taken before graduation and not credited towards the requirement for the bachelor's degree may constitute not to exceed one-half of this work, but the Master's degree will not be granted earlier than one year after the bachelor's degree.

Before registering for work for a second degree, the applicant must present his proposed course of study to the Committee on Advanced Degrees, and the professor under whom the major work is to be taken, and secure their approval of the same. Residence work done in other institutions may be accepted in part fulfillment of these requirements, subject to examination at the option of the Committee, but at least ten credit hours must be done in residence in Denison. Two thirds of the graduate work must be done in a single department as a major. The minor work may be done in one or more departments. A final examination is given, on completion of the course, covering all the work offered in candidacy for the degree. The committee of examination consists of the standing Committee on Advanced Degrees and the instructors under whom the work has been taken. The candidate, in the pursuit of his studies, must be able to use at least one language other than his own. For further details, consult the chairman of the committee.

Students in graduate courses are subject to the same tuition, incidental and laboratory fees as others. The diploma fee for the master's degree is ten dollars.

# Statement of Work in the Various Departments of Instruction

## ASTRONOMY

PROFESSOR BIEFELD

(Office hours, Monday and Wednesday, 1:30 P. M.)

Of the following courses, 1a and 2a (substituted for courses 11-12 of previous catalogue) are elementary, introducing the student to the method, theoretical and practical, of study of a new science. Course 3 is intended to be cultural, presenting the subject with greater scientific accuracy. Courses 4 and 6 bring the student in contact with the more advanced practical applications of the subject, solving the problems with the rigor that mathematics and modern instruments make possible. Course 6a is an application of Astronomy to the earth's gaseous envelope and phenomena in same. Courses 7 and 8 give opportunity for work of high grade and lasting value to Astronomy, along the line of photometric and micrometric work, while 9 and 10 lead to the application of Mathematics to Astronomy. Students specializing in Mathematics will find in courses 3, 4, 6, 9 and 10 a chance to round out their science in practical application of the highest type.

*1a. Elementary Astronomy.* Study of the whole subject from an elementary text, together with the identification of the principal constellations, planets, star clusters, nebulae and other interesting objects of the sky with the naked eye and use of the Equatorial. The principal instruments of the observatory will be demonstrated, with a view of their application to astronomical problems.

Elective for freshmen and sophomores without prerequisites. Four recitations a week, Friday excepted, 1:30 P. M., with one hour a week on Tuesday or Thursday, 8-9 P. M., for the study of the constellations and demonstration as mentioned above, needing no preparation on part of student. First semester, 4 credit hours. (Covering same ground as former 11-12.)

2a. *Elementary Practical Astronomy*. A course supplementary to 1a, to introduce students who have had that course to the use of instruments and to solve astronomical problems in a simple way. Further, for engineering students to supplement their surveying courses with the determination of exact geographic place, involving observations for latitude, longitude and time; earth's figure, use of American Nautical Almanac, determination of azimuth and nautical astronomy. The theoretical work will be same for all, but laboratory work will be differentiated. Open to freshmen and sophomores who have had course 1a and for engineering students who have had freshman Mathematics and Civil Engineering 4. Fee \$2. Four hours, Friday excepted, 1:30 P. M., with laboratory hours to be arranged.

3. *Descriptive Astronomy*. A standard text will be used as the basis for this course, covering the whole field; together with demonstrations at the instruments of the observatory and use of lantern slides. Prerequisite, freshman Mathematics and General Physics 1-2 advised. Elective for junior and seniors. First semester, four hours, Monday excepted, 10 A. M.

4. *Practical Astronomy*. Elective for students who have had Astronomy 3 and Physics 3, laboratory work in mechanics being of special importance. A laboratory course, taking up the work as follows: (1) *Angle and time measurements*. Work with vernier, level, micrometer, astronomical clock, and chronograph. (2) *The Transit Instrument*. Determination of the constants of the instrument. Wire intervals of micrometer, level constant, collimation constant, azimuth constant. Determination of time by eye and ear method, and by chronograph. Determination of longitude. (3) *The Zenith Telescope*. Determination of geographical latitude by Talcott methods. (4) *The Transit as Meridian Circle*. Determination of nadir and equator point. Determination of right ascension and declination of stars differentially. Determination of longitude of the Observatory in connection with wireless signals from Arlington. (5) *The Equatorial*. Adjustments. Determination of the apparent place of a heavenly body, directly, by means of hour and declination circles, or differentially, by means of position micrometer. Double star

work. Determination of position angle and distance with position micrometer. Fee, \$2.00. Second semester, four hours, Monday excepted, 10 A. M. (not given in 1919-1920).

6. *Method of Least Squares*. Advised for students taking Astronomy 4. Second semester, hours to be arranged.

7-8. *Advanced Observational Work*. Use of the position micrometer and equatorial in measurement of double stars. Measurement of position, differentially, of fixed stars suspected of considerable proper motion. Stellar Photometry, with naked eye, by grades. Study of short period variables, with sliding wedge photometer. Prerequisite, Astronomy 3. Both semesters, three credit hours, time to be arranged.

9-10. *Introduction to Celestial Mechanics*. An application of Mathematics to Astronomy. A standard text is used, taking up the fundamental principles of analytical mechanics, central forces, potential and attracting bodies, the problem of two bodies, determination of orbits, general integrals of the problem of bodies, the problem of three bodies, perturbations—geometrical considerations and analytical methods. This course is not only of great value to the student of Astronomy, but affords an excellent opportunity to tighten up the higher mathematics the student has had with that department. Prerequisite, Astronomy 3, (may be taken parallel with first semester of this course), Mathematics through Calculus, including preferably an introduction to Differential Equations. Both semesters, Monday, Tuesday, and Thursday, 11 A. M.

14. *Meteorology*. Elective for students who have had Physics 1-2. The following subjects are taken up by lectures, illustrated by lantern slides: Temperature relations of the solid and fluid surface of the earth; air pressure; moisture content of the atmosphere and its influence; movement of air (dynamic meteorology); atmospheric disturbances and weather prediction. Alternates with Astronomy 4. Not given in 1919-1920. Second semester, four hours, Monday excepted, 10 A. M.

## BIBLE STUDY

ASSISTANT PROFESSOR DETWEILER

The work in this department looks towards a genuine appreciation of Biblical literature by the general student, and is expected at the same time to furnish those who will engage in some form of Christian service with a good method for advanced study. The instruction does not consist in handing down to the student a ready-made interpretation of the text, but is planned to provide the individual student with an appropriate historical and religious background, and thus stimulate his own appreciation of the meaning. It is hoped that the facilities of the department will soon expand, so as to provide additional courses beyond those indicated. The work is carried on by means of discussion in class and occasional lectures accompanied by large reading of the text and a subsidiary use of one or two textbooks.

All college students are allowed to elect the courses.

1. *Ancient Israel*. An attempt is made to get a clear view of Israel's position in the ancient world and her religious significance. The historical books of the Old Testament and some of the prophets furnish study-material. First semester, Monday, Tuesday, Thursday, 11 A. M.

2. *Life of Jesus*. This is a study of Christian beginnings largely taken up with the life and teachings of Christ and ending with a glimpse of the early Christian community. Second semester, Monday, Tuesday, Thursday, 11 A. M.

## BOTANY

PROFESSOR STICKNEY

(Office hours, Tuesday and Thursday, 8:30 A. M.)

MISS ORCUTT

The work in Botany is designed not only for the systematic development of that branch of science for the benefit of students who wish either to teach or in any other way devote themselves professionally to it, but also and more particularly to emphasize,

through systematic training in observation and deduction, the broader and purely cultural side of the subject.

Students desiring a single course in Botany in addition to the work in general biology are advised to select 11 and 12 if their interest centers in the flowering plants, or 3 and 4 if they wish to obtain a broader survey of the entire plant kingdom. Courses 1-4, 7-8 have a special bearing upon pre-medical work, and 7-8 are likewise of special interest to domestic science students, while to the student of agriculture, courses 1-2, 5-6, 7-8, and 9, are particularly recommended. The following courses are offered by the department:

1-2. *General Biology*. Introductory to all other courses in the department and designed also for students in other departments who desire a general acquaintance with biological laws and theories. A review of earlier theories of life and living things, a general consideration of living organisms and life processes, and a study of the origin of individuals and races through reproduction and evolution. Emphasis is placed on modern laboratory methods of study. Illustrative material is taken from the plant kingdom, but with a view to its application to the fundamental laws of all life. The course does not follow the lines of ordinary High School elementary botany, and is designed equally for those entering with or without such a course. Lectures, laboratory studies and quiz. Three credits. Both semesters, lecture, Tuesday, 11; quiz, Thursday, 11. Laboratory, two sections, Monday or Wednesday, 10-12. Fee, \$3.00.

3-4. *Plant Morphology*. A very general survey of the plant kingdom, with a study of type forms from the lowest to the highest order. Structure, development, reproduction and classification. One all-day field trip and several shorter excursions each semester. Alternates with courses 5 and 6. Prerequisite, Botany 1-2. Fee, \$3.00 each semester. Both semesters, four credits, Tuesday and Thursday, 11 A. M.; Wednesday and Friday, 10-12. Offered in 1919-1920.

5-6. *Plant Histology and Physiology*. A study of cells, tissues and organs of higher plants, and of the relation of these structures



to irritability, movement, secretion, nutrition, growth and reproduction. Special attention is given to the technique of microscopic study during the first semester, and to experimental methods during the second. Alternates with courses 3-4. Prerequisite, Botany 1-2. Fee, \$3.00 each semester. Both semesters, four credits, Tuesday and Thursday, 11 A. M.; Wednesday and Friday, 10-12. Offered in 1920-1921.

7-8. *Bacteriology*. A general consideration of the structure and activities of bacteria, with emphasis on their relation to human life and interests. Among the specific subjects treated are: soil fertility, sewage disposal, milk problems, butter and cheese making, diseases of plants and animals, and public health and sanitation. Elementary chemistry is advised in addition to Botany 1-2, the regular prerequisite for this course. Fee, \$3.00 each semester. Both semesters, three credits, Monday and Friday, 8-10 A. M.; Wednesday, 9 A. M.

9. *Plant Pathology*. A study of the more important diseases of useful plants, including rusts, smuts, moulds, mildews, scabs, and blight. Recognition of specific diseases through symptoms; the economic importance of the various diseases and methods of control; spraying mixtures, methods of application, and spraying calendars. The work of state and national governments in plant disease is brought particularly to the attention of the student in thesis work. Courses 5-6 and 7-8 should precede this course. Alternates with course 11. Lectures, laboratory and thesis work. Prerequisite, courses 1-2 or their equivalent. Fee, \$1.00. First semester, two credits, Monday, 1:30-3:30, Wednesday, 1:30. Offered in 1919-1920.

10. *Forestry*. An introductory consideration of the character, culture, protection and uses of the forest, and of the more important problems of economic and civic significance relating to the subject. The value of trees is emphasized, and the identification of native trees forms a part of the laboratory work. A good course in elementary botany may be substituted for Botany 1c as prerequisite for this course. Alternates with course 12. Fee, \$1.00. Second semester, two credits, Monday, 1:30-3:30 P. M.; Wednesday, 1:30. Offered in 1919-1920.

11b. *General Botany*. A study of the structures and functions of the higher plants, their leaves, stems, roots, flowers, fruits, and seeds. This course aims to meet the needs of the student who wishes to cover intensively the formal course in elementary botany, either as an introduction to the subject or with a view to teaching. Alternates with course 9. Fee, \$2.00. First semester, three credits, Tuesday and Thursday, 8-10 A. M.; Wednesday, 8. Offered in 1920-1921.

12. *Systematic Botany*. A consideration of the principles of classification, from both historical and evolutionary standpoints, and the study of the classification of the flowering plants. Emphasis is placed on field and laboratory studies of native plants, while methods of collecting, arranging, and preserving receive attention. Four all-day field trips and several shorter excursions take the place of a part of the laboratory work. Alternates with course 10. Fee, \$2.00. Second semester, three credits, Tuesday and Thursday, 8-10 A. M.; Wednesday, 8. Offered in 1920-1921.

17-18. *Botanical Seminar*. The study of special topics with reports in class upon assigned readings. Either or both semesters may be taken. Ability to use French or German is desirable. Open to Juniors and Seniors only. Two meetings each week, with two credits. Hours of meetings to be arranged. Fee, \$1.00 each semester. Prerequisite, 1-2 and an additional year's work in the department.

19-20. *Advanced Botany*. Special work on assigned problems leading to research in botany. This course may be taken only by competent students, and with the consent of the professor in charge. Two to five credits. Hours arranged individually.

## CHEMISTRY

PROFESSOR EBAUGH

ASSISTANT PROFESSOR SEFTON

(Absent on leave, 1918-1919.)

ASSISTANT PROFESSOR RUMSEY

The increased emphasis laid upon chemistry during recent years scarcely needs mentioning. Courses in this department

are intended to provide students with a broad foundation in the science and its applications, to develop their skill in laboratory technique, and to train them in habits of accuracy of thought and expression.

*Chemistry 1-2* is a fundamental course open to all students who want to study a physical science for its information content and cultural value, and is required of students who expect to specialize in pure or applied science, engineering, medicine, nursing, home economics and allied subjects. Courses Nos. 1-10 inclusive give undergraduate credit only; courses Nos. 11 et seq. may be applied toward either graduate or undergraduate credit.

1. *General Chemistry (Non-metals)*. Principles and theories of chemistry are treated in detail, the quantitative aspect of the subject is emphasized, and the solution of problems in chemical arithmetic forms an important part of the course. It is recommended that a student complete a course in elementary chemistry or physics as a fitting preparation for Chemistry 1. Fee, \$4.00, and breakage deposit, \$3.00. First semester, four credits. Section A: recitation or lecture Monday and Wednesday, 9:00; laboratory Tuesday and Thursday, 8-10 A. M. Section B: recitation or lecture Tuesday and Thursday, 1:30; laboratory Monday and Wednesday 1:30-3:30.

2. *General Chemistry (Metals and Qualitative Analysis)*. A continuation of Chemistry 1. Metals are studied in detail, the theoretical side of the subject is developed more fully and the close connection between chemistry and industry is emphasized. In the laboratory common blowpipe tests, reactions of metallic and non-metallic ions, and the analysis of mixtures of increasing difficulty follow in due order. Prerequisite, Chemistry 1. Fee, \$4.00 and breakage deposit, \$3.00. Second semester, four credits. Section A: recitation or lecture Monday and Wednesday, 9:00; laboratory Tuesday and Thursday 8:00-10:00. Section B: recitation or lecture Tuesday and Thursday 1:30; laboratory Monday and Wednesday 1:30-3:30.

3-4. *Qualitative Analysis*. Advanced study and practice in qualitative analysis. Prerequisite, Chemistry 2. Fees, credit and hours to be arranged.

5-6. *Quantitative Analysis*. Simple salts, alloys, minerals, ores, etc., are analyzed. Acidimetry, alkalimetry, volumetric methods of various kinds, and the application of electrolysis receive attention. Constant drills in chemical calculations and underlying theories maintain a vital connection between the principles and practice of chemistry. Prerequisite, Chemistry 2 (as outlined above). Fee, \$3.00, and breakage deposit, \$3.00 per course. Both semesters, three credits. Tuesday, Thursday, and Friday, 1:30-3:30.

9-10. *Organic Chemistry*. A study of carbon compounds is accompanied by the preparation of typical organic substances, determination of physical constants and chemical properties, and practice in the use of tests employed in special branches of chemistry. Prerequisite, Chemistry 2 (as outlined above). Fee, \$3.00, and breakage deposit, \$3.00 per course. Both semesters, three credits. Tuesday, Thursday, and Friday, 1:30-3:30.

11-12. *Chemical Preparations*. Methods of preparation employed in organic and inorganic research. Open only to Juniors and Seniors who have completed two years' work in chemistry. Fees, credit, and hours to be arranged.

13-14. *Advanced Quantitative Analysis*. Special methods of analysis in the following groups: (a) mineral and ore analysis, (b) water analysis, (c) gas analysis, (d) foodstuff analysis, (e) metallurgical analysis, (f) technical analysis for specific industries. Prerequisites, Chemistry 6, and for (d) Chemistry 10. Fees, credit and hours to be arranged.

15. *Electrochemistry*. The historical development of the subject is outlined, and the application of the current to analysis, refining of metals, and preparation of organic and inorganic chemicals follows. Prerequisites, Chemistry 6 and Physics 4. (Not offered in 1919-1920.) Three credits.

16. *Physical Chemistry*. Modern theories of solution, dissociation, chemical equilibrium, thermochemistry, etc., are studied. Prerequisites, Chemistry 6 and 10, Physics 4 and Calculus. (Not offered in 1919-1920.) Three credits.

17-18. *History of Chemistry (Seminar Course)*. The development of chemistry from the time of the ancients will be followed. Prerequisite, Chemistry 10. Both semesters, two credits. Hours to be arranged.

19-20. *Research*. Opportunities for research work in chemistry are offered to advanced students. Prerequisites, Chemistry 6 and 10, and Physics 4. Fees, credit, and hours to be arranged.

NOTE—For courses in Foods, see *Household Economics* 1-2.

## CIVIL ENGINEERING

PROFESSOR T. S. JOHNSON

The courses offered in this department are designed to cover the work of the first three years of Civil Engineering courses as offered in the technological schools, emphasizing the need of a thorough training in the fundamentals of science and mathematics, a broad cultural training along with the technical training. The large library of reference works on all engineering subjects, the equipment of field and office instruments and the splendid facilities in drawing rooms give adequate opportunities for instruction under the best conditions.

1. *Mechanical Drawing*. Elementary and advanced drawing, including exercises in projections, developments and intersections, and the preparation of working drawings of machines, structures and other architectural and engineering construction. Prerequisite, preparatory mathematics. Fee \$1. Students may register for two, three or four hours. First semester, Tuesday and Thursday, 8-10 A. M.; Monday and Wednesday, 1:30-3:30 P. M.

1a. *Engineering Principles*. Lectures on general Engineering subjects, designed to establish the fundamental principles of Engineering, the methods of investigation and design, and to

assist the student in the choice of a profession. Open to all students. One credit hour.

2. *Mechanical Drawing.* A repetition and continuation of course 1. Hours, fees, and credits as for course 1.

3. *Descriptive Geometry.* Problems in the point, line and plane, warped and developed surfaces, intersections, and patterns. Problems in elementary stereotomy, pattern making, and perspective are assigned to fit the requirements of the individual student. Prerequisite, Civil Engineering 1 or 2. Fee, \$1.00. Four hours. Monday excepted, 10 A. M.

4. *Plane surveying.* A study of surveying and mapping. Field work in the use of the transit, level, plane table and other instruments, accompanies and follows class-room work. Prerequisite, Civil Engineering 1 and Mathematics 1. Fee \$2. Second semester, four hours, Friday excepted at 1:30 P. M. During twelve weeks of the semester, field work requires six hours per week, with one hour of recitation.

5. *Railroad Surveying and Earth-work.* Study of surveying for railway location and construction. Reconnaissance, preliminary location, and cross-section surveys are made over a given location, maps and profiles are plotted, and earth-work computations made. Problems are assigned in transition curves and turnouts. Prerequisite, course 4. Fee, \$2. First semester, four hours, Friday excepted, 8 A. M. Periods for field work will be at 9 A. M. unless otherwise arranged.

6. *Railroad Engineering and Economics.* Study of the economic theory of railroad location, locomotive operation, train control, locomotive rating, with additional problems of railroad location and construction. Prerequisite, course 5. Second semester, four hours, Friday excepted, 8 A. M.

7. *Applied Mechanics.* The principles of Mechanics, with reference to their application to engineering, including kinematics, kinetics, equilibrium of forces, center of gravity, moment of inertia, with discussion of work, friction, and power. Elementary principles of hydrostatics and hydraulics are also studied. Prerequisite, Mathematics 3b-4b, and Physics 1. Physics 3 should precede

or accompany the course. First semester, four hours, Monday excepted, 11 A. M.

8. *Applied Mechanics.* Strength of materials, and their action under bending, torsion, and shear, with studies in beams, columns, slabs and hooks, and analysis of stress in simple structures. Prerequisite, course 7. Second semester, four hours, Monday excepted, 11 A. M.

9. *Analysis of Structures.* Determination of working stress in roof and bridge trusses, arches, dams and other structures, by analytical and graphical methods. Prerequisite, course 8. Fee, \$1. First semester, four credits, Tuesday and Thursday, 1:30 P. M., with two drawing periods to be arranged.

10. *Structural Design.* A continuation of course 9. The design of roof and bridge girders and trusses, arches and other structures, with preparation of drawings for the same. The department has a large number of such drawings, which are used for example and illustration. Prerequisite, courses 8 and 9. Fee, \$1. Second semester, four credits, Tuesday and Thursday, 9 A. M., with two periods to be assigned.

12. *Materials of Construction.* Study of materials used in engineering work, including cement, wood, steel, iron, and concrete, with special study of the methods of manufacture, testing, and use of cement. All the routine tests of cement will be made in the laboratory. Fee, \$2. Second semester, four hours, Monday excepted, 10 A. M.

13. *Highway Engineering.* Methods of surveying, construction, repair and maintenance of roads and streets. Prerequisite, courses 1 and 4. First semester, Monday and Wednesday, 9 A. M.

15. *Public Water Supplies.* Collection, purification and distribution of water. Prerequisite, Chemistry 1-2 or 3-4, and Civil Engineering 4. First semester, three credits, Monday, Wednesday, and Friday, 1:30 p. m.

16. *Sewerage Systems and Sewage Disposal.* A continuation of course 15, in Sanitary Engineering. Collection and dis-

posal of public wastes, design of sewers and disposal plants. Prerequisite, course 15. Three credits, Tuesday, Thursday, and Friday, 2:30 P. M.

## ENGLISH LITERATURE AND RHETORIC

PROFESSOR WILLIAMS

ASSOCIATE PROFESSOR MCCUTCHEON

ASSISTANT PROFESSOR JOHNSTON

MISS MACNEILL

MRS. SEARS (First half year)

MR. SHUMAKER

Throughout the course, the study of rhetoric is pursued in combination with the study of literature. Students are made acquainted with the principles of literary criticism, and encouraged to develop intelligent appreciation of the best that has been written, from Caedmon to the present time. A number of electives are offered for juniors and seniors.

Students whose major work is in this department, in addition to the regular requirements for all degrees, will elect a minimum of twenty hours from the courses in English and Public Speaking. Among these courses should be included English 5a, either English 9 or 13, and either English 11a or 17b.

The following courses are given:

1-2. *Freshman English*. Recitations, themes, conferences, and the study of modern prose writers. Required for all degrees. Both semesters, three hours a week. Sections at 9, 10, 11 and 2:30.

3-4. *English Literature*. Lectures on special topics, with careful study of a number of classics, and written reports on selected readings. Required for all degrees. Both semesters, three hours a week. Sections at 9, 10 and 2:30.

5a-6. *Shakespeare*. Three plays are carefully studied each semester and other plays are assigned for reading. Prerequisite courses 1-4. Course 5a must precede 6. Both semesters, Tuesday and Thursday, 8:00 A. M. Dr. Williams.

7. *Milton*. Lectures and assigned readings. The development of the sonnet, the pastoral, the elegy, and the epic will be



studied in connection with Milton's own work. Prerequisite, English 1-4. First semester, Monday, Tuesday, and Thursday, 11 A. M. Dr. McCutcheon.

8. *Nineteenth Century Literature*. Lectures and assigned readings. Prerequisite, English 1-4. Second semester, three hours a week. This course alternates with English 12b, and will not be offered in 1919-20.

9. *A Study of Prose Fiction*. A text-book is used, supplemented by selected readings and lectures. Prerequisite, English 1-4. First semester, two hours a week. Wednesday and Friday, 11 A. M. Dr. Williams.

10. *Later American Writers*. Text-book, selected readings and lectures. Prerequisite, English 1-4. Second semester, Wednesday and Friday, 11 A. M. Dr. Williams.

11. *Anglo-Saxon*. Bright's Anglo-Saxon Reader, with special study of the phonology of the language in its historical relations to German and English. Prerequisite, English 1-4. First semester, Tuesday, Thursday, and Friday, 2:30 P. M. This course alternates with English 17, and is offered in 1919-20. Dr. McCutcheon.

12b. *The English Critical Essay*. An extensive reading course in the critical essay, with especial attention to the history of the form, the development of the periodical essay, and the present tendencies in criticism. Prerequisite, English 1-4. This course alternates with English 8, and will be given in 1919-1920. Second semester, Monday, Tuesday and Thursday, 11 A. M. Dr. McCutcheon.

13a. *The Development of the English Drama*, from the dramatic tropes to Shakespeare. Lectures, selected readings, and a careful study of a number of representative plays. Prerequisite, English 1-4. First semester, Wednesday and Friday 10 A. M. Dr. Williams.

14a. *The Later English Drama*, from Goldsmith to the present time. Lectures, selected readings, and a careful study of a number of representative plays. Prerequisite, English 1-4, and

13a or 5a. Second semester, Wednesday and Friday, 10 A. M.  
Dr. Williams.

15. *Technique of the Short Story*. Critical analysis of the best modern writers and original work. Prerequisite, English 1-2. First semester, Monday and Wednesday, 2:30.

16a. *The Teaching of English*. A course for those who expect to teach English in high schools. Designed especially for juniors and seniors. Second semester, two hours a week, to be arranged. Mr. Shumaker.

17b. *Middle English*. Special attention to Chaucer and the development of the language. Prerequisite, English 1-4. First semester, three hours a week. This course alternates with English 11, and will not be given in 1919-20.

18. *Advanced Theme Writing*. A course dealing especially with exposition. Special attention is given to criticism of original themes. Prerequisite, English 1-4. The class will meet two hours a week. The credit hours depend on the actual amount of work done by each student, varying from a minimum of 2 to a maximum of 4. Hours to be arranged. Dr. McCutcheon.

20. *Browning*. An intensive study of the shorter poems, together with the reading of selected longer poems. The poet's relation to his age and his contribution to the thought and spirit of his time will be given special attention. Open to juniors and seniors. Second semester, three hours a week, to be arranged. Miss MacNeill.

*Argumentation*. A course in argumentation (Philosophy 7) is offered by Professor Spencer, and is described under the Department of Philosophy.

## GEOLOGY

PROFESSOR MATHER

(Office hours, Monday, 9 A. M., Wednesday, and Friday, 11 A. M.)  
(Phone 8322)

ACTING PROFESSOR MEHL

There are few schools so favorably situated, as regards natural surroundings, for carrying on work in all phases of geology as

is Denison. Within each reach are extensive outcrops ranging from Silurian to Pennsylvanian in age. Opportunities for studying glacial topography and geology are exceptional, for Granville is situated near the boundary between very remarkable glacial deposits and the unglaciated area. Gas wells on the campus, and extensive oil and gas developments nearby, afford illustrative material for all phases of oil geology. The department's physical equipment, described under the heading of "Scientific Equipment," is in keeping with these natural advantages.

In addition to providing broadly cultural studies, the department aims not only to prepare the student for specialization in the particular phase of geology or geography which may be of interest to him, but to give him some of the earlier of his special studies through the system of alternate year courses. For the student who can give only one semester of this department, course 4 is recommended. To be thoroughly prepared for the teaching of physiography in the secondary schools, courses 1 and 2, as well as the course in meteorology offered in the Department of Astronomy, should be taken. These four courses likewise provide the general student with a well-balanced introduction to the Earth Sciences. Courses 1 and 3 are especially suitable for those specializing in Civil Engineering.

The student who intends to specialize in Geology will ordinarily take a year each of Chemistry and Physics, and Geology 1 and 2, during the freshman and sophomore years. In the junior year he should carry Engineering 1 and 4, in addition to three-semester courses in Geology. In the senior year he should plan to carry at least six hours of geology throughout the year, and to take another year of Chemistry, if there has not been an earlier opportunity for that.

1. *Geologic Processes.* The materials and features of the earth, treated with special reference to their origin and significance; the processes altering the face of the earth; the agencies involved—streams, glaciers, the atmosphere, waves, ground water, volcanism, crustal movements, etc. Class-room discussions, with occasional field trips on Saturday. First semester, four hours, Monday excepted, 10 A. M.

2. *Historical Geology.* An outline of the history of the earth and its inhabitants, with special reference to the continent of North America. Class-room discussions, with occasional field trips on Saturday. Prerequisite, Geology 1. Second semester, four hours, Monday excepted, 10 A. M.

3. *Mineralogy and Petrology.* The common minerals and rocks; their identification, origin, and occurrence; the field classification of igneous rocks; sedimentation and the sedimentary rocks. Prerequisite, Geology 1 and 2. Three credits. First semester, Monday, Tuesday, Thursday, 11 A. M., and two additional laboratory hours to be arranged. Fee, \$1.00.

4. *Geographic Influences.* Lectures, supplemented by library assignments, considering the influence of topographic and climatic environment upon human affairs; two specific illustrations of the principles thus set forth; prehistoric man and his environment, and geographic factors in the World War. Fee, \$1. Second semester. Tuesday and Thursday, 8 A. M.

5. *North America.* Lectures, discussions and assigned readings concerning the relief features and natural resources of the continent, their influence upon the history and industries of its inhabitants; the conservation and development of natural resources; the utilization of water-ways and water-power. Fee, \$1.00. Prerequisite, Geology 1 and 2. Three credits. First semester in alternate years. (Given in 1920-1921.) Monday, Tuesday, and Thursday, 11 A. M.

6. *Economic Geology.* Ore deposits; their genesis, geologic relations, alterations, and distribution; non-metalliferous deposits, coal, petroleum, natural gas, salt, potash, etc. Prerequisite, Geology 1, 2, and 3. Three credits. Second semester in alternate years. (Given in 1920-1921.) Monday, Tuesday, and Thursday, 11 A. M.

7. *Invertebrate Life Development.* The origin of life upon the earth; the succession of invertebrate faunas. Fee, \$1.00. Prerequisite, Geology 2, Botany 1-2 or Zoology 1-2. First semester, Monday, Wednesday, and Friday, 8 A. M.

8. *Vertebrate Life Development.* The origin and evolution of the vertebrates; historical geology studied on the life side. Fee, \$1.00. Prerequisite, Geology 7. Second semester, Monday, Wednesday, and Friday, 8 A. M.

9. *Anthropology.* Primitive man and his environment. The "Stone Age" in Europe and Asia. Pre-Columbian civilization in America. Open to all. Tuesday and Thursday, 8 A. M.

10. *Petroleum Geology.* The application of geology to the petroleum and natural gas industry has opened a broad field of useful employment to well-trained men. This course is intended to serve as an introduction to the technique of the petroleum geologist as developed in plane-table mapping and reconnaissance surveys. It will also include a review of the oil and gas fields of North America. Prerequisite: Geology 2, and Civil Engineering 4. Three credits. Second semester in alternate years (1919-20, 1921-22, etc.), Monday, Wednesday, and Friday, 9 A. M.

<p>{ 11-12. <i>Geologic Investigation.</i> 13-14. <i>Geographic Investigation</i> 15-16. <i>Paleontologic Investigation.</i></p>	}	Open to Seniors. Stu-
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dents should not register for these courses without consultation with the professor in charge. Two to five credits. Fee, \$100 per hour of credit sought. Hours to be arranged.

## GERMAN LANGUAGE AND LITERATURE

PROFESSOR CHAMBLERLIN

(Absent in Military service, 1918-1919)

PROFESSOR BIEFELD

The courses are scheduled below substantially as they stood before our entrance into war with Germany. The natural effect of the war upon the demand for German in American colleges makes it uncertain whether the advanced courses will be elected by sufficient numbers during the coming year to justify the organization of classes. Prospective students who have advanced work in German particularly in mind should write for further information before completing their plans.

1-2. *Beginners' Courses.* Essentials of German Grammar; practice of pronunciation by phonetic and natural methods; oral and written reproduction of idiomatic German expressions, 150 pages of reading, including some of the favorite lyrics. Students presenting one unit of entrance credit in German will usually omit course 1 and enter course 2. Both semesters, four hours, Friday excepted, two sections, 8 A. M. and 1:30 P. M.

3. *Short Stories.* Works of popular authors, such as Eckstien, Rosegger and Baumbach, are used, accompanied by daily practice of the essentials of grammar. Prerequisite, courses 1-2, or two units of entrance credit in German. First semester, four hours, 9 A. M., Friday excepted.

4. *Narrative and Dramatic Literature.* Works of modern fiction, such as Storm's *Pole Poppenspaeler* and Riehl's *Der Fluch der Schoenheit*, followed by the careful reading of one of Schiller's Dramas; Lectures and readings on the general principles of the drama, with analysis and reviews of important scenes; Composition, based on Boezinger's *Aufsatzbuch*, or similar work. Prerequisite, courses 1-3. Second semester, same hours as in course 3.

5. *Modern Fiction.* Rapid reading of two or three novels. Translation is largely given up in favor of direct methods of approach to the thought in the foreign idiom. Open to students presenting not less than three entrance credits in German or three semesters of college credit. First Semester, Monday, Wednesday and Friday, 8 A. M.

6. *Historical and Descriptive Literature.* Works of standard authors bearing on the history and conditions of Germany are chosen for this course. Regularly follows course 5, but may be taken by special arrangement after course 4. Second semester, same hours as course 5.

6a. *Drama of the Nineteenth Century.* Kleist's *Prinz Friedrich von Homburg*, Grillparzer's *Sappho* or *Des Meeres und der Liebe Wellen*, Heibel's *Agnes Bernauer*, and similar plays, with a study of literary principles and tendencies; collateral readings in English and German, with reports on special topics. Alternating with course 6, with same prerequisite and hours.

7. *Lessing and Schiller*. Interpretation of Lessing's critical and dramatic works, with relation to the conditions in Germany in the eighteenth century. Schiller's life and his drama, *Wallenstein*, will be taken up during the latter half of the semester; supplementary readings, with reports on special topics, are a part of the work. This course usually follows 5 or 6, but may be taken by special arrangement after course 4. First semester, Monday, Wednesday and Friday, 8 A. M.

8. *Goethe*. A study of the poet's life and significance, as indicated by his best-known works outside of Faust; *Dichtung und Wahrheit*, *Wilhelm Meisters Lehrjahre*, *Hermann und Dorothea* Lyric Poems and dramatic works. Prerequisite is usually course 7, but it may be taken separately by qualified students. Second semester, same hours as course 7.

8a. *Goethe's Faust*. The Faust legend and Goethe's treatment of it as an expression of his moral and literary views; special readings and investigation of assigned topics. Alternating with course 8, with same prerequisite and hours, but may be taken with full credit after course 8.

9. *German Literature to 1750*. Main tendencies and the important works of German literature from the earliest times to Lessing; a standard history of German literature serves as the outline of the course, supplemented by abundant reading in English and German; the medieval poetry is considered in modern German translations. Open to students with a fair knowledge of German. First semester, Monday, Tuesday and Thursday, 10 A. M.

10. *German Literature of the Nineteenth Century*. The great literary movements of Germany in the last century, viewed with relation to the broader currents of all European literature. The Romantic and Realistic movements, the rise of fiction, and recent developments will be considered through the works of representative writers. Open on same terms as course 9, and either course may be taken separately. Second semester, same hours as course 9.

11-12. *Scientific German*. A course open to scientific students who wish to acquire as rapidly as possible the ability to use the

language as a tool of scientific study. Prerequisite, one year of college German or two years in the High School. Both semesters, four hours, Friday excepted 9 A. M.

## GREEK

PROFESSOR TANNER

The following courses are offered for the year 1919-20:

### FOR STUDENTS WHO DO NOT STUDY THE LANGUAGE

C. *The Greek Drama*. Reading and study of the best translations of representative dramas of the ancient Greeks. Open to all students. First semester, Monday, Tuesday, and Thursday. 11 A. M.

D. *The Greek Theater*. Study of the development of the theater and scenic antiquities from the best handbooks. Colateral reading in translations of the best dramas. Critical study of one tragedy from the point of view of its production. Open to all students. Second semester, Monday, Tuesday and Thursday, 11 A. M.

### FOR STUDENTS OF THE LANGUAGE

1. *Elements of Greek Grammar*. Vocabulary. Forms. Syntax. Translation from Greek to English and from English to Greek. Translation at sight and from hearing. Open to all students. First semester. Three, four, or five credits according to amount of work accomplished. Tuesday and Thursday, 9 A. M. Six other laboratory hours to be arranged.

2. *Greek Grammar, Reader, and Anabasis*. Continuation of work of the first semester. Reading of simple selections. *Anabasis*, Book 1. Prose composition, both oral and written. Second semester. Three, four or five credits according to amount of work accomplished. Tuesday and Thursday, 9 A. M. Six other laboratory hours to be arranged.

3. *Xenophon, Anabasis. Selections*. Translation at sight and from hearing. Prose composition, both oral and written. Prerequisite, Greek 2. First semester, three, four or five credits according to amount of work accomplished. Monday and Wednesday, 1:30 P. M. Six other laboratory hours to be arranged.



4. *Homer's Iliad. Selections.* Careful study of dialect and meter. Review of forms. Prose composition. Lectures on epic poetry and on life in the age of Homer. Prerequisite, Greek 3. Second semester, three, four or five credits according to amount of work accomplished. Monday and Wednesday, 1:30 P. M. Six other laboratory hours to be arranged.

Students who have completed courses 1 to 4 are admitted to advanced courses in Greek Philosophy, Oratory, History, Drama, Epic Poetry, Scenic Antiquities, New Testament Greek, etc. These courses are planned according to the needs of the various classes. In 1919-20 the following courses will be given:

5. *Greek Tragedy.* Sophocles' *Antigone*; Euripides' *Medea*. Collateral reading in Lucian. Study of the structure of the Greek tragedy. Lectures on the origin and development of tragedy. The primary object of this course is to develop facility in reading and to acquaint the student with the field of Attic tragedy. First semester, three credits, hours to be arranged.

6. *The Greek Theater.* Careful study of the development of the theater and scenic antiquities from the best modern works and from the ancient sources. Collateral reading in the drama. This is a proseminary course, conducted through lectures, conferences and reports. It aims to develop the critical faculties of the student and to prepare him for more extended research in graduate study. Second semester, three credits, hours to be arranged.

7-8. *New Testament.* Rapid reading in the Gospels, Acts and Epistles. Study of the philology and interpretation of the portions read. Both semesters, two hours to be arranged.

## HISTORY AND POLITICAL SCIENCE

PROFESSOR LATOURETTE

(Office hour daily, 1:30 P. M.)

ASSISTANT PROFESSOR DETWEILER

A. The following courses in History are offered:

1-2. *Medieval and Modern Europe.* A general survey of European history, from the decline of Rome to the present time.

The first semester is spent in a rapid survey of medieval and early modern Europe. The second is devoted to Europe since 1789. The course is introductory to most of the other courses in History. Two sections, Monday, Tuesday, and Thursday, 10 A. M., Tuesday, Thursday, and Friday, 2:30 P. M.

3-4. *The Development of American Life.* This course covers the political, economic, religious, educational and social history of the United States from 1789 to the present time. Prerequisite, History 13 or a High School course in American History. Open to juniors and seniors. Both semesters, three hours per week. Not offered in 1919-20.

6. *English History.* A general course, from the Saxon period to the present time. The course is of especial value to students of law and English literature. Open to sophomores, juniors, and seniors. Four hours, second semester. Not given in 1919-1920.

7b. *Europe from the eve of the French Revolution to 1870.* Prerequisite, courses 1 and 2 or a High School course in Medieval and Modern Europe. Not open to freshmen. First semester, Monday, Wednesday, and Friday, 8 A. M.

8b. *Europe from 1870 to the Present Time.* The course begins with the Franco-Prussian War and discusses the various political developments in Europe from that date. It covers not only the political events leading to the recent war, but economic, social, religious, and intellectual development. Prerequisite, courses 1 and 2 or a High School course in Medieval and Modern Europe. Not open to freshmen. Second semester, Monday, Wednesday, and Friday, 8 A. M.

10a. *The Far East.* A general survey of the development of India, China, and Japan, particularly the last two. The chief emphasis is placed on the period beginning with the contact with the West. Not open to freshmen. Second semester, Monday, Tuesday, Thursday, 11 A. M.

11. *The Expansion of Christianity Since the Reformation.* A brief survey of the extent of Christianity in the 16th century, followed by a somewhat detailed description of the spread of the

Protestant, Roman and Greek Communions since that time, particularly in the nineteenth and twentieth centuries. First semester, Monday, Tuesday, Thursday, 11 A. M.

13. *The Beginnings of American Life.* The age of discovery, the settlement and development of the thirteen colonies, the Revolutionary War and the period of the Confederation. Not open to freshmen. First semester, Monday, Wednesday, Friday, 9 A. M.

14. *Laboratory Course in Current Events.* The aim of this course is to acquaint the student with the events of the current year. A careful study is made of the chief topics of contemporary interest based upon the best newspapers and the weekly and monthly periodicals of this country and England. The object is to familiarize the student with present day problems and to train him in a critical analysis of the various sources of information and public opinion. Prerequisite, courses 1-2 and 7b-8b. Second semester, Monday, Wednesday, and Friday, 8 A. M. Not offered in 1919-1920.

15-16. *Historical Seminar.* It is the object of this course to train pupils in historical method and original research. Admission is restricted to those who are taking a major sequence in the department and requires consent of the head of the department. The field covered will be determined by the special interests of the student taking the course. Either first or second semester. Two hours per week to be arranged.

17. *Ancient History.* This course covers the period from the dawn of civilization to the fall of Rome. It not only deals with the ancient monarchies of the Mediterranean and Western Asiatic world, but considers also those of central, southern, and eastern Asia. Not open to freshmen. Three hours per week, first semester. Not offered in 1919-1920.

18. *Medieval Europe.* A careful study of Europe from the fall of Rome to the age of discoveries. Prerequisite, History 1-2, or a High School course in Medieval and Modern Europe. Not open to freshmen. Three hours per week, second semester. Not offered in 1919-1920.

20. *Latin and British America.* The history of the Latin-American countries from the Spanish conquest to the present time. The course also takes up the history of the present British possessions in America, especially of Canada. Not open to freshmen. Second semester, Monday, Wednesday, and Friday, 9 A. M.

B. The following courses in Political Science and Sociology are offered.

1. *American Government.* The practical working of government, national, state and local. Parties and party machinery. The direct primary contrasted with the convention system. Tendencies in constitutional legislation, such as the use of the initiative and referendum, the growth of centralization, etc. Open to all students of college rank. First semester, four hours. Friday excepted, 8 A. M.

2c. *Governments of Europe.* A comparative study of European governments, particularly those of England, France, and Germany. Points of contrast with the government of the United States, such as the differences between the German federal system and our own. The merits and disadvantages of the federal and centralized governments, of parliamentary and presidential forms, rigid and flexible constitutions, etc. Open to those who have had Political Science 1 and History 8, to others only by special permission. Second semester, Monday, Wednesday, and Friday, 8 A. M.

4a. *Science of Government.* An introduction to the general principles of Political Science, with discussion of theories as to the origin of the state; the nature of sovereignty; distinction between state and government; proper functions of government; principles of legislative, executive, and judicial organizations, etc. The work of the preceding courses is very important as a preparation for this course. Political Science 1 and 2c are prerequisite unless by permission of the instructor in charge. Second semester, Monday, Tuesday, and Thursday, 11 A. M. Not given in 1919-1920.

5-6. *Political Economy*. An introduction to the study of Economics. The aim will be to give a fair amount of time to both the principles and the problems of Economics. Thus, theories of value, price, rent, wages, interest, profits, etc., will be carefully considered. In connection with these subjects the problems of the trust, business organization, labor unions, the closed shop, minimum wage, free trade and protection, questions of money and banking, etc., will receive due consideration. Open to Juniors and Seniors, and others by special permission. Three hours throughout the year, Monday, Wednesday, and Friday, 9A. M.

8. *International Law*. A study of the general principles of the subject. Special attention will be given to the recent developments in the laws of war, and the rights and duties of neutrality. Although not required, History 8 is very desirable as a preparation for this course. Open to juniors and seniors. Second semester, Monday, Tuesday, and Thursday, 11 A. M. Not given in 1919-1920.

9a. *Government of American Cities*. The origin and development of American cities; proper relations of state and city; proper methods of state supervision; municipal ownership of public utilities; the rise of the commission form of government, etc. Course 1 is advised as preparation for this work. First semester, Monday, Tuesday, and Thursday, 11 A. M. Not given in 1919-20.

17-18. *Practical Sociology*. Practical social problems and their attempted solutions. Open to students above freshman rank. Both semesters, Monday, Tuesday and Thursday, 10 A. M. Mr. Detweiler.

20. *Military Administration*. The administrative organization and methods of the Departments of War and the Navy. Provision of supplies; construction and use of railroads; military sanitation. Lectures, with assigned readings and written exercises. Three credits, second semester. Not given in 1919-1920.

22. *Accounting Principles*. An introduction to accounting. Analysis of financial transactions. Laboratory work on practice problems. Three credits. Second semester. Not given in 1919-1920.

24. *Political Theories of Modern Times.* An introduction to the study of contemporary political problems, especially in the United States. Ideas and ideals of political reformers. Individualist and socialist theories, in their social, economic and political significance. Prerequisite, Political Science 1 and 2 and either Political Science 5 and 6 or History 8b. Three credits. Second semester. Not give in 1919-1920.

### HOUSEHOLD ECONOMICS

MISS TETEDOUX

1-2. *Foods.* The chemical composition, digestion and production of foods. The laboratory work includes the application of underlying principles involved in food preparation. *Accepted as an elective in all college courses.* Fee, \$15.00 each semester. Four credits. Both semesters, recitation, Tuesday and Thursday, 1:30 P. M., laboratory, Monday and Wednesday, 1:30-3:30 P. M.

3-4. *Sewing.* This course includes plain hand and machine sewing, drafting, cutting patterns, and the making of underwear and dresses. This course meets the need of students preparing to teach in elementary and secondary schools. Fee, \$12.00 each semester. Tuesday and Thursday, 8-10 A. M., or Wednesday and Friday, 10-12 A. M.

5-6. *Handwork.* This course includes basket making with reed and raffia, crocheting, knitting, knotting, weaving, and all plain and fancy stitches employed in hand sewing. A desirable course for pupils expecting to teach in primary and grammar grades. All materials are furnished. Fee, \$12.00 each semester. Two hours per week to be arranged.

### LATIN

PROFESSOR W. H. JOHNSON

Students taken Latin with a view to the degree of Bachelor of Arts, or taking a Latin sequence for either of the other bachelor's degrees, will take courses 1 and 4 in order, and such advanced courses as may be desired thereafter.

All courses in the department are open as elective to any student who, in the judgment of the instructor, has had sufficient Latin to pursue the work with profit, but courses 1-2 must precede any of the more advanced work except courses 11-12, on *Roman Life*, which are open to all college students.

1. (a) *Cicero*. De Senectute or De Amicitia. (b) *Livy*. Books XXI-XXII, or selections from the earlier books. Review of Latin syntax. First semester four hours, section I, 8 A. M., Friday excepted; section II, 10 A. M., Monday excepted.

2. *Odes and Epodes of Horace*. Sight reading from the Satires, and notes on Roman Poetry. Second semester, sections, days, and hours as in course 1.

3. *The Roman Stage*. Two plays of Plautus and one of Terence. Notes on the history of the Ancient Drama. First semester, four hours per week, Monday excepted, 11 A. M.

4. *Rhetoric and Literary Criticism of the Romans*. This course is based upon Books X and XII of Quintilian, with collateral work in the rhetorical writings of Cicero, the Epistles of Horace, and the Dialogus of Tacitus. The relation of Greek and Roman ideas to present-day problems of Rhetoric and Criticism is emphasized. Second semester, days and hours as in course 3.

5. *The Roman Epigram and Elegy*. Selections from Martial and the Elegiac poets. First semester, Tuesday, Thursday, and Friday, 1:30 P. M. Alternates with course 7, and is given in 1919-1920.

6. *The Annals of Tacitus, or Letters of Cicero and Pliny*. The emphasis is placed on social and political conditions and problems suggested by the text, rather than on the language. Second semester, Tuesday, Thursday, and Friday, 1:30 P. M. Alternates with course 8, and is given in 1919-1920.

7-8. *Virgil*. A study of the poems of Virgil and their place in the History of Literature from points of view which cannot be emphasized in the preparatory school. The two semesters are not open to election separately. Especially advised for students who expect to become teachers of Latin in High Schools or Academies. Open to juniors and seniors who have had not less than

three semesters' work in this department. Both semesters, Tuesday, Thursday, and Friday, 1:30 P. M. These courses alternate with 5-6 and are not offered in 1919-1920.

9-10. *Latin Writing.* A course in composition, open to students who have had Freshman Latin, and especially advised for those who are preparing to teach Latin. The two semesters are not open to election separately. Both semesters, Monday and Wednesday, 1:30 P. M. These courses alternate with 11-12, and are not given in 1919-1920.

11-12. *Roman Life.* An outline of the more important phases of Roman character and achievement. The text-book will be supplemented by notes and assigned reading, with photographs and lantern illustrations for certain portions of the work. Ability to read Latin is not prerequisite. Both semesters, Monday and Wednesday, 1:30 P. M. These courses alternate with 9-10 and are given in 1919-1920.

## MATHEMATICS

PROFESSOR WILEY

ASSOCIATE PROFESSOR PECKHAM

MARIE PORTER MATHER

Courses 1c and 2c, as described below, are required of all candidates for degrees, unless the more extended courses, designated 1b and 2b, are substituted in their stead. Courses 1c, 2c, 3c, and 4c form a sequence, as do courses 1b, 2b, 3b, and 4b. Courses 1c, 2c, 3b, and 4b may be taken in sequence. The second sequence, 1b, 2b, 3b, and 4b, should be elected by students who were strong in high school mathematics and is advised by the heads of the departments of Astronomy, Civil Engineering, Mathematics and Physics for students who anticipate doing their major work in any of these departments.

o. *Solid Geometry.* Second semester, two hours per week, Wednesday and Friday, 11 A. M. Open to all college students not offering the subject for entrance credit.

1c-2c. *Freshman Mathematics.* In these courses selections from Algebra, Plane Trigonometry and portions of elementary



Analytic Geometry are presented as a unified whole with the concept of a function as a fundamental idea. Freshman year, both semesters. Sections at 8 and 9 Monday, Wednesday, and Friday; 11 Monday, Tuesday, and Thursday; 2:30 Tuesday, Thursday, and Friday.

1b-2b. *Freshman Mathematics (Extended course)*. These courses cover the ground of courses 1c, 2c, and 3 in an intensive way. Advised instead of courses 1c-2c for students doing their major work in the departments of Astronomy, Civil Engineering, Mathematics or Physics, and other students strong in Mathematics. Freshman year, both semesters, five hours per week, 10 A. M.

3. *Analytic Geometry*. This course is a continuation of courses 1c-2c. Sophomore year, first semester, four hours per week, Friday excepted, 9 A. M. Prerequisite course 2c.

4. *Differential Calculus*. An elementary course designed to follow course 3. Sophomore year, second semester, days and hours same as for course 3. Prerequisite course 3 or 2b.

5. *Integral Calculus*. Designed to follow course 4. First semester, four hours per week, Monday excepted, 10 A. M. Prerequisite, course 4 or 3b.

3b-4b. *Differential and Integral Calculus (Extended course)*. Designed to follow course 1b-2b. Both semesters, five hours per week, 8 A. M. Prerequisite, course 2b or 3.

6. *College Geometry*. A synthetic treatment of inversion, collinearity and concurrence, pole and polar, anharmonic division, reciprocation and other topics of like nature. This course is designed for students who wish to acquire greater rigor in mathematical reasoning and those who expect to teach high school Geometry. Second semester, four hours per week, Monday excepted, 10 A. M. Open to all students. Alternates with course 10 and is offered in 1919-1920.

7. *College Algebra*. An advanced course designed for students who desire to go farther into the subject than the courses of the Freshman year take them, and those who expect to teach high school algebra. First semester, four hours per week. Monday

excepted, 9 A. M. Prerequisite, course 3b or 4. Alternates with course 11 and is offered in 1919-1920.

10. *Mathematical Theory of Investment.* An introduction to the Algebra of certain forms of investment, and to the fundamental principles of life insurance. Second semester, Monday, Tuesday, and Thursday, 10 A. M. Prerequisite, course 1b or 1c. Alternates with course 6, and is not offered in 1919-1920.

11. *Solid Analytic Geometry.* First semester, three hours per week, Monday, Wednesday, and Friday, 9 A. M. Prerequisite, course 3b or 4. Alternates with course 7 and is not offered in 1919-1920.

18. *Differential Equations.* An introductory course. Second semester, four hours per week, Monday excepted, 9 A. M. Prerequisite course 4b or 5. Alternates with course 20 and is offered in 1919-1920.

20. *Vector Analysis.* A concise treatment of the fundamental principles of the subject, with selected applications to Geometry and Mathematical Physics. Prerequisite, course 5 or 4b. Second semester, four hours per week, Monday excepted, 9 A. M. Alternates with course 18 and is not offered in 1919-1920.

For courses in Applied Mathematics, see Physics 7-8, Astronomy 6, 9-10 and Civil Engineering 7-8.

## MUSIC

ASSOCIATE PROFESSOR ESCHMAN

(Office hours, Monday, Wednesday, and Friday, 8:30 A. M.)

Of the courses in the Theory and History of Music, some are offered largely for their cultural value, as a natural part of any liberal education. Such courses are open to all students in the University, without prerequisites. College credit is given for all courses listed in this department. Students may take a principal and secondary sequence (32 credit hours) from these courses and secure the degree of Bachelor of Philosophy. These thirty-two hours, in addition to the common requirements for the degree, leave forty-eight credit hours for elective studies. Students who take a major sequence in the Department of Music

will fulfill all the theoretical requirements for graduation from the Conservatory, but there are additional requirements in applied music for the Conservatory diploma, which are stated in the chapter of the catalogue devoted to the Conservatory. For students taking a principal sequence in Music, it is recommended that courses 1a-2a and 3-4 be taken in the freshman year, 7-8 in the sophomore year, 9-10 in the junior year, and 13-14 in the senior. Courses 5, 6, 11, and 12 may be taken in any year.

1a. *Appreciation of Music.* First semester, two credits, Monday and Wednesday, 2:30 P. M. Fee, \$8 for Conservatory students. Students paying full college tuition may elect the course without extra charge.

2a. *Physical Basis of Music.* Second semester, two credits, Monday and Wednesday, 2:30 P. M. Given in alternate years. Offered in 1919-1920. Fee, \$8 for Conservatory students. Students paying full college tuition may elect the course without extra charge.

3-4. *Elementary Theory.* Both semesters, two credits, Wednesday and Friday, 11 A. M. Fee, \$8 each semester to Conservatory students. Students paying full college tuition may elect these courses without extra charge.

5. *History of Music, to the Eighteenth Century.* First semester, three credits, Tuesday, Thursday, and Friday, 1:30 P. M. Fee, \$12.

6. *History of Music, from the Eighteenth Century to the present time.* A continuation of course 5, but may be elected separately. Second semester, three credits, Tuesday, Thursday, and Friday, 1:30 P. M. Fee, \$12.

7-8. *Harmony.* Both semesters, three credits, Monday, Tuesday, and Thursday, 11 A. M. Fee, \$12.00 each semester.

9-10. *Counterpoint.* Both semesters, three credits, Monday, Tuesday and Thursday, 10 A. M. Fee, \$12.00 each semester.

11-12. *Musical Form.* Both semesters, two credits, Wednesday and Friday, 10 A. M. Fee, \$8.00 each semester.

13-14. *Strict Composition.* Both semesters, two credits. Monday and Wednesday, 1:30 P. M. Fee, \$8.00 each semester.

15-16. *Free Composition.* Both semesters, two credits, Wednesday and Friday, 8 A. M. Fee, \$8.00 each semester.

## PHILOSOPHY AND EDUCATION

PROFESSOR LEWIS

(Office hours, Wednesday and Friday, 9:30 A. M.)

PROFESSOR SPENCER

### COURSES IN PHILOSOPHY:

1. *Beginning Psychology.* An introductory study of the different functions of the mind and of the laws that control its activity. The course is based on the results of introspective and experimental investigation. Open to juniors and seniors, with exceptions in the case of students doing major work in Education. First semester, two sections, Monday, Tuesday, and Thursday, 10 A. M., and 11 A. M. (As far as possible all students not ranking as high as junior should enroll in the 10:30 section.)

2a. *Advanced Psychology.* This course is designed for students who wish to pursue the subject beyond the introductory stages. Mental processes will be studied in considerable detail and some attention given to recent extension of psychology in a practical way. A text-book will be used and assignments of parallel reading will be made, including current literature. Prerequisite, Philosophy 1. Second semester, Monday, Tuesday and Thursday, 10 A. M.

3. *Elementary Philosophy.* The problems of philosophy will be considered by means of a text-book, discussions and brief papers. The aim of the course will be to introduce the student to the chief problems of philosophy, to train him in accurate thinking and to enable him to come to intelligent conclusions for himself. Open to juniors and seniors. First semester, Wednesday and Friday, 10 A. M.

4. *History of Philosophy.* Attention will be given to the most important systems of philosophy developed in ancient, mediæval, and modern times. Special emphasis will be placed on Greek

and modern philosophy, including present tendencies. The work will be based upon a text-book, supplemented by occasional lectures. Open to seniors, others with permission of instructor. Second semester, Wednesday and Friday, 10 A. M.

6. *Logic*. Deductive and Inductive. The subject is treated not merely as a system of mental gymnastics but as a method of practical training for philosophical, scientific and judicial investigation. Open to sophomores, juniors, and seniors. Second semester, Tuesday, Thursday, and Friday, 2:30 P. M.

7. *Argumentation*. A careful study is made of the subject matter and form of propositions, the definition of terms, the analysis of the contentions, the discovery of the main issues, evidence, persuasion, and refutation. Brief-making, pleading, and debating are diligently practiced, followed by judicial criticism. Open to sophomores, juniors, and seniors. First semester, Tuesday, Thursday, and Friday, 2:30 P. M.

8. *Argumentation Applied*. Students taking part in the Inter-collegiate Debating teams have the privilege of enrolling in a regular class, under the instruction of the Professor of Logic, who is also Chairman of the Faculty Committee on Inter-collegiate Debating. When the work is satisfactorily done, scholastic credit, not to exceed two semester hours, is given.

9. *Evidences of Christianity*. The central features of the course are: the view of the world from the standpoint of the Christian compared with conflicting philosophical theories; the character of Jesus Christ as presented by New Testament writers; the evidence of Christian experience; early and later historical testimony, and the fruits of the Christian religion. Open to sophomores, juniors, and seniors. First semester, Tuesday, Thursday, and Friday, 1:30 P. M.

10. *Ethics*. A discussion of the principles that obtain in moral conduct, and of the methods by which these principles are applied in actual living. Open only to juniors and seniors, with exceptions as noted under course 1. Second semester, Monday, Tuesday, and Thursday, 10 A. M.

## COURSES IN EDUCATION:

The courses in Education give students who expect to teach an opportunity to gain some knowledge of the science and art of that vocation. More or less pedagogical training is now required of teachers in almost every state in the Union. In Ohio, the requirement, which is a progressive one, began in 1915 with three semester hours and has added three additional hours every year since then. The requirement for the year 1919 is, therefore, fifteen "professional" hours. The law calls for one more addition in 1920. The meeting of this requirement, of course, does not excuse the individual from standing an examination. To secure a certificate without an examination requires thirty professional hours. The certificate secured by the college graduate who has included thirty pedagogical hours in his schedule is a provisional High School certificate, good for four years, and can be exchanged after twenty-four months of teaching for a State life certificate.

1. *History of Education.* A general survey of educational practice and theory from ancient times to the present—subject matter, method, discipline, organization, etc. The influences of social conditions upon education. Special emphasis on the work of modern educational reformers. Prerequisite, Philosophy 1. First semester, Monday, Wednesday, and Friday, 9 A. M.

2. *Secondary Education in the United States.* The historical development of American middle schools—Grammar School, Academy, High School, and Normal Schools. Comparison with foreign systems. Present tendencies. Prerequisite, Philosophy 1 and Education 1. Second semester, Monday, Wednesday, and Friday, 9 A. M.

5. *High School Methods.* The choice and presentation of subject matter. The handling of the different subjects, with regard to studying and to teaching. School routine and management. Prerequisite, Philosophy 1. First semester, Tuesday, Thursday, and Friday, 1:30 P. M.

6. *Principles of Education.* An introduction to the fundamentals of education, from the side of psychology and sociology.

The processes of learning; instinct, habit, memory, etc. Educational development in relation to social life. Prerequisite, Philosophy 1. Second semester, Tuesday, Thursday, and Friday, 1:30 P. M.

7-8. *Observation and Practice Teaching.* Open only to seniors who have had Philosophy 1 and Education 5 and 6. Students in this course will visit secondary school classes as observers and make reports. They will also teach under supervision, beginning this latter work some time after they have begun making observations. Group meetings and individual conferences will occur from time to time for discussion and directions. Time schedule to be arranged. Three credits.

12. *School Administration and Organization.* This course is intended for students who wish to acquaint themselves with the larger problems of the school: school funds, grouping of pupils, extension of school activities, standardization, systematic study of the curriculum, health supervision. Second semester, Monday, Tuesday, and Thursday, 11 A. M.

## PHYSICAL TRAINING

PROFESSOR LIVINGSTON

Physical training is essential to sound scholarship. With this in view, a progressive course in systematic and rational physical training is given, covering a minimum of three hours per week in the freshman and sophomore years, for which four credits are allowed. A careful physical examination of each student is made at the beginning of the school year, of which an accurate record is kept, and advice is given to assist the individual in acquiring or maintaining a healthy body.

In place of the systematic class work, those students who desire to follow other plans of physical training, by devoting four forty-five minute periods per week thereto, may receive credits for the same, as above, subject to the discretion of the Director. A short talk on the theory and practice of some athletic or gymnasium exercise from the standpoint of observer and participant is given each week, and is open to all students of the University.

An elective course in Physical Training is offered to juniors

and seniors who desire a deeper knowledge of this subject than the work of under-classmen furnishes. This course includes lectures on the history, theory and practice of gymnastics and athletics; lighting, seating, heating, and ventilation of school rooms; the taking of physical measurements and examination of heart, lungs, and senses; first aid to the injured and care of minor injuries. Ample opportunity is given for practice in handling gymnastic classes and athletic teams.

### PHYSICS

PROFESSOR COONS

(Office hours, 11 A. M.)

PROFESSOR CHAMBERLAIN

The courses in the department of Physics are adapted to the needs of the following groups of students:

1. The Major course in Physics consists of Physics 1, 2, 3, and 4 with six additional hours in Physics and is recommended for those who wish a general training in the fundamental principles of Physics. Students preparing for graduate work in Physics should elect Physics 9, 10, 15, and 16 in addition to the Major course.

2. The Minor course is Physics consisting of Physics 1, 2, 3, and 4 is available to those who wish a less extensive training. Students preparing to teach Physics in High School should regard the Minor course as a minimum preparation.

3. While Physics 1, 2, 1a, and 2a meet the minimum requirement in Physics for admission to the best Medical Schools it is recommended that students preparing for the Medical course complete at least the Minor course in Physics.

4. Students who desire to take up a technical course in Electrical Engineering are advised to elect Physics 9 and 10 in addition to the Major course in Physics. The best education for such engineers is one in which the liberal culture of the college course precedes the training of the technical school. A proper choice of undergraduate courses from the beginning will enable



a student to enter the third year of the technical school and thus earn both the college and the engineering degrees in six years.

1. *General Physics*. Lecture demonstrations and recitations covering the more important principles of Mechanics, Sound and Heat. Required of candidates for the B. S. degree, elective for all others. Prerequisite, one year of High School Physics. Mathematics 1 should accompany or precede this course. First semester, two sections, three hours, Monday, Wednesday, Friday, 8 A. M.; Tuesday, Thursday, and Friday, 1:30 P. M.

2. *General Physics*. A continuation of Physics 1. Electricity, Magnetism and Light. Required of candidates for the B. S. degree, elective for all others. Prerequisite, Physics 1, Mathematics 1. Second semester, two sections, hours as in course 1.

1a-2a. *General Physics*. Laboratory courses paralleling the work of courses 1 and 2. Elective for students who are registered for Physics 1 and 2 and desire a less extensive laboratory training than is offered in Physics 3 and 4. Fee, \$2.00. Both semesters, two hours, Tuesdays and Thursdays, 8-10 A. M.

3. *Laboratory Physics*. The essentials of Mechanics, Molecular Physics and Heat. Prerequisite, Physics 1-2, Mathematics 1 and 2. Fee, \$2.00. First semester four hours, Monday excepted, 10-12 A. M., or Friday excepted, 1:30-3:30 P. M.

4. *Laboratory Physics*. The more fundamental experiments in Sound, Light, Magnetism and Electricity. Prerequisite, Physics 1-2, Mathematics 1-2. Fee, \$2.00. Second semester, sections, days and hours as in course 3.

5. *Experimental Physics*. An advanced course in Electrical Measurements. Prerequisite, Physics 1-4, and the Calculus. Fee, \$2.00. First semester, Tuesday, Thursday, and Friday, 1:30-3:30 P. M.

6. *Experimental Physics*. An advanced course in Light, consisting of measurements in Diffraction and Interference. Prerequisite, Physics 1-4, and the Calculus. Fee, \$2.00. Second semester, Tuesday, Thursday, and Friday, 1:30-3:30 P. M.

7. *Theoretical Physics*. A lecture course presenting the Kinetic Theory and elementary Thermodynamics. Prerequisite, Physics 1-4, and the Calculus. First semester, Monday, Tuesday, and Thursday, 10 A. M.

8. *Theoretical Physics*. A lecture course in Physical Optics covering selected topics in Diffraction and Interference. Prerequisite, Physics 1-4 and the Calculus. Second semester, Monday, Tuesday, and Thursday, 10 A. M.

9-10. *Elements of Electrical Engineering*. A lecture and laboratory course presenting the general theory of direct and alternating current circuits, and their application to direct and alternating current machinery. Prerequisite, Physics 1-4, and the Calculus. Fee, \$2.00. Both semesters, four hours. Lectures Wednesday and Friday, 10 A. M., laboratory, four hours, to be arranged.

11. *History of Physics*. A lecture and library course treating the development of Physics from an historical viewpoint. Prerequisite, Physics 1-4. First semester, Monday and Wednesday, 2:30 P. M.

15-16. *Thesis in Physics*. Elective for seniors in the Physics group. Students who have shown ability to profit by such a course will be assigned some subject for original investigation or some important classical experiment. Both semesters, two to five hours.

## PUBLIC SPEAKING

ASSISTANT PROFESSOR JOHNSTON

This department affords training in Expression, by finding and applying principles for developing the voice, mind, and body in reading and speaking. The work is in no sense a mere coaching for occasions, but a personal, cultural training which aims at helping the student get command of his own creative powers. The subject is studied as an art, and through it the student is brought into touch with the principles governing all art. The following courses are offered as college electives.

1-2. *Fundamentals of Expression.* A general preparatory course in the art of self-expression through speech and action. The aim is to enlarge the student's native powers, give him self-control before others, and awaken his interest in oral interpretation and its relation of every-day living. Brief talks upon the elements of expression, with emphasis upon the natural correlation of speech and action. An elementary training upon which satisfactory results in the subsequent courses are largely dependent. Open to Freshmen. Both semesters, three credits. Two sections, Monday, Tuesday, and Thursday, 11 A. M.; Tuesday, Thursday, and Friday, 2:30 P. M.

3a-4a. *Extempore Speaking.* Practice in thinking in the presence of others, and in presenting one's thoughts in a vigorous and attractive manner. A preliminary drill in "off-hand" speaking, a laboratory rather than a lecture course. The more common forms of occasional speech will be studied, with appropriate criticism by the instructor and class members. Prerequisite, courses 1-2. Both semesters, three credits, Tuesday, Thursday, and Friday, 1:30 P. M.

5a. *Dramatic Reading.* This course aims to develop the ability to express privately or from the platform some of the greatest thoughts of the world's great minds. Study of the tone qualities, gestures, and attitudes employed by the reader as distinguished from the orator. The presentation of short scenes from various plays offers an opportunity for the simpler forms of stage craft. Prerequisite, course 1 or 2. Second semester, two credits, Monday and Wednesday, 2:30 P. M.

6a. *Advanced Reading.* A course intended for those who have discovered in themselves a special talent or liking for dramatic expression and wish to continue the work. Portions of the poetry and prophecy of the Bible will be studied for public reading, also scenes from one or two Shakespearean tragedies, carefully rehearsed in class and perhaps publicly presented. Prerequisite, course 5a. Three credits, hours to be arranged.

## ROMANCE LANGUAGES

This department offers opportunity for studying French, Italian, and Spanish. Its aims are: (1) the acquisition of a reading knowledge of the foreign language; (2) linguistic training; (3) introduction to the foreign literature and life. Students expecting to specialize in Romance languages are advised to elect at least a minor sequence of courses in Latin.

## COURSES IN FRENCH

ASSOCIATE PROFESSOR ODEBRECHT

(Office hours, Tuesday and Thursday, 10 A. M.)

PROFESSOR KELLOGG

The courses in French are open as electives to students in all departments, with courses 1-2 prerequisite to any of the more advanced work.

1-2. *Beginners' Course*. First semester, forms, translation, written exercises and grammar, with about 80 pages of simple reading. In the second semester this work is continued, with written and oral work in composition, and translation from prose and verse. Two sections, four hours, Friday excepted, 9 A. M. and 1:30 P. M.

3-4. *Nineteenth Century Prose and Poetry*. Review of grammar, with composition and dictation. Both semesters, four hours, Friday excepted, 2:30 P. M.

5-6. *The Classical Authors*. Reading of play, with class reports on outside reading. Prerequisite, courses 1-4. Both semesters, Monday, Wednesday, and Friday, 8 A. M.

7-8. *French Prose Composition, or French Literature*, with reading of representative modern authors. Prerequisite, courses 1-4. Both semesters, Wednesday and Friday, 10 A. M.

9-10. A course intended to afford advanced students practice in the oral use of the language by the careful study of some play, to be presented by the class. Prerequisite, courses 1-4. Maximum credit, 2 hours, time to be arranged.

## COURSES IN ITALIAN

ASSOCIATE PROFESSOR ODEBRECHT.

The courses in Italian, while intended for upper classmen, may be taken by any one who, in the judgment of the instructor, can carry them with profit.

2. *Beginners' Course.* The grammar, with prose and verse of the Resorgimento. Outline of the history of Italian Literature. The forms of the language are learned and practiced in exercises, written and oral, and in translation. Elective in all courses. Second semester, four hours, Monday excepted, 11 A. M.

3. *Modern Italian Prose and Poetry.* First semester, four hours, Monday excepted, 11 A. M.

## COURSES IN SPANISH

PROFESSOR KELLOGG

(Office hours, Wednesday and Friday, 11 A. M.)

The courses are conducted mainly in Spanish, aiming to give a practical mastery of the language for literary, conversational, and commercial purposes.

1-2. *Beginning Spanish.* Assigned and sight reading, conversation, composition and grammar based on reading; acquisition of a working vocabulary. Both semesters, four hours. Two sections, daily except Friday, 8 A. M. and 1:30 P. M.

3-4. *Hispanic Life.* Life and institutions of Spanish-speaking countries; tales and novels; Spanish Bibles and periodicals; views and slides; conversation, songs and themes. Both semesters, four hours; daily except Monday, 10 A. M.

5-6. *Introduction to Spanish Literature.* Cervantes', Don Quijote; Padre Isla's Gil Blas; selected works of Alarcón, Galdós, Echegaray, Ibáñez and Pereda; history of Spanish literature; Spanish themes. Both semesters, three hours; Monday, Wednesday and Friday at 9 A. M.

7-8. *Commercial Spanish.* Commercial correspondence; advertisements; commercial and historical readings. Both semesters, three hours; Monday, Tuesday, and Thursday, 11 A. M.

0-0. *Centro Hispánico.* Spanish conversation circle. No credit in university hours.

## ZOOLOGY

PROFESSOR FISH

(Office hours, 2:00 P. M.)

## THE DEPARTMENT AIMS:

First, (a) to give *elementary instruction* in General Zoology as a purely cultural matter, and (b) to interest especially those whose tastes and abilities qualify them for further study.

Second, (a) to *qualify students to enter Medical College*, and (b) to so familiarize them with the strictly biological side of their preparation as to give them some distinct advantage at the beginning of their medical study.

Third, (a) to give *general and detailed instruction* in the concrete facts of Zoology, and (b) to encourage those who show marked ability seriously to consider undertaking a life work in Zoology or some closely related field of study.

Fourth, (a) to give *technical instruction* in that particular field of Zoology which appeals most strongly to individual students of superior merit, and (b) to direct their first independent work.

*Students who are preparing for Medical College can meet the entrance requirements of any school by taking General Zoology, 1-2, and Comparative Anatomy, 3-4. Most institutions, however, recommend in addition at least Embryology and Histological Technique, 9-10. Any of the Zoology courses numbered 10 or less are of special value to prospective students of Medicine.*

Courses 1, 5 and 6 have no prerequisites.

1-2. *General Zoology.* Beginners' courses, *essential as a preparation for Medicine*, and meeting the needs of those who desire a general course in Animal Biology. Type forms from the local fauna are carefully studied in the field, and both lectures and laboratory exercises deal with their reactions to the environment, their special features of structure in relation to type forms in general, and, as a background, the fundamental importance of the activity of the cell. During the winter anatomical studies are made from numerous large models. *No dissecting is done.* Such work (necessary for students of Zoology and Medicine) is provided in courses 3-4, and may be elected at the same time

as 1-2, but ordinarily is not elected until the following year. *Course 1 is prerequisite for course 2, which in turn is prerequisite for all other courses in Zoology except course 5, Sanitation and Hygiene, and course 6, General Evolution.* Four credits (or three credits by special permission of the instructor). Fee, \$1.00 per hour of credit. Monday and Wednesday, 8 A. M.; Tuesday and Thursday, 8-10 A. M.

3-4. *Comparative Anatomy.* These are strictly laboratory courses. *The work parallels General Zoology 1-2 and is planned in two parts, one for students of Medicine and one for students of Zoology.* The first involves much dissection of vertebrate material. The second is largely concerned with work in the field, both observation and the collection, preservation and classification of material. Both groups of students will be given elementary instruction in the preparation of microscope slides and other laboratory technique. *These courses may be elected with or following General Zoology, 1-2.* Three credits (or two credits by special permission of the instructor). Fee, \$1.00 per hour of credit, plus \$1.00. Friday, 8:00 A. M.; Tuesday and Thursday, 8:00-10:00 A. M.

5. *Sanitation and Hygiene.* This is a lecture and seminar course aimed to teach the student how to render "growth more perfect, decay less rapid, life more vigorous, and death more remote." Some of the general topics discussed are (1) Climate, (2) Dwellings and Dwelling Sites, (3) Heating and Ventilation, (4) Water Supplies, (5) Sewage and Sewage Disposal, (6) Sepsis and Septicemia, (7) Toxins and Toxemia, (8) The Incidence and Prevention of Transmissible Diseases, (9) Nutritional Diseases, (10) Inferior Inheritance, (11) Food, (12) Food Adulteration, (13) Beverages, (14) Clothing, (15) Work, (16) Exercise and Sleep, (17) Cleanliness, (18) Narcotics, (19) Stimulants, and (20) Self-Control. To these topics are added certain discussions of Human Anatomy and Physiology necessary for an understanding of cause and effect. *Several members of the faculty outside of the Zoology Department will address the class. Open to all.* Three credits. Fee, \$1.50. First semester, Monday, Tuesday, and Thursday, 11:00 A. M.

6. *General Evolution*. This is a lecture and seminar course discussing (1) The More Important Theories of Inorganic and Organic Change, (2) The Statistical Study of Living Things, (3) The Laws of Heredity and Variation and Their Practical Application, (4) The Origin of Our Most Common Cultivated Plants and Domesticated Animals, (5) The Evolution of Society, and (6) Unsuccessful Eugenics Programmes. *Several of the professors from other departments address the class on topics of this course which are closely related to their special fields of study. Open to all.* Three credits. Fee, \$2.00. Second semester, Monday, Tuesday, and Thursday, 11 A. M.

7-8. *Nature Study—Insects and Birds*. The general subjects treated in these courses are (1) The Relation of the Insects and Birds to Other Living Things, (2) Environmental Relations, and (3) Economic Importance. Detailed studies of insects are made concerning their (1) Collection, (2) Preservation, (3) Classification, (4) Identification, (5) Development, and (6) Anatomy. Similarly, birds are studied under the following topics: (1) History of Bird Study, (2) Evolution of Birds, (3) Anatomy, (4) Classification, (5) Identification, (6) Geographical Distribution, (7) Migration, and (8) Nesting Habits. Individual students are required to make numerous field trips alone and frequent trips are made by the class as a whole. *General Zoology, 1-2, is a prerequisite for these courses.* Four credits. Fee, \$4.00 each semester. Tuesday and Thursday, 10 A. M.; Wednesday and Friday, 10-12 A. M. Not offered in 1919-1920.

9-10. *Embryology and Histological Technique*. These courses consist of lectures and laboratory work dealing with (1) the structure of the simple tissues, (2) their origin and development in the race and the individual, with special emphasis upon (3) the primitive germ layers of Amphioxus, the Frog, and the Chick, and (4) a brief review of the whole course of Mammalian development, and (5) human microscopical anatomy. Careful training is given in the technique of descriptive illustration. Serial sections are made and studied. These courses are designed especially for future workers in Medicine or some Biological field, and must be preceded by *General Zoology, 1-2*. Four credits.



Fee, \$4.00 each semester. Tuesday and Thursday, 10 A. M.; Wednesday and Friday, 10-12 A. M. Offered in 1919-1920.

11-12. *Neurology and Physiology*. These courses are largely text work designed for the student of Medicine or Zoology. There will be some laboratory demonstrations by the instructor. The work is of an advanced nature and should not be confused with Hygiene or secondary school courses in Physiology. They are open to juniors and seniors who have taken General Zoology, 1-2, but courses 3-4 and a year or more of both Chemistry and Physics are highly desirable. Fee, \$3.00 each semester. Monday, Wednesday, and Friday, 9 A. M. Not offered in 1919-1920.

13-14. *Animal Ancestry*. These courses consist of text and seminar work dealing in detail with animal relationships as shown by Comparative Paleozoology, Embryology, and Morphology. The more noteworthy phylogenetic schemes are reviewed and fully discussed. These courses supplement courses 1-2, 3-4, 6 and 17-18. They are open to election by juniors and seniors who have taken General Zoology, 1-2. Courses 3-4 and at least one semester of Geology are also of distinct advantage. Three credits. Fee, \$3.00 each semester. Monday, Wednesday, and Friday, 9 A. M. Offered in 1919-1920.

17-18. *Experimental Genetics*. These courses are laboratory studies of the phenomena of heredity and variation. (1) The class as a whole performs a few simple experiments, and then (2) each student is assigned several related problems for individual study. The laboratory work is supplemented by (3) occasional lectures and (4) frequent class discussions of the text. Opportunity is presented for (5) individual analysis of the data on research work being done in the department, and for (6) advanced biometrical studies. There are also (7) several seminars reviewing current literature, and (8) class reports on special topics upon which bibliographies are prepared. Zoology courses 1-2 and 6 are prerequisites for this work. Open only to juniors and seniors. Four credits. Fee, \$4.00 each semester. Hours to be arranged with the instructor.

19-20. *Individual Work*. In these courses each student is assigned independent work. This may be of the nature of (1) thesis with bibliography, (2) the collection and study of animals of a particular group, (3) special work in Embryology, (4) Anatomy, or (5) Histology, or (6) some problems in experimental Genetics. *Open only to Juniors and Seniors who have taken 10 credit hours in the Zoology Department.* Two to five credits each semester. Fee, \$1.00 per hour of credit. Both semesters, hours to be arranged with the instructor.

# Shepardson College

## HISTORICAL STATEMENT

For several years prior to 1900, under joint agreement of the authorities of the two colleges, the facilities of Denison University including instruction, were largely accessible to the students of Shepardson College. The practical working of this arrangement gradually pointed the way to a still closer union, making it possible to offer both daughters and sons of the patrons of the two schools an education in all respects equal, and receiving equal recognition upon completion.

In June, 1900, such a union was effected. The courses of Denison University, its class rooms, its material equipment and its degrees, were opened to the students of Shepardson College on exactly the same terms as to young men. While Shepardson College thus became a department of the University, co-ordinate in all scholastic matters with Granville College, it still retains its legal identity.

As the Boards of Trustees, Officers of Instruction and Government, and the courses of instruction are now the same for Granville College and Shepardson College they are not here repeated. A detailed statement of studies offered in the various departments of instruction, with conspectus of courses leading to the several degrees, will be found in the portion of the catalogue immediately preceding these paragraphs.

## ROOMS AND BOARD

Non-resident students board and room in the College. In order to secure a room in advance, a retaining fee of five dollars must be deposited by each student with the Treasurer of the College. No room is regarded as engaged until this fee is in the Treasurer's hands. This sum will be applied on the bills of the first semester, unless the student fails to take the room, in which case it is forfeited. Engagement of rooms in advance is understood to be for the year, unless otherwise stipulated.

Students must take not less than thirteen hours a week of college credit work in order to room in the dormitories.

Students who cannot be accommodated in the dormitories at the beginning of the fall term, live in the village in rooms recommended by the college authorities, and are under college regulations and supervision. Their names are entered upon a waiting list according to the date of their application, and they are expected to move into dormitory rooms as fast as vacancies occur. They have the privilege of board in the college dining hall while they are on the waiting list.

Rooms engaged by students of the preceding year will not be held later than July 1, unless the retaining fee has been paid.

Freshmen are expected to vacate their rooms before Commencement week.

#### ADMISSION

Shepardson College does not maintain a preparatory department, and grants admission only to students of college grade. The requirements for entrance to the Freshman year are identical with those of Granville College, a full statement of which will be found by consulting the subject index of this catalogue, under the heading "Entrance requirements."

#### DISCIPLINE

Only such regulations are imposed as are necessary to maintain conditions favorable to college work. It is the endeavor of the college to develop self-knowledge and self-control. The Student Government Association co-operates with the Dean in maintaining a government educational rather than restrictive.

#### EXPENSES

All necessary information concerning expenses in Shepardson College will be found in detail in the chapter of this catalogue entitled "Expenses." Consult the subject index under the heading "Expenses."

#### MORAL AND INTELLECTUAL INFLUENCES

Without placing any restraint upon the denominational preferences of its pupils, the College aims to surround them with

salutary Christian influences. Attendance on the daily Chapel exercises is required, but no restriction is placed upon the pupil's choice of a regular place of worship on Sundays. Students and teachers unite in the Young Women's Christian Association, and in classes organized for systematic Bible study.

There are three literary societies for students in Shepardson College, the Euterpean, Philomathean, and Thalian.

The Marsh Memorial Library in King Hall, established by Dr. and Mrs. Shepardson in memory of their daughter, Mrs. Lide Shepardson-Marsh, contains a valuable collection of books for Bible and missionary study; also dictionaries, encyclopedias and other helps for general study.

The Reading Rooms in Burton Hall and Stone Hall are supplied with current literature, and in addition to the University Library, a Reference Library is maintained on the Shepardson College grounds, for the convenience of students and teachers.

## PHYSICAL TRAINING

MISS BRADSTREET

(Resigned, to take up nursing service. Successor to be appointed before opening of the new year.)

The physical training for young women is under the personal instruction of the physical director and consists of graded class work in gymnastics for two and one-half years. This work is required for graduation except for those who are excused by a physician. A special training class is offered for those intending to do advanced work in this line. Instruction in swimming, tennis, basket ball, and archery is free. A physical examination is given to every woman who enters the college before she can begin the gymnasium work, and if necessary corrective exercises are prescribed to meet her special needs. The aim is to meet the individual physical needs of the students.

Students not candidates for a degree are required to take gymnasium work unless specially excused by the Dean.

## SCHOLARSHIPS

A number of scholarships are available for students in case of necessity, provided they maintain an honorable standing in classes. Pupils holding scholarships, if called upon, will render some service to the college. Such service, however, will in no way conflict with the pursuance of regular duties.

## The Conservatory of Music

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Music in some form has always been taught in the educational institutions of Granville. For many years the work was of a semi-private character, but growing larger and more important, was taken under the management of Shepardson College for women. The rapid progress of the work led in 1894 to the organization of a Conservatory, the acquisition of a suitable building for teaching and practicing, and the building of Recital Hall adjoining. In 1900, the College and University were united, and the Conservatory of Music became a co-ordinate part of Denison University.

Denison University grants college credit for work in the theoretical courses of the Conservatory, on an equal footing with other elective studies, and a course leading to the degree of Bachelor of Philosophy may be taken with the Theory of Music as its major subject. Thus students working for the diploma of the Conservatory may at the same time apply the theoretical part of their course toward a Bachelor's degree from the University. It has been the aim of the Conservatory steadily to strengthen its courses and broaden the requirements for graduation, so as to maintain a standard as high as that of any other school in the state in the same lines of work. Information not contained in the following pages may be obtained by addressing Karl H. Eschman, A. M., *Director*, Granville, Ohio.

### FACULTY

KARL H. ESCHMAN, F. A. G. O., DIRECTOR AND PROFESSOR OF  
Music

#### *Theory and History of Music*

Graduate of the Denison Conservatory in Piano and Organ.  
Graduate student, 1911-1912, under Professor Walter R. Spalding and Edward Burlingame Hill, Harvard University. Studied Composition under Hugo Kaun and Piano under Victor Heinze in Berlin, 1912-1913. Fellow of the American Guild of Organists.

## FANNIE JUDSON FARRAR

*Head of Piano Department*

Pupil in Piano of J. Emil Ecker, Toledo, Ohio; Constantin Sternberg, Philadelphia; Bertrand Roth, Dresden; Tobias Matthay, F. R. A. M., and Claude F. Pollard, A. R. A. M., London. Student in Vienna in 1894. Pupil in Musical Kindergarten of Mrs. Fannie Church Parsons, Chicago.

## RALPH WARREN SOULE

*Head of Voice Department*

Graduate of the Knox Conservatory of Music. Director of the Tabor Conservatory of Music, Tabor, Iowa, 1912-1914. Director of Music Department and Professor of Voice, Cooper College, Sterling, Kansas, 1914-1916. Student of William Claire Hall, Chicago, and of William F. Bentley, Galesburg, Illinois.

## LEILA C. BROWN

*Organ and Piano*

Graduate of New England Conservatory of Music, 1907. Post Graduate 1909. For two years, teacher in Normal Department of New England Conservatory. Two and a half years' course at Peabody Institute, Baltimore, Md. Pupil of Ernest Hutchison of Berlin, Germany; F. Addison Porter, Boston, and Harold Phillips, Baltimore.

## GAYLE INGRAHAM SMITH

*Violin*

Pupil of A. R. Bunker of the New England Conservatory of Music, and Luigi von Krenits, former Concert-meister of the Pittsburgh Symphony Orchestra. Artist graduate of the Cincinnati Conservatory under Signor Pier Adolf Tirindelli, violin, and Edgar Stillman Kelly, theory.

## FRANCES HENRY

*Piano*

Graduate of the Conservatory of Toronto, Canada. Student of Teresa Carreno, Ferdinand Hummel, and Theodore Wihmeyer



for four years in Leipsic and Berlin; taught in Berlin and New York; concertized in Europe, Canada and West Indies.

CLARENCE D. COONS, M. S.,

*The Physical Basis of Music*

Professor of Physics in Denison University.

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## Departments of Instruction

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### A. THEORY AND HISTORY

In the Theoretical classes the object is not so much to develop the latent powers of possible composers, although this is provided for, as to educate all in the intelligent appreciation and enjoyment of music. To this end, besides the strictly technical courses more general ones are offered, as in History and in Appreciation, requiring no previous musical training. Emphasis is laid on technical study and original work, as the best preparation for study of the works of the masters.

In the technical classes the laboratory method mainly is pursued. The students work out exercises on the board, subject to criticism and discussion by the instructor and the class, while original expression of musical ideas is constantly sought for.

College credit may be obtained for any of the numbered courses. Those who intend to complete the Theoretical course are advised to take courses 3-4, 7-8, 9-10, and 13-14 in consecutive years. The following courses in this department, except 2a, are taught by Professor Eschman.

1a. *The Appreciation of Music.* A non-technical course, open to all students of the University. The object is to point out the structural principles of musical art and to show what constitutes real merit in any field of musical activity. The work embraces lectures and analyses, collateral reading and critical reports of current recitals. Two hours, first semester, Monday and Wednesday, 2:30 P. M.

2a. *The Physical Basis of Music.* PROFESSOR COONS.

The fundamental laws of acoustics, governing the production and character of musical tones, are demonstrated by apparatus from the Physics department of the University. A lecture course, without prerequisites in music or science. Two credits, second semester, Monday and Wednesday, 2:30 P. M. Given in 1919-20.

3-4. *Elementary Theory.* This course or its equivalent is prerequisite to all higher courses. It embraces a summary of music, a detailed study of the modern system of musical notation, the analysis of rhythm, practice in scale writing, transposition and the use of all the clefs.

The work concludes with a study of elementary Harmony, up to and including triad connections. Both semesters, Wednesday and Friday, 11 A. M.

5. *History of Music to the Eighteenth Century.* A literary course requiring no special musical training. The work consists largely of assigned reading, with written reports, tests and theses. Far-reaching causes and effects are studied, with the inter-relation of different periods in the evolution of the art. A collection of primitive instruments serves to illustrate the early stages of music, and typical music of the successive periods is rendered in class so far as possible. Three credits, both semesters, Tuesday and Friday, 1:30 P. M.

6. *History of Music from the Eighteenth Century to the Present Time.* Same hours and credits as in course 5, but may be elected separately from that course.

7-8. *Harmony.* Review of intervals and triads; dominant and secondary chords; suspensions; augmented and altered chords; modulations; organ-point; the harmonization of given melodies in bass or soprano, mostly in four parts, and the composition of simple original pieces. Demonstration at the keyboard is demanded of the pupil as far as practicable. Solfeggio and elementary theory are prerequisite, with knowledge of the pianoforte sufficient at least to play an ordinary hymn-tune at sight. Three credits, both semesters, Monday, Tuesday and Thursday, 11 A. M.

9-10. *Counterpoint*. The principles of harmony applied to the melodious treatment of two or more voice parts in combination. Free harmonization of choral melodies; two, three, and four part counterpoint in the several orders; contrapuntal and imitative treatment of subjects in different voices for organ or strings. Courses 7-8 are prerequisite and some proficiency in piano playing is required. Three credits, both semesters, Monday, Tuesday and Thursday, 10 A. M.

11-12. *Musical Form*. Study of thematic construction and elements of composition, through analyses of the principal instrumental forms, as illustrated in the works of classic and modern composers. The ultimate aim is an intelligent appreciation of music and a wide acquaintance with the best of it, as well as insight into the technique of composition. Practice is given in construction of the smaller musical forms, such as hymn-tunes, and the dance forms of the classic suite. Courses 7-8 must ordinarily precede this work, but by special permission may be taken in the same year. Two credits, Wednesday and Friday, 10 A. M.

13-14. *Strict Composition*. Analysis and composition of the advanced forms of polyphonic music. This is a necessary preparation for the larger and freer forms of composition. Courses 7-10 are prerequisite, with some proficiency in pianoforte or organ playing. Two credits, both semesters, Monday and Wednesday, 1:30 P. M.

15-16. *Free Composition*. First semester, original vocal settings of selected texts; analysis of standard choral works and songs; composition of short pieces for men's or women's voices, and for mixed chorus, unaccompanied. Later, types of accompaniment figures are studied and settings made with piano or other accompaniment. Second semester, analysis and composition of vocal and instrumental music in the larger forms, with writing for orchestral instruments; practice in forms, with writing for orchestral instruments; practice in reading from vocal and orchestral scores. Prerequisite, courses 9-14. Two credits, both semesters, Wednesday and Friday, 8 A. M.

## B. COURSE IN PIANO

It is difficult to specify a set course adapted to the needs of all pupils, so it has seemed best to suit the work to individual requirements.

Great care is taken that the foundation work be thorough, the understanding of the action of the instrument coming first, then tone production through the natural laws that govern it, followed by technical facility and velocity.

A good technique is essential to satisfactory piano playing, but as a means to an end, not an end in itself. The effort is always toward artistic interpretation, which is impossible without an adequate technique.

The course includes the music of both Classic and Romantic composers, and to this is added the principles of expression, which, in connection with a good tone production, constitutes the secret of playing with expression, so far as this can be taught.

Recognizing the study of the piano and its literature as an effective and important instrument of mental development and cultivation, the department makes every effort to teach the subject not merely from the professional point of view, but from the cultural as well.

## C. COURSE IN VOICE.

The object of this course is the correct placing of the voice, so that the tones are even and firm throughout the entire range. Stress is laid on control of the breath, rhythm, and phrasing, together with enunciation and stage presence. The exercises and songs are selected according to the requirements of the individual for continuous development in technical power and interpretation. Use is made of the classic song literature of all schools, especially the German, and from our own American song writers. Advanced pupils study Schumann, Schubert, Franz, Brahms, Beethoven, and arias from the standard oratorios and operas. Candidates for graduation must have at least two semesters' training in the Chorus.

## D. COURSE IN ORGAN

A certain facility at the piano and in sight-reading is necessary and this must be proved to the satisfaction of the instructor, who may prescribe such additional work as may seem advisable in preparation. A good organ touch, comprising legato and staccato playing, steadiness and smoothness of style, are the objective aims.

Rink's Organ School, Buck's Studies in Phrasing and Bach's Little Preludes and Fugues compose the ground work of study. This is followed by sonatas by Mendelssohn, Merkel, Guilmant, selections by Widor, Dubois, Boellman, Lemare, Best, Hollins, Buck and Parker. Special attention is given to hymn playing, accompanying and registration to meet the practical needs of church work.

## E. COURSE IN VIOLIN

Good tone production and clear intonation receive a large share of attention, followed by studies and special exercises to meet the needs of the individual. As the student becomes more proficient, pieces, sonatas, and concertos by classic and modern masters will be studied.

It is the purpose to work not only for technical proficiency, but also for the higher and broader plane of artistic conception and interpretation. At least two semesters of piano study are required of candidates for graduation.

Students are encouraged in ensemble playing, and those sufficiently advanced are admitted to the University Orchestra. The experience thus gained is not the least valuable part of the training, and is required of candidates for graduation.

## F. ENSEMBLE CLASSES

(a) *Solfeggio*. One hour per week, both semesters. This work, or a satisfactory equivalent, is required of candidates for graduation in any department of the Conservatory.

The course is provided to meet the needs of all who are in any degree deficient in the fundamental principles of music, such as rhythm, intervals, scales, etc., or who are unable to read vocal or instrumental music readily at sight. It includes

both ear-training and sight-singing. The pupils are trained to write, in correct notation, musical phrases which are played or sung to them, beginning with the simplest phrase in the major mode, and progressing until difficult melodies in either major or minor can be notated with facility. The sight-singing course begins with the simplest intervals and rhythms, progressing by easy stages until it includes the most difficult passages to be found in modern vocal music.

(b) *Public School Music.* One hour per week, both semesters, or two hours per week, one semester. Time to be arranged.

The aim is to give an equipment for successful work in teaching public school music. A knowledge of the fundamental facts to be taught is presupposed. The effort is to develop clearly and thoroughly the principles of pedagogy and psychology that apply to such teaching, and to show by actual demonstration the manner in which to apply these general principles to the special problems of the several grades. The work of the course is based upon the Normal Music Course and the Modern Music Series used so successfully in the Boston and Brookline schools.

(c) *Normal Class.*—MISS FARRAR. This course is offered at the request of piano students, but includes nothing not of advantage to any music student who intends to teach, since the study of the piano is the foundation for the teacher of any branch of music.

The course presents the best methods of teaching notation, rhythm, and elementary theory, as well as the relation of psychology to music, the principles of expression for interpretation, applicable to the rendition of all music, and the principles of tone-production on the piano.

The class meets one hour a week, both semesters. One semester of Theory or Solfeggio is required for entrance.

(d) *Piano Classes.*—MISS FARRAR. Ensemble classes are maintained in piano, both duet and quartette work being done. The classes are free, and this work is required of all pupils sufficiently advanced.

(e) *String Classes*.—MISS SMITH. As far as material offers practice is held in trio and quartette work, with performances in public on suitable occasions. Advanced pupils are coached in ensemble with piano.

(f) *Organ Methods*.—MISS BROWN. Instruction in concert and church methods for advanced pupils in the Organ Department. The playing of hymns at sight, transposition, modulation, accompaniment, church services, and improvisation.

### MUSICAL ORGANIZATIONS

(a) *The Engwerson Choral Society*.—MR. ESCHMAN, DIRECTOR. Membership is open to all who can read music sufficiently well. The dues are fifty cents each semester. Two principal concerts are given each year, with notable artists assisting. According to the present custom, Handel's "Messiah" is sung each year at Christmas, while Geibel's "Nativity," Rossini's "Stabat Mater," Mendelssohn's "Hymn of Praise," "Elijah" and St. Paul," Brahms' "Song of Fate," Bruch's "Fair Ellen," Ware's "Sir Oluf," Debussy's "Blessed Damsel," Haydn's "Creation," Coleridge-Taylor's "Hiawatha" and Wagner's "Lohengrin" are other works recently given. Rehearsals are held on Monday evenings throughout the college year.

(b) *The Denison Orchestra*.—MR. ESCHMAN, DIRECTOR. Membership is not limited to students in the University, but offers to anyone of sufficient ability the opportunity of playing classical and modern composition under suitable direction. The Orchestra assists the Choral Society in presenting some of its oratorios, besides giving at least one concert independently in the spring. Regular rehearsals are held on Thursday evenings throughout the college year. Membership is free to those admitted.

(c) *The Denison Glee Club*. This is an organization of twenty young men chosen by annual competitive examination from the men of the University community. About twenty concerts are given each year, engagements being filled in Ohio, Pennsylvania,

New York, Michigan, Indiana, and Illinois. The programmes consist of classical numbers, popular glees, and college songs.

(d) *The Shepardson Glee Club*. This club consists of twenty-four girls, and with the exception of the officers is reorganized each Fall by competitive examination. An annual concert is given in May. The club comprises the best voices of Shepardson College and the Denison Conservatory.

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## Requirements for Graduation

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### MUSICAL STUDIES

Candidates for graduation must select one branch of applied music and pursue it to the satisfaction of the head of that department. No fixed course is set, and no definite time can be given for the satisfactory completion of this part of the work, but ample opportunity is given for gauging the candidate's progress by means of Student Recitals, public and private.

In the Voice and Violin Departments candidates must pursue the study of the piano sufficiently (two semesters at a minimum) to enable them to play easy accompaniments at sight. All candidates for graduation must sing in the Chorus or play in the Orchestra for at least two semesters.

Theoretical work required in all departments comprises two semesters each of Solfeggio, Appreciation, Elementary Theory, History, Harmony, Counterpoint, Form, Strict Composition, and Physical Basis as described above.

### LITERARY STUDIES

In addition to the musical studies required, candidates for graduation must satisfy the full requirements for entrance to the Freshman Class of Denison University, and complete one year of French, German, or Italian, and one year of English equivalent to that of the Freshman year in Denison University. Evidence that this work has been completed elsewhere will be accepted upon the same terms as in the Colleges.



### DIPLOMAS AND CERTIFICATES

The Conservatory Diploma is granted on recommendation of the Conservatory Faculty to students who have completed the prescribed course of study in any of its departments, together with the general requirements described above. Each candidate for the diploma must give a public recital during the Senior year. To students substituting a certain amount of work in Normal Training, or Public School music for the graduating recital and giving promise of aptitude for teaching, a Certificate is granted instead of the Diploma. Students completing satisfactorily any integral part of the work offered in the various departments of the Conservatory, involving not less than a year's study, may obtain an officially signed statement to that effect, together with a copy of the Registrar's record.

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### General Information

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There are no formal entrance requirements beyond the evidence of ability to profit by the instruction offered. The work of the year is divided into two semesters (see the University Calendar on page 3), and students may best enter the Conservatory at the beginning of a semester, although private lessons may be taken up at any time. No registrations are accepted, however, for less than the remainder of the semester.

The Sheet Music Library furnishes the necessary music for students, including a selection of symphonies, sonatas, etc., in duplicate for analysis by the classes in theory. The fee for the use of this music is included in the tuition fee. A Music Store is maintained by the Conservatory, through which students can purchase text-books, music, etc., at discount prices.

The music branch of the University Library, consisting of over seven hundred volumes of literature and music, is housed at the Conservatory, and is available on the same terms as the main library. There is also a collection of primitive musical instruments of great interest, most of which have been presented by Denison alumni.

The Conservatory is equipped with practice pianos of the highest grade. Hours and rooms for practice should be engaged at the time for registering, and no other use of instruments or rooms is allowed without special permission.

Semi-private Student Recitals take place frequently throughout the year, and students are expected to attend. A public recital is given by the more advanced students near the end of each semester. All students are under obligations to perform at recitals when so directed by their instructor. Students are not allowed to perform in public without the knowledge and consent of the instructor.

At the end of each semester a report of each student's work is sent home. Fuller information of this kind will be gladly furnished at any time by the instructors or by the Director.

Besides the festivals of the Choral Society and various other concerts, a number of Faculty Recitals are given during the year, and several Artist Recitals, most of which are free to Conservatory students. Each year a historical series of recitals is given, presenting informally the music of individual composers or periods. An operetta is given each spring by students in the voice department and others.

The following artists have appeared in Granville and Newark during the past few years, some of them more than once: Sopranos: Grace Bonner Williams, Lucile Stevenson, Edith Sage MacDonald, Millicent Brennan, Caroline Hudson-Alexander, Lorene Rogers-Wells, Marie Stoddard. Contraltos—Maude Wentz MacDonald, Elsa Hirshberg, Ernestine Schumann-Heink, Elizabeth Thompson Wilson, Jane Lang Graninger. Tenors—Cecil James, Charles Hargreaves, Joseph Schenke, George Harris, Jr., Walter Earnest, Claude Saner, Dan Beddoe. Baritones—Cecil Fanning, Arthur Leroy Tebbs, Henry Irving Fisher, Walter Bentley Ball. Basses—Oley Speaks, Ernest Gamble, Julian Walker, William Harper, Marcus Kellerman, Giuseppe Campanari, Andrea Sarto. Pianists—William Sherwood, Hans Richard, Julian Pascal, Edith Haines-Kuester. Pianist-Lecturers—Harry Brown Turpin, Edward Baxter Perry, Theodor Bohlmann. Violinists—Sol Marcossou, Otto Meyer, Francis MacMillan,

Emil Sturmer. Violincellists—Charles Heydler, Hans Kronold. The Cleveland Philharmonic, the Spiering, and the Olive Mead String Quartettes. The Marcossou-Heydler Trio. The Cincinnati, the Columbus, the St. Paul, and the Russian Symphony Orchestras.

*Expenses.*—The tuition charges and other fees for the various courses of instruction will be found in the pages immediately following.

Tuition fees include such incidentals as the use of the reference and sheet music libraries, and admission to one Artist Concert each semester.

An annual scholarship, the gift of Mrs. E. S. Shepardson, is at the disposal of the Conservatory Faculty.

The Conservatory publishes an annual bulletin which contains the programmes of the year and additional information. A copy may be secured by addressing

K. H. ESCHMAN, *Director,*  
Granville, Ohio.

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## Expenses

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*Semester Bills.* In Granville College for Men, the semester bills are \$47.50; in Shepardson College for Women, \$45.00.

In Doane Academy the semester bills are \$45.00 for men and \$42.50 for women.

All bills are payable each semester in advance.

*Matriculation fees* for Granville College and Shepardson Colleges are as follows: For students entering as Freshmen, \$2.00; as Sophomores, \$3.00; as Juniors, \$4.00; as Seniors, \$5.00. Students holding Doane Academy diplomas are not required to pay this fee.

*Excess Registration.* College students taking more than nineteen hours of class-room work per week will be charged \$1.00 per semester for each additional hour.

*Partial Registration.* Students taking less than ten hours per week will be charged as follows: In Granville College, \$4.75

per semester hour; in Shepardson College, \$4.50; in Doane Academy, \$4.50 for men and \$4.25 for women.

Students in Granville and Shepardson Colleges taking part of their work in Doane Academy pay no extra charge for that work unless it makes the total number of hours exceed 19 per week.

Doane Academy students taking one or more studies in college will pay regular college semester bills.

*Late Registration.* An extra fee will be charged to all students who have not completed their registration by the close of the first day of each semester.

*Special Examinations.* A fee of \$2.00 will be charged for special examinations caused by absence from the regular examination, or for a re-examination in any study.

*Refunding Semester Bills.* All registrations are for an entire semester and no money is refunded to a student who leaves before the end of the semester, with the following exceptions. A college student leaving during the first half of the semester, and regularly dismissed, will pay for the time of his actual enrollment at the rate of \$5.00 per week; an Academy student at the rate of \$4.75. The remainder of the semester charges will be refunded. The time of enrollment in such cases will be calculated from the first of the semester to the date when the student is dismissed by the Registrar of the University or the Dean of the Academy.

*Men's Dormitories.* Rooms for men in the dormitories may be secured on application to the Treasurer, by paying a retaining fee of \$5.00 on or before August 1. If the room is occupied, this fee will be held subject to the rules and regulations governing the use of the dormitories; otherwise it is forfeited. The room rent ranges from \$17.50 to \$25.00 per semester for each student.

No room can be secured for a shorter time than one semester. If a room is vacated for any cause before December 1 of the first semester, or before April 15 of the second, only one-third of the room rent will be refunded. No rent will be refunded after these dates.

Rooms are in suites comprising sitting-room and bed-room (except single rooms for one person) and are supplied with dresser, book-case and chairs, single iron bedstead, mattresses and springs. Bed-clothing and towels are provided by the student. The rooms are lighted by electricity and heated by hot water, and are in close proximity to lavatories on the same floor, where shower baths are provided, with hot and cold water.

*Women's Dormitories.* Rooms are provided for young women on Shepardson College grounds, in Burton Hall, King Hall, and Stone Hall. Until the erection of other residence halls, additional room is secured in cottages leased by the college in the immediate vicinity of the college grounds. Rooms may be secured in these halls and cottages by paying a retaining fee of \$5 before July 1. This fee is credited on the room rent if the room is occupied; otherwise it is forfeited.

Ample lavatories are provided on each floor and have baths with hot and cold water. Single iron bedsteads, mattress, springs and rugs are provided in all rooms. All rooms and halls are lighted by electricity and heated by hot water. All bedding and toilet appliances are furnished by the students. All the dormitories are provided with fire escapes.

*Dormitory Charges.* Young women rooming on the Shepardson College campus are charged \$115 per semester, which includes room rent and board in the Shepardson Dining Hall. All meals sent to rooms are charged extra.

Special arrangements must be made by students desiring to room in Domestic Science Hall.

*Refunding of Charges.* Ordinarily no rebate can be made in room rent, but to students leaving on regular dismissal before December 1 of the first semester, or April 15 of the second, a rebate is granted of \$3.00 per week on board for the remainder of the semester. No rebate is granted after these dates.

Breakage or other damage to furniture of rooms is charged to the occupants.

*Charges in Conservatory of Music, per Semester*

- TUITION—in Pianoforte, Voice or Violin,  
two private lessons per week \$10.00  
one private lesson per week \$17.00
- TUITION—in Pianoforte, Voice or Organ, under Head of Department  
two private lessons per week \$40.00  
one private lesson per week \$32.00
- TUITION—in Harmony, Counterpoint, or History of Music, class lessons, three  
hours per week \$12.00
- TUITION—in Form, Canon and Fugue, Composition, class Lessons, two hours  
per week \$8.00.
- TUITION—in Elementary Theory, Appreciation, and Physical Basis of Music,  
class lessons, two hours per week, \$8 for conservatory students.  
College students paying regular tuition may elect these courses with-  
out extra charge.
- TUITION—in Solfeggio, Public School Music or Normal Training, class lessons,  
one hour per week \$4.00.  
Rent of Piano for practice, per semester-hour (i. e., one hour a week  
for a semester) \$1.00  
Rent of Pipe Organ for practice \$0.15 an hour.

Students taking Conservatory work equal to the cost of college tuition may elect college work, in addition, at the rate of \$3 per semester hour.

*Rebate.* Students dropping music before the middle of the semester must make arrangement for rebate with the Director of the Conservatory.

*Charges in Household Economics Department, per Semester*

Cooking	\$15.00
Sewing	12.00
Basketry	12.00

Half time in the above will be at the rate of \$8.00 for Cooking, \$7.00 for Sewing and Basketry.

## EXTRA CHARGES FOR CERTAIN COURSES

The fees indicated below are in all cases for a single semester. In some cases the fee is not a fixed amount, but depends upon special circumstances. Such cases are not included in this table.

Astronomy—	Course		2. . . . .	\$2.00
			4. . . . .	2.00
Botany—	Course	1. . . . .	3.00	2. . . . .
		3. . . . .	3.00	3. . . . .
		5. . . . .	3.00	6. . . . .
		7. . . . .	3.00	8. . . . .
		9. . . . .	1.00	10. . . . .
		11. . . . .	2.00	12. . . . .
		17. . . . .	1.00	18. . . . .
Chemistry—	Course	1. . . . .	4.00	2. . . . .
		5. . . . .	3.00	6. . . . .
		9. . . . .	3.00	10. . . . .

For fees in other courses consult head of department.

Civ. Engineering—	Course	1. . . . .	1.00	2. . . . .	1.00
		3. . . . .	1.00	4. . . . .	2.00
		5. . . . .	2.00		
		9. . . . .	1.00	10. . . . .	1.00
				12. . . . .	2.00
Geology—	Course	3. . . . .	1.00	4. . . . .	1.00
		5. . . . .	1.00	6. . . . .	1.00
		7. . . . .	1.00	8. . . . .	1.00

11-16, \$2.00 to \$5.00, to be arranged.

Household Economics—	Course	1. . . . .	15.00	2. . . . .	15.00
Physics—	Course	1a. . . . .	2.00	2a. . . . .	2.00
		3. . . . .	2.00	4. . . . .	2.00
		5. . . . .	2.00	6. . . . .	2.00
		9. . . . .	2.00	10. . . . .	2.00

Zoology—1-4, \$3 or \$4, according to number of hours registered.

	5. . . . .	1.50	6. . . . .	2.00
	7. . . . .	4.00	8. . . . .	4.00
	9. . . . .	4.00	10. . . . .	4.00
	11. . . . .	3.00	12. . . . .	3.00
	13. . . . .	3.00	14. . . . .	3.00
	17. . . . .	4.00	18. . . . .	4.00

19-20, \$1 per credit hour registered.

## Society of the Alumni

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The Society of the Alumni of Denison University was organized in 1859. All graduates of the University in honorable standing without regard of sex, are considered as members. Former students who did not graduate are admitted as associate members. In 1907 the society prepared a volume of nearly three hundred pages, containing a general catalogue of alumni together with much historical material covering the origin of the college and its development during the three-quarters of a century ending with the Commencement of June, 1906. Since that date a number of bulletins have been published by the Secretary, giving changes in addresses and occupations and other important information concerning the Alumni. The society also issues a Quarterly Bulletin, devoted to the general interest of the University, and published from Chicago, under the editorial management of Samuel B. Brierly, class '75, President of the Society.

The officers of the Society for the current year are:

President	SAMUEL B. BRIERLY, '75
	106 North LaSalle St., Chicago, Ill.
Vice-President	COL. EDWARD A. DEEDS, '97
	Dayton, Ohio.
Secretary-Treasurer	W. H. JOHNSON, '85
	Granville, Ohio.

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## Phi Beta Kappa

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In 1910, the Senate and Council of Phi Beta Kappa granted a charter for the organization of a chapter of the Society in Denison University, to be known as the Theta Chapter of Ohio. The Chapter was duly installed, and the charter delivered by the National President of the Society, Dr. Edwin A. Grosvenor, on the eighteenth of January, 1911. This society was established,



early in the history of American college life, for the express purpose of recognizing and fostering high scholarly attainment in college work. Election to membership is confined to Seniors and Juniors who have shown themselves qualified for such an honor on that basis. The elections from the class of 1918 were as follows:

Stanley Stephens Bash,  
Alice Evangeline Beers,  
Margery Pickard Benoy,  
Ethel Garland,  
Grace E. Jefferson, (Elected in Junior Year,)  
Alfred Janney Johnson, (Elected in Junior Year,)  
Amy E. Montgomery,  
Mary Adele Rowley,  
Edna Clare Shumaker,  
Lucile Clare Tilbe (Elected in Junior Year.)

Charles T. Bumer, of the class of 1919, was elected in his junior year. Frederick G. Detweiler, of the class of 1917, and Roger P. McCutcheon, a graduate of Wake Forest College, Associate Professor of English in Denison, were elected to membership at the June meeting, 1918.

## Degrees Conferred in 1918

The names marked with stars are of men in military service at the time when their degrees were granted.

### BACHELOR OF ARTS

Alfred Janney Johnson  
Evelyn Mae Cathcart

Amy Erle Montgomery  
Lucile Clare Tilbe

### BACHELOR OF PHILOSOPHY

\*Edward Earl Alward  
Oscar Leo Atchley  
\*Jay Grover Bash  
Stanley Stephens Bash  
Herbert Daniel Buker  
\*Belford Pickering Cheadle  
\*Karl Emmett Crilly  
\*Ralph David Davies  
\*Fisher Noel Davis  
Albert Benjamin Howell  
Shih Chi Lo  
\*Mark Bryan Smith  
James Oscar White  
\*Emerald B. Wilson

Herbert Robinson Young  
H. L. Wayland Zwayner  
Ruth Harriet Atwell  
Opal Marie Bowman  
Leta Grace Clark  
Etheldra Ellen Collett  
Ruth Anderson Eldridge  
Pauline Ireland Elvin  
Grace Anna Leaming  
Flossie Pearl Locke  
Clara Mae Morris  
Lora Frederica Palmer  
Ruth Eleanor Palmer  
Mary Adele Rowley

### BACHELOR OF SCIENCE

\*Joseph Neil Armstrong  
\*Paul Henry Askin  
George Martin Bowman  
\*Sidney Wixworth Collier  
Curtis Dalton Decker  
\*Gavotte Justus Irwin  
\*Gordon Romaine Lang  
\*John White McCammon  
Clifford Benjamin Marshall  
\*William Edgar Massie  
Charles Stanley Pease  
\*Byron Bell Pryor  
\*George Percival Read  
\*Arthur Hiet Reynolds  
Carlyle Jones Roberts

\*Darwin Lower Rummel  
\*Clifford Claire Sherburne  
Edward Dare Sperry  
\*Stanley Leon Warner  
\*Oscar Edward Wynne  
Coler Arthur Yoakam  
Alice Evangeline Beers  
Marjorie Pickard Benoy  
Mary Elizabeth Fuller  
Ethel Garland  
Margaret Marie Heinrichs  
Grace Ethel Jefferson  
Ruth Apollonia Nickel  
Edna Clare Shumaker  
Alta Irene Walker

## MASTER OF ARTS

George Thornley Street, A. B.

## MASTER OF SCIENCE

Grace Ethel Jefferson, B. S.

Louise Lane Williams, B. S.

## HONORARY DEGREES

For distinguished merit, the Board of Trustees of Denison University, on recommendation of the Faculty, conferred the following degrees:

Upon the Rev. David E. Bovington, of Cleveland,  
the degree of Doctor of Divinity.

Upon Frank Warner, M. D., of Columbus,  
the degree of Doctor of Science.

Upon Professor Osman C. Hooper of Columbus,  
the degree of Doctor of Humane Letters.

Upon the Rev. Reuben Saillens, D. D., of Paris, France,  
the degree of Doctor of Humane Letters.

## CONSERVATORY DIPLOMAS

The diploma of the Denison Conservatory of Music was conferred upon the following candidates:

In Voice, Belford P. Cheadle

Ruby W. Barnes

Jessie V. Burns

Helen Drury Ray

In Piano, Karl E. Crilly

Mary Lois Lockhart

In Organ, Roland P. Downing

Madeleine Ederly Rupp

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## Honors and Prizes Awarded in 1918

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*Medals for excellence in inter-collegiate debate:*

Harold Cooke Phillips, H. L. Wayland Zwyer.

*The Gilpatrick Scholarship in Mathematics:* Grace E. Jefferson.

*The Samson Talbot Prizes in Bible Reading:*

First prize, Harold C. Phillips; Second H. L. Wayland Zwyer.

*The Lewis Literary Contest:*

Debate: George Babcock Cressey, Calliopean.

Oration: John Robert Lechner, Franklin.

Essay: Herbert Robinson Young, Franklin.

Declamation: H. L. Wayland Zwyer, Franklin.

# Students in Granville College Classes

## GRADUATE STUDENTS

George M. Bowman, Engineering	Gambier
Samuel G. Bridges, History	Granville
Benjamin F. Crawford, Philosophy	Granville
Frederick G. Detweiler, Greek	Granville
James E. Detweiler, Greek	Granville
Karl H. Eschman, Italian	Granville
Dzen Ya Ku, Zoology	Soochow, China
Edgar W. Owen, Geology	Beverly
Chuan Fah Yao, History	Shanghai, China
Coler A. Yoakam	Utica

## SENIOR CLASS

Lee E. Arthur, Sc.	Foster
Lawrence F. Athy, Sc.	Bryan
Charles T. Bumer, Sc.	Girard
Frank F. Burnworth, Ph.	Atlanta, Ga.
F. Morris Cochran, Sc.	Granville
Thomas A. Cook, Jr., Sc.	Stamford Conn.
George B. Cressey, Ph.	Dayton
Horace H. Feight, Ph.	Dayton
William C. Forbes, Sc.	Union City, Pa.
Willis J. Handel, Sc.	Newark
Benjamin F. Hershey, Ph.	Dayton
Charles Edward Kempton, Ph.	Sunbury
Edgar P. King, Sc.	Watonga, Okla.
Henry Richards Leslie, Sc.	Granville
Joel Peterson, Sc.	Chicago, Ill.
Harold Cook Phillips, Cl.	Jamaica, B. W. I.
Owen N. Price, Sc.	Chicago, Ill.
Edgar E. Rice, Sc.	Bucyrus
John H. Sutton, Ph.	Attica
Lee R. Thrailkill, Ph.	Mt. Vernon
Stanley A. Willer, Ph.	Covington, Ky.

## JUNIOR CLASS

Arthur Bawden, Sc.	Granville
Leland A. Brown, Sc.	Marion
Donald Mack Butler, Ph.	Toledo
William L. Carstensen, Sc.	Port Clinton

Marion D. Coulter, Sc.	Newark
Haller G. Curtis, Sc.	Zanesville
Edward E. Harris, Sc.	Chicago, Ill.
George B. Harwood, Sc.	Granville
Charles H. Haskins, Sc.	Granville
Wilbur R. Hemmerly, Sc.	New London
Walter C. Hilscher, Sc.	Canton
Bert T. Hodges, Ph.	Antrim, N. H.
Amil R. Hotchkiss, Ph.	Conneaut
Richard H. Howe, Sc.	Granville
Robert S. Irish, Cl.	Newark
Chester L. Klein, Ph.	Sandusky
John E. McConaughy, Ph.	Massillon
Charles H. Nixon, Ph.	Granville
David E. Owen, Sc.	Granville
Glenn G. Schropp, Sc.	Sandusky
Albert E. Staniland, Sc.	Ambridge, Pa.
Edgar W. Thompson, Sc.	Clermont, Fla.
Leslie B. Tribolet, Ph.	Morgan Park, Ill.
Roush R. Vance, Sc.	Hillsboro
Tsu Yen Wen, Ph.	Tientsin, China
George Stuart Wolff, Ph.	Valcartier, Quebec

## SOPHOMORE CLASS

Earl F. Adams, Cl.	Brooklyn, N. Y.
Theodore F. Adams, Cl.	Brooklyn, N. Y.
Nathan E. Allen, Sc.	East Liverpool
Charles Ashbrook, Ph.	Granville
William E. Barnes, Sc.	Granville
Carroll L. Benoy, Sc.	Mt. Vernon
Millard L. Beucler, Sc.	Stryker
Jabez L. Bostwick, Sc.	Seville
Charles V. Bowen, Sc.	Granville
Herbert L. Bowman, Sc.	Gambier
Arthur W. Brown, Sc.	Bucyrus
Stuart H. Cammett, Ph.	Minneapolis, Minn.
Robert L. Case, Ph.	Granville
Edwin G. Chambers, Jr., Ph.	Cincinnati
Dorence S. Cowles, Sc.	Ostrander
Paul F. Cressey, Ph.	Dayton
Manning S. Daniels, Sc.	Pomeroy
Blanchard P. Davis, Cl.	Sullivan, Ind.
Dale C. DeGroff, Sc.	West Unity
Charles N. Dold, Ph.	Norwood
J. Franklin Donnelly, Sc.	Bucyrus

F. Philip Dye, Sc	Mt. Vernon
John W. Ehrle, Sc	Toledo
Gordon D. Hamel, Sc	Cleveland
Clarence B. Homberger, Sc	Sandusky
Herluin G. Hopkins, Sc	Granville
John Walker Hundley, Ph	Granville
George R. Hunt, Ph	Burton, W. Va.
Earl J. Jenkins, Sc	Girard
John T. Jessen, Jr., Sc	Ambridge, Pa.
Walter R. Jobe, Ph	Xenia
Rozelle P. Johnson, Ph	Parkersburg, W. Va.
Paul H. Knuedler, Sc	Zanesville
Carl H. Koeker, Jr., Sc	Dayton
Walter H. Kull, Sc	Beloit, Wis.
John R. Lechner, Ph	Poughkeepsie, N. Y.
Bernard Lemon, Sc	Hillsboro
Edward G. McCann, Sc	Zanesville
Edwin G. McDargh, Sc	Dayton
Eugene W. Martz, Sc	Ft. Wayne, Ind.
Joseph C. Massie, Sc	Dayton
Harry L. Mathias, Sc	Mediapolis, Iowa
Trumper Noland, Ph	London
Theodore L. Parker, Sc	Lodi
Harold A. Pieffer, Sc	Sidney
John M. Price, Ph	Chicago, Ill.
Walter A. Reese, Sc	Middletown
Kenneth Robinson, Sc	McConnelsville
John L. Rose, Sc	Granville
Dean H. Rosensteel, Ph	Springfield
Wilbur C. Scheib, Sc	Bucyrus
Walter Schulz, Ph	Pittsburgh, Pa.
Carl Seibel, Sc	Norwalk
Charles A. Sheperst, Sc	Toledo
Herman G. Spencer, Ph	Granville
Corwin Sutton, Sc	Attica
Charles B. Suvoong, Sc	Shanghai, China
Forrest D. Swigart, Sc	Morrill
David O. Voss, Cl	Toledo
Ford R. Weber, Sc	Toledo
Ralph W. White, Sc	Lynn, Mass.
Harold L. Wilson, Sc	Elyria
William F. Windle, Sc	Newark
Henry O. Wintermute, Ph	Mt. Vernon
Charles F. Wood, Ph	Williamsburg, Ky.

Paul G. Wood, Ph. ....	Ottawa, Ill.
James C. Wright, Cl. ....	Granville

## FRESHMAN CLASS

Robert W. Abernethy, Cl. ....	Kansas City, Mo.
Charles A. Baker, Sc. ....	Morral
Gilbert W. Bell, Ph. ....	Cambridge
Walter Bell, Sc. ....	Norwalk
Elmer J. Bergman, Sc. ....	Sandusky
Marshall Best, Sc. ....	Xenia
Carl Biefeld, Sc. ....	Granville
John P. Botkin, Sc. ....	Springfield
Ralph H. Bowen, Sc. ....	Canton
Ray E. Bowman, Ph. ....	Utica
Fred T. Brien, Sc. ....	Cherry Valley, N. Y.
O. Lawrence Brown, Cl. ....	Richwood, W. Va.
Ruel T. Brown, Ph. ....	Toledo
William E. Burke, Cl. ....	Hammond, Ind.
William Burkhardt, Sc. ....	Dayton
Harold A. Campbell, Sc. ....	Newark
Robert C. Canby, Sc. ....	Dayton
Charles H. Carver, Ph. ....	Lakewood
Thomas V. Caulkins, Jr., Sc. ....	Condersport, Pa.
George Cheney, Sc. ....	Bowling Green
Tsing Hsin Chin, Sc. ....	Kirin, China
Yu Chien Chu, Ph. ....	Peking, China
Howard E. Claggett, Sc. ....	Hebron
Charles A. Cooper, Jr., Sc. ....	Dayton
Ralph K. Cooper, Sc. ....	Cambridge
Frederick B. Cornman, Sc. ....	Kingsville
Carey Croncis, Sc. ....	Bucyrus
Edmonston Davis, Sc. ....	Hammond, Ind.
Q. Harold Dawson, Sc. ....	Coshocton
Henry N. DePuy, Ph. ....	Lakewood
John Draut, Sc. ....	Middletown
George E. Ducro, Jr., Ph. ....	Ashtabula
Eugene L. Exman, Sc. ....	Blanchester
Ernest J. Frazier, Sc. ....	Ottawa
Robert W. Frederick, Ph. ....	Wheeling, W. Va.
John C. Geyer, Sc. ....	Piqua
George Graves, Ph. ....	Granville
Caroll B. Griffin, Sc. ....	Granville
Elroy S. Guckert, Sc. ....	Sandusky
John Halko, Cl. ....	Massillon
J. Mark Hanna, Sc. ....	Huntsville

Alva J. Harris Ph.	Bladensburg
Claude M. Haswell Sc.	Bowling Green
Ralph M. Hendricks, Ph.	Dayton
Dewey Heskett, Sc.	Bethesda
Emmert L. Hurley, Cl.	Mammoth, W. Va.
Robert K. Johnson, Sc.	Parkersburg, W. Va.
August Jones, Sc.	Cincinnati
Frank P. Jones, Sc.	Granville
Paul H. Kaufmann, Sc.	Attica
Edgar A. Killam, Sc.	Chicago, Ill.
Ralph E. Kniffen, Ph.	Stryker
Stephen H. Lapp, Cl.	Granville
William H. Leslie, Sc.	Granville
Henry B. Levy, Sc.	Mt. Vernon
Howard Lindemann, Sc.	Newark
J. Franklin Locke, Ph.	St. Louisville
Ralph G. Lusk, Sc.	Granville
Charles S. McCann, Sc.	Dayton
James A. McPeck, Cl.	Cambridge
Harold Marqua, Sc.	Cincinnati
Glenn Kenneth Marquay,	Lynn, Mass.
Logan J. Massie, Sc.	Dayton
D. Seldon Mathews, Sc.	Hubbard
Fred O. Meeker, Ph.	Franklin
John L. Morgan, Sc.	Pittsburgh, Pa.
Lewis G. Mosburg, Sc.	Summerfield
John R. Moseley, Sc.	Ostrander
Edgar M. Neptune, Sc.	Loudonville
Clark Olney, Sc.	Cleveland
Marcus Orr, Sc.	Thornville
Edgar Pendleton, Sc.	Granville
William G. Peoples, Sc.	Toledo
Harold E. Perry, Sc.	Clyde
Thomas H. Peterson, Sc.	Chicago
Eugene F. Pfanner, Sc.	Dayton
Joseph S. Pomerson Sc.	Sandusky
Donald C. Power, Sc.	Newark
Lawrence H. Prugh, Ph.	Xenia
Robert Rettig, Sc.	Middletown
Merlyn J. Robertson Sc.	Tontogany
Edwin L. Roe, Sc.	Gilbert
Raymond Eugene Schaad, Sc.	Millersport
Herbert Schneider, Sc.	Dayton
Henry C. Seasholes, Sc.	Salem



Alvah M. Shumaker, Cl. ....	Newcastle
Robert Simpson, Sc. ....	Mt. Vernon
Lawrence Eugene Smith, Ph. ....	Cleveland
William Howard Smith, Sc. ....	Massillon
William T. Smith, Sc. ....	Springfield
Willis Spencer, Ph. ....	New Straitsville
Edward M. Steadman, Ph. ....	Granville
Charles E. Stoaks, Sc. ....	Seville
Williard B. Stone, Sc. ....	Springfield
Reber Stupp, Sc. ....	Dayton
Clifford W. Swanson, Sc. ....	Moline, Ill.
Richard M. Tilton, Sc. ....	Cambridge
Willard Topping, Sc. ....	Morioka, Japan
Otto K. Vance, Cl. ....	West Union
William Vogel, Ph. ....	Granville
Upton Walters, Sc. ....	Zanesville
Paul A. Warner, Sc. ....	Utica
Milton L. Watts, Sc. ....	Haskins
Halford E. Whitacre, Sc. ....	Bowling Green
Robert H. White, Sc. ....	Minneapolis, Minn.
Kenneth Wildman, Sc. ....	Norwalk
Harold Wiley, Sc. ....	Camp Dennison
Harry Woltjen, Ph. ....	Newark
Tsune Chi Yu, Ph. ....	Tientsin, China

## SPECIAL STUDENTS

Irville Ankrum. ....	Glenford
Herrick T. Bawden. ....	Granville
Arthur F. Blackburn. ....	Lebanon
Richard Bovington. ....	Cleveland
Carl R. Cochran. ....	Trinway
Xen K. Critchfield. ....	Loudonville
Allen T. DeLano. ....	Fort Dodge, Iowa
Ethelbert R. Downs. ....	Lincoln, Ill.
Harold Draut. ....	Middletown
Elmer E. Eller. ....	Van Wert
Isaac R. Emmons. ....	Newark
Karl F. Friend. ....	Pleasantville
Louie S. Gaines. ....	Springfield
Bernard Hinline. ....	Port Clinton
Adolph Horn, Jr. ....	Zanesville
Vernon Iden. ....	Gratiot
William E. Jackson. ....	West Jefferson
Jenkin Jones. ....	Newark
W. Edward Laws. ....	Bethesda

Jesse L. Lawthers	Jewett
Samuel McAdow	Middletown
Charles Lee Orr	Bowling Green
David Lake Palmer	Rushville
Herbert Preston	Pataskala
Roy Pierce Roberts	Milton, W. Va.
Carl Rossel	Newark
Chester C. Secrest	Bellville
Charles G. Sellers	Granville
Thomas Lee Shickherd	Brownsville
Reed M. Snider	Pataskala
James R. Trittipi	Newark
Harold Viets	Dayton
Alden J. Ward	Toledo
Elmer Warren	Medina
Ralph Weaver	St. Louisville
Harvey L. Williams	Granville
Walter Scott Wood, Jr.	Charleston, W. Va.

## Students in Shepardson College Class

### SENIOR CLASS

Dorothy Atwell, Sc.	Zanesville
Jessie Bishop, Sc.	Ottumwa, Ia.
Helen Clephane, Ph.	Madisonville
Margaret Colwell, Ph.	Granville
Ermina S. Cox, Sc.	Proctorville
Melva E. Daub, Cl.	Dayton
Florence M. Drake, Ph.	Norwalk
Helen Mildred Dye, Ph.	Mt. Vernon
Mary S. Fleming, Sc.	New Dover
Lou Ella Hawkins, Ph.	Newark
Sue Helbing, Ph.	Toledo
Frances L. McGee, Ph.	Avalon, Pa.
Grace Bosombo Moody, Ph.	Granville
Elma Oldham, Sc.	Xenia
Ruth Phillips, Sc.	Newark
Gladys Riggs, Ph.	Granville
Olga F. Rummell, Sc.	Cincinnati
Margaret Sedgwick, Ph.	Martins Ferry
Ruth Sedgwick, Ph.	Martins Ferry
Laura Sellers, Ph.	Granville
Winifred C. Smith, Ph.	Norwalk
Edith E. Starrett, Ph.	Hamilton, N. Y.
Mary E. Stewart, Ph.	Coshocton
Blanche S. Taylor, Ph.	Yonkers, N. Y.
Ruth L. Tipton, Ph.	Gallia
Barbara Tourtellot, Ph.	Chicago, Ill.
Kathleen Wellwood, Ph.	Madisonville
Mary Eva Wilson, Ph.	Granville
Mildred B. Woodward, Ph.	Newark
Ethel Lilla Young, Ph.	Granville

### JUNIOR CLASS

Helen S. Adams, Ph.	Bowling Green
Helen J. Armstrong, Ph.	Cincinnati
Ava Ballou, Cl.	Newark
Dorothy G. Campbell, Ph.	Atlanta
Charity C. Carman, Cl.	Rochester, N. Y.
Dorothy B. Cheney, Sc.	Chicago, Ill.

Elizabeth Collins, Ph.	Norwood
Laura Craytor, Ph.	Kingsville
Mae C. Graham, Sc.	Ann Arbor, Mich.
Louise E. Hamblen, Ph.	Granville
M. Elizabeth Hazlett, Cl.	Newark
Lelah Houser, Ph.	Urbana
Mary Jardine, Cl.	Chillicothe
Elenore M. Johnson, Sc.	Newark
Elizabeth M. Jones, Ph.	Newark
Dorothy C. Leslie, Ph.	Granville
Mary E. Long, Sc.	Newark
Lois Means, Cl.	Wapakoneta
Gladys J. Müller, Ph.	Toledo
Thelma E. Overturf, Ph.	Granville
Laura Price, Ph.	Owatonna, Minn.
Virginia Price, Ph.	Zanesville
Pauline Pritchard, Ph.	Richwood
Alice M. Prickett, Ph.	Fayette
Margery Prickett, Sc.	Fayette
Frieda L. Rummell, Ph.	Cincinnati
Mary Sanford, Sc.	Stryker
Garnet Schiedt, Ph.	Granville
Margaret B. Seasholes, Ph.	Salem
Gladys M. Skevington, Ph.	Chicago, Ill.
Edna W. Skidmore, Sc.	Springfield, N. J.
Gertrude A. Smith, Ph.	Cleveland
Margaret Speicher, Sc.	Granville
Ruth C. Spencer, Ph.	New Stratsville
Elsie D. Taylor, Ph.	Yonkers, N. Y.
Helen D. Vandenbark, Ph.	Zanesville
Esther Weaver, Sc.	Toledo
Mary E. Weston, Ph.	Ambridge Pa.
Dorothy Wickenden, Ph.	Toledo
Evelyn L. Work, Ph.	Buffalo, N. Y.

## SOPHOMORE CLASS

Florence E. Adams, Ph.	Prairie Depot
Louise G. Brecht, Sc.	Erie, Pa.
Ellen Burns, Ph.	Hamilton, N. Y.
Sarah E. Clark, Ph.	Dayton
Margaret S. Cornell, Ph.	Pittsburgh, Pa.
Gladys Currin, Ph.	Detroit, Mich.
Josephine Darrow, Cl.	Granville
Jeannette DePriest, Ph.	Dayton
Louise Dickey, Ph.	Mansfield

Annetta B. Eldridge, Ph.	Franklin
Elizabeth F. Evans, Ph.	Granville
Theresa Folger, Ph.	Dayton
Dorothy Funk, Ph.	Oak Park, Ill.
Miriam Galloway, Sc.	Xenia
Helen M. Gholson, Ph.	Cincinnati
Marion Gibbons, Sc.	Cleveland
Frances H. Grogan, Ph.	Parkersburg, W. Va.
Florence Grubb, Ph.	Johnstown
Ethel Hobart, Ph.	Granville
Cornelia Howell, Sc.	Granville
Sarah Margaret Jardine, Ph.	Chillicothe
Ethel L. Jones, Ph.	Granville
Irma G. Jones, Sc.	Cincinnati
Bertha M. Knapp, Ph.	Miamisville
Grace E. McCune, Ph.	Granville
Harriett Mather, Ph.	Fayetteville, Ark.
Lucille Means, Ph.	Wapakoneta
Clara L. Olney, Ph.	Waltham, Mass.
Lela M. Orr, Sc.	Thornville
Florence Naomi Post, Ph.	Springfield
Helen Potter, Sc.	Canton
Mary Carter Roberts, Sc.	Marietta
Ruby M. Robinson, Sc.	McConnellsville
Myrtle Edna Shipley, Sc.	Johnstown
Helen Shumaker, Ph.	Newcastle, Pa.
Helen Stump, Ph.	Newark
Olive Maude Sutton, Cl.	Canton
Mary Swingle, Ph.	Newark
Alma Lois Teeter, Sc.	Dayton
Eva M. Thomas, Ph.	Granville
Grace Van Kirk, Cl.	Ottawa, Minn.
Mildred West, Cl.	Horicon, N.Y.
Edith Weston, Ph.	Beaver Dam, Wis.
Fern C. Wheeler, Ph.	Portsmouth
Nellie Wilson, Ph.	Xenia

## FRESHMAN CLASS

Vernita Allison, Ph.	Cambridge
Dorothy Angevine, Ph.	Pataskala
Violet G. Angus, Ph.	Chicago, Ill.
Coral M. Backus, Ph.	Warren
Thelma Baker, Sc.	Johnstown
Ruth Gardner Ball, Ph.	Zanesville
Helen Barnes, Ph.	Granville

Helen Beoney, Sc.	Granville
Margaret C. Best, Ph.	Gary, Ind.
Mary Gladys Bolon, Ph.	Cumberland
Marguerite O. Boas, Cl.	Newark
Bernice Brown, Ph.	Granville
Mary Margaret Bruce, Ph.	Garrettsville
Margaret M. Burt, Ph.	Huntington, W. Va.
Leora Caldwell, Ph.	Norwood
Florence E. Case, Ph.	Erie, Pa.
Helen E. Cheney, Cl.	Superior, Wis.
Marie P. Chrysler, Sc.	Shepard
Leota B. Clarke, Sc.	Jackson, Mich.
Nita A. Collins, Ph.	Johnstown
Dorothy Daub, Ph.	Trenton
Rachel T. Davis, Ph.	Cincinnati
Delta Dietz, Cl.	Richwood, W. Va.
Cornelia Ellis, Ph.	Newark
Irene Evans, Ph.	East Liverpool
Mary E. Floyd, Ph.	Henderson, Ky.
Esther L. Frazier, Ph.	Frazeysburg
Margaret Gear, Ph.	Chicago
Lois E. Hart, Ph.	Ravenna
Milagros Hernandez, Ph.	Capiz, Philippines
Ella Howell, Sc.	Granville
Ellen Humphrey, Ph.	Bellville, W. Va.
Katherine Hunt, Sc.	Dayton
Carol Hutson, Sc.	Highland Park, Mich.
Frances Innes, Cl.	Chicago, Ill.
Letha Jackson, Ph.	Granville
Mildred Jenkins, Cl.	Norwalk
Lois M. Jones, Ph.	Buffalo, N. Y.
Marguerite Jordan, Ph.	Bucyrus
Reba Jury, Ph.	Jacksontown
Olive Kile, Ph.	Centerburg
Frances King, Sc.	Watonga, Okla.
Esther E. Lang, Sc.	Ashtabula
Ernestine Lange, Ph.	Chicago, Ill.
Alice Leachman, Ph.	Clarksburg, W. Va.
Lucile O. Lichtensteiger, Ph.	Wren
Lillian Lindrooth, Ph.	Newark
Ruth A. Lukens, Ph.	Washington D. C.
Harriette McCann, Ph.	Dayton
Helen Minkler, Ph.	Buffalo, N. Y.
Elva Morris, Ph.	Youngstown

Nelle Morse, Sc.	Newark
Mildred Mozier, Sc.	Mt. Gilead
Leona G. Myers, Ph.	Zanesville
Evangeline Nellis, Sc.	Warren
Ruth C. Pardington, Ph.	Franklin
Lillian Park, Ph.	Watertown, S. Dak.
Edna Patterson, Ph.	Columbus
Louise K. Petty, Ph.	Hartford, W.Va.
Martha Pieffer, Ph.	Sidney
Eva Jane Price, Ph.	Granville
Vesta P. Prouty, Ph.	Ostrander
Dorothy L. Ransom, Ph.	Moline, Ill.
Ruth Rees, Sc.	Pemberville
Ruth Rettig, Ph.	Troy
Lois R. Robinson, Ph.	Sidney
Grace Jenness Ruhl, Ph.	Pomeroy
Ruth Eloise Sanford, Ph.	Toledo
Ella J. Schaad, Ph.	Millersport
Marjorie Schairer, Ph.	Cambridge
Grace B. Sewell, Sc.	Outville
Grace Shipley, Ph.	Johnstown
Marion Simpson, Cl.	Oak Park, Ill.
Florence M. Skevington, Cl.	Chicago, Ill.
Mary F. Smalley, Ph.	Toledo
Opal L. Stanforth, Ph.	Granville
Ada Garnet Stout, Ph.	Parkersburg, W. Va.
Mary S. Thorne, Cl.	Asheville, N. C.
Angelyn Wagg, Ph.	Urbana
Ruth Weisenbarger, Ph.	Greenville
Fern Whitney, Sc.	Marietta
Alice M. Wilcox, Ph.	Alexandria
Fern Williams.	Washington C. H.
Ruth Williams, Ph.	Granville
Letha C. Wince, Ph.	Newark
Evelyn Winters, Ph.	Spencer
Margaret F. Wood, Ph.	Williamsburg, Ky.
Anna R. Work, Ph.	Buffalo, N. Y.
Doris Young, Ph.	Lima
Margarey Young, Sc.	Toledo
Meredith Young, Sc.	Toledo

## SPECIAL STUDENTS

Dorothy Agnew	Fredericktown
Ellen Bennehoff	Anderson, Ind.
Ethel Bogardus	Spokane, Wash.

Martha Bond	Granville
Deborah Downs	Lincoln, Ill.
Cora Fleming	Eaton, Colo.
Reda W. Gray	Newark
R. Irene Guttery	Lincoln, Ill.
Maysie P. Learn	Chicago, Ill.
Sylvia M. Lloyd	Cambridge
Effie Mapel	Burton, W. Va.
Marie Perkins	New Dover
Donna Sharpstein	Jackson, Mich.
Gwladys Spencer	Granville
Melba Strawn	Salem
Madeline Upham	Coffeyville, Kan.
Mildred Upham	Coffeyville, Kan.
Doris Wootton	Mt. Vernon



# Students in the Conservatory of Music

## SENIOR CLASS

Ellen Bennehoff <i>Organ and Piano</i> .....	Anderson Ind.
Martha Elizabeth Bond, <i>Piano</i> .....	Granville
Cora Fleming, <i>Organ</i> .....	Eaton, Col.
Mary Lois Lockhart, <i>Voice</i> .....	Granville
Gwladys Spencer, <i>Voice</i> .....	Granville

## UNCLASSIFIED

Robert Abernethy.....	Chicago, Ill.
Mrs. Mabel G. Ashton.....	Granville
Thelma Baker.....	Johnstown
Ruth Gardner Ball.....	Zanesville
Dorothea Bawden.....	Granville
Helen Lucille Barnes.....	Brink Haven
Mrs. Leland Baxter.....	Newark
Mrs. Paul Biefeld.....	Granville
Ernest Carhartt Brelsford.....	Granville
Bernice Irene Brown.....	Granville
Mary Elizabeth Butt.....	Granville
Margaret Chamberlain.....	Granville
Dorothy Bradford Cheney.....	Chicago, Ill.
Marie Pauline Chrysler.....	Shepard
Leota Brainard Clarke.....	Judson, Mich.
Elizabeth Collins.....	Cincinnati
Margaret Cornell.....	Pittsburgh, Pa.
Frederick Cornman.....	Van Wert
Laura Teresa Craytor.....	Kingsville
Gladys Currin.....	Detroit, Mich.
Arthur Curtis.....	Granville
Eleanor Curtis.....	Granville
Mrs. Grace K. Darrow.....	Granville
Rachel Davis.....	Cincinnati
Albert Edward Dieringer.....	Massillon
Samuel Frederick Eckfeld.....	Newark
Florence Cornelia Ellis.....	Newark
Mabel Ellis.....	Newark
Elizabeth Fern Evans.....	Granville
Martha Flurschutz.....	Newark
Marie Gail Franklin.....	Trenton, N. J.
Leila Frederickson.....	Granville

Miriam Galloway	Xenia
Margaret Dibble Gear	Chicago, Ill.
Arthur Louis Gilmore	Huntington, W. Va.
Mae Clifton Graham	Granville
Lucille Green	Granville
Edith Haag	Newark
Mary Matilda Hassell	E. Liverpool
Milagros Hernandez	Capiz, P. I.
Esther Mary Hirst	Newark
Robert Elmer Hopkins	Granville
Ellen Humphrey	Belleville, W. Va.
Carol Hutson	Highland Park, Mich.
Sarah Margaret Jardine	Chillicothe
Earl Eames Jenkins	Girard
Mildred Jenkins	Willard
Elenore Montgomery Johnson	Newark
Irma Jones	Newark
Lois May Jones	Buffalo, N. Y.
Mildred Katherine Jones	Granville
Reba Jury	Jacksontown
Ruth Pearl Kastla	Newark
Gwendolyn Ramey Keller	Newark
Carrie Frances Kellogg	Granville
Julia Knowles	Jackson, Mich.
Esther Elizabeth Lang	Ashtabula
Maysie Perle Learn	Chicago Ill.
Donald Leslie	Granville
Elizabeth Leslie	Granville
Theodore Leslie	Granville
Lillian Lindrooth	Newark
Sylvia Minerva Lloyd	Cambridge
Ruth Anna Lukens	Washington, D. C.
Mrs. Kirtley Mather	Granville
Eudora Gertrude McCollum	Granville
John Edward McConaughy	Massillon
Goldie McLain	Granville
Lucille Means	Wapakoneta
Ima Z. Miller	Newark
Helen Antoinette Minkler	Buffalo, N. Y.
Miner Mitchell	Newark
Maria Moon	Granville
Dorothy Grace Moran	Newark
Mildred Irene Mozier	Mt. Gilead
Leona Gertrude Myers	Zanesville

Thelma E. Overturf.....	Johnstown
Lillian Park.....	Watertown S. D.
Marian Marie Perkins.....	New Dover
Harold Cooke Phillips.....	Petersfield, Jamiaca, B. W. I.
Laura Price.....	Owatonna, Minn.
Frances Hulbert Ray.....	Newark
Hazel Reebel.....	Newark
Gladys May Riggs.....	Indianapolis, Ind.
Mary Carter Roberts.....	Marietta
Bernard Rogers.....	Granville
Watson Rogers.....	Granville
Eloise Sanford.....	Columbus
Garnet Scheidt.....	Granville
Mrs. Paul Sears.....	Bucyrus
Margaret Bower Seasholes.....	Salem
Ruth Sedgwick.....	Martins Ferry
Grace Sewell.....	Outville
Donna Sharpstien.....	Jackson, Mich.
Leora Norris Shepardson.....	Granville
Myrtle Edna Shipley.....	Johnstown
John Shirnhofer.....	Newark
Alvah Manorah Shumaker.....	Newcastle, Pa.
Helen Shumaker.....	Newcastle, Pa.
Mrs. Ralph Soule.....	Granville
Ruth Spencer.....	New Straitsville
Janet Steadman.....	Granville
Ada Garnet Stout.....	Parkersburg, W. Va.
Melba Ann Strawn.....	Salem
Helen Louise Stump.....	Newark
Paul Swanson.....	Golaghat, Assam.
Aaron Swartz.....	Newark
Mary Mildred Swisher.....	Newark
Elsie Deane Taylor.....	Yonkers, N. Y.
Mary Sterling Thorne.....	Asheville, N. C.
Madeline Upham.....	Coffeyville, Kansas
Mildred Upham.....	Coffeyville, Kansas
William Arthur Vogel.....	Granville
Laura Estell Wedekindt.....	Buffalo, N. Y.
Albert Wells.....	Croton
Glenn Dally Wells.....	Croton
Fern Curry Wheeler.....	Portsmouth
Ruth Williams.....	Granville
Margaret Finley Wood.....	Williamsburg, Ky.
Doris Elizabeth Wootton.....	Mt. Vernon

## DENISON UNIVERSITY

Anna Rose Work	Buffalo, N. Y.
Evelyn Lavonia Work	Buffalo, N. Y.
Charles Howard Workman	Newark
James Carroll Wright	Newark
Doris Gertrude Young	Lima
Harold Mason Young	Granville
Meredith Young	Toledo

# Student Army Training Corps, U. S. A

## DENISON UNIVERSITY UNIT

1st Lieutenant Niels H. Debel, Infantry, Commanding Officer  
2d Lieutenant Warren C. Hamburg, Infantry  
2d Lieutenant Julian R. Meeker, Infantry, Personnel Adjutant  
2d Lieutenant Warren C. Hamill, Infantry, Supply Officer  
2d Lieutenant Joseph V. MacHugh, Infantry

## ROLL OF INDUCTED MEN

Oct. 1-Dec. 20, 1918

Albert C. Adams	Port Clinton
Earl Frederick Adams	Brooklyn, N. Y.
Theodore Floyd Adams	Brooklyn, N. Y.
Raymond Allen	Richmondale
Nathan E. Allen	East Liverpool
James F. Alward	Granville
Charles G. Ashbrook	Granville
Lawrence F. Athy	Bryan
Charles A. Baker	Morrill
Cleone V. Banta	Dayton
William E. Barnes	Granville
Arthur Talbot Bawden	Granville
Arthur A. Bean	Cambridge
Gilbert W. Bell	Cambridge
George A. Beatty	Newark
Walter L. Bell	Norwalk
William E. Bell	Crooksville
Carroll L. Benoy	Mt. Vernon
Leslie Hutchison Berger	St. Louisville
Albert Bergner	East Liverpool
William D. Berry	Hammond, Indiana
John M. Blair	Middletown
Colin A. Bloor	East Liverpool
Theodore E. Bodle	Newark
Paul L. Bonar	Wauseon
Alfred David Bostick	Canton
Jabez L. Bostwick	Seville
Charles V. Bowen	Granville

Herbert L. Bowman	Gambier
Ray E. Bowman	Utica
Fred T. Brien	Cherry Valley, N. Y.
Leland A. Brown	Marion
Ralph C. Brown	Willard
Robert E. Brown	Cincinnati
Henry O. H. Buchanan	Newark
Charles T. Bumer	Girard
Harry J. Burkham	Newark
William G. Burkhardt	Dayton
Frank E. Burnworth	Girard
Daniel J. Burrell	Croton
Cary Amil Butt	Johnstown
Eric V. Calhoun	East Liverpool
Fred S. Campbell	Zanesville
Harold Allen Campbell	Newark
Robert C. Canby	Dayton
James F. Cannon	East Liverpool
William L. Carstensen	Port Clinton
Thomas V. Caulkins	Condersport, Pa.
A. Wayne Challen	Haskins
Edwin G. Chambers, Jr.	Cincinnati
Sylvan F. Chalppuis	Toledo
Howard E. Caggett	Hebron
Charles D. Clark	Piqua
Graydon A. Clifton	Zanesville
Kenneth C. Cline	Hanover
Carl Corwin Cluggish	Newark
Burgess J. Cochran	Mt. Vernon
Carl Russell Cochran	Trinway
Forest Homer Conway	Johnstown
Charles A. Cooper	Dayton
Charles D. Cooper	Cambridge
Ralph K. Cooper	Cambridge
Marion D. Coulter	Newark
Dorence S. Cowles	Ostrander
Paul F. Cressy	Dayton
Richard G. Critz	Seville
Clyde R. Cross	Croton
Frank W. Curran	Warsaw
Alvin C. Current	Tontogany
Haller G. Curtis	Zanesville
Darwin C. Danford	Zanesville
Manning S. Daniels	Pomeroy

Daniel T. Davies	Granville
Blanchard P. Davis	Sullivan, Indiana
Quincy H. Dawson	Coshocton
Stanley Davis Dawson	Coshocton
Ivan R. Davis	Minneapolis, Minn.
Allen T. DeLano	Fort Dodge, Iowa
Franz Hammond Dickinson	Zanesville
Albert E. Dieinger	Massillon
Charles N. Dold	Norwood
John F. Donnelly	Bucyrus
William S. Doster	Harveysburg
Frederick E. Dozer	Zanesville
Harold Draut	Middletown
John Draut	Middletown
Philip F. Dye	Mt. Vernon
Clifford F. Edwards	Newark
Elmer E. Eller	Van Wert
Christian Frederick Ellerman	Piqua
Isaac R. Emmons	Newark
Eugene L. Exman	Blanchester
Harold Norman Exman	Blanchester
Gordon H. Faries	Middletown
Maurice Fetter	Bucyrus
Ernest J. Frazier	Ottawa
Robert W. Frederick	Wheeling, W. Va.
Donald R. Fitch	Chicago, Illinois
Louie S. Gaines	Springfield
Lewis Harlan Gale	Blue Rock
Hiram G. Garner	Bacone, Okla.
John C. Geyer	Piqua
Harry M. Gibson	Cambridge
Arthur Lewis Gilmore	Huntington, W. Va.
Robert B. Gilmore	Morrow
Carl M. Goelz	Dayton
Carroll B. Griffin	Granville
Elroy G. Guckert	Sandusky
Walter Ray Haas	Vanatta
Lester B. Hall	Granville
Rudolph R. Hamann	Granville
Gordon D. Hamel	Cleveland
Gilbert D. Handley	Handley
John Mark Hanna	Huntsville

Horace Hanners	Newport, Ky.
Claude Manville Haswell	Bowling Green
Alva J. Harris	Bladensburg
Richard Owen Harrison	Pataaskala
Carl Robert Heatwole	Newark
William R. Heck	Zanesville
Ralph C. Hedges	Mt. Vernon
Wilbur Raymond Hemmerly	New London
Benjamin F. Hershey	Dayton
Dewey Paul Hesckett	Bethesda
George E. Hiatt	Newark
George Dillon Hicks	Crooksville
Edgar M. Hieber	Bucyrus
Edward P. Hines	Springfield
Harry T. Hinton	Granville
Fred Hitt	Hebron
Clinton Ealam Hoover	Dunkirk
Herman Paul Hoover	Johnstown
Herlwin G. Hopkins	Granville
Albert H. Hozier	Piqua
Amel R. Hotchkiss	East Conneaut
Harold R. Howard	East Liverpool
Richard H. Howe	Granville
William Harrison Hughes	Huntsville
Karl M. Jackson	Newark
William E. Jackson	West Jefferson
Byron L. Jenkins	Columbus
Earl James Jenkins	Girard
John T. Jessen	Ambridge, Pa.
Charles C. Johnson	Hillsboro
Harold F. Johnson	Newark
Robert K. Johnson	Parkersburg, W. Va.
Rozelle P. Johnson	Parkersburg, W. Va.
Frank P. Jones	Granville
John W. Jones	Bowling Green
Paul H. Kaufman	Attica
Clyde E. Keeler	Marion
Earl A. Kelly	Bellevue, Ky.
Luther C. Kelly	Urbana
Charles O. Kette	Dayton
Edgar A. Killam	Chicago, Illinois
Harold Kinney	Middletown
George T. Kidder	East Liverpool



Leo Kirk	Bethesda
Carl H. Koeker	Dayton
Ralph E. Kniffen	Stryker
Norman R. La Cumsky	Danbury
William A. Lake	Newark
Herert L. Lamme	Middletown
Gail T. Landrum	Columbus
Carleton A. Lathrop	Emmett, Idaho
Willis Edward Laws	Bethesda
Jesse L. Lawthers	Jewett
John Robert Lechner	Poughkeepsie, N. Y.
Herschel B. Lemon	Hillsboro
Earl C. Levering	Edison
Henry B. Levy	Mt. Vernon
Howard G. Lindemann	Newark
Lawrence B. Lingrell	Urbana
Frank Longabaugh	Dunkirk
Errol R. Lowmiller	Jewett
Charles S. McCann	Dayton
Edward G. McCann	Zanesville
Furman Alex McClelland	Zanesville
John E. McConaughy	Massillon
Robert E. McConville	East Liverpool
Edwin G. McDargh	Dayton
Charles W. McGowan	Port Clinton
Paul L. McSwords	Zanesville
James A. McPeck	Cambridge
Frank J. Mages	New Madison
Albert J. Manton	East Liverpool
Harold G. Marqua	Norwood
Glenn Kenneth Marquay	Lynn, Mass.
Eugene Wayne Martz	Fr. Wayne, Ind.
Harold K. Masteller	Mt. Vernon
Herbert R. Masteller	Mt. Vernon
David S. Matthews	Hubbard
Doris H. Meek	Martinsburg
Edward J. Miller	Means
Edward H. Minderman	Port Clinton
Edward W. Miskall	East Liverpool
Adna R. Mohr	Ironton
Franklin Lyon Moore	Pataskala
George R. Moore	Ottawa
Kenneth Wilson Moore	Newark

John L. Morgan	Pittsburgh, Pa.
Robert T. Morris	Huntington, W. Va.
Herbert J. Murphy	Newark
Clifford L. Meyers	Fairmont, W. Va.
Edgar M. Neptune	Loudonville
Lester George Nichols	Alexandria
Charles Homer Nixon	Granville
Samuel Trumper Noland	London
Willis P. Oberlin	West Unity
Earl Venus O'Dell	Richmondale
Joseph E. O'Rourke	Dayton
Glenn E. Offenbacher	Gaysport
Edward David Okey	Bethesda
Clark Olney	East Cleveland
Nelson G. Orr	Jewett
Leon Clair Overs	Seville
George E. Owen	Chicago, Ill.
Theodore L. Parker	Lodi
Paul L. Parsons	Johnstown
Edgar B. Pendleton	Granville
Michael Pepe	Columbus
Harold Earl Perry	Clyde
Thomas H. Peterson	Morgan Park, Ill.
Eugene F. Planner	Dayton
John Paul Phillips	Newark
Joseph S. Pomerson	Sandusky
Earl Leonard Poundstone	Newark
Donald C. Power	Newark
Herbert W. Preston	Pataskala
John M. Price	Chicago, Ill.
Clarence A. Quisno	Port Clinton
John Henry Rader	Amelia
Ellis Heber Rece	Huntington, W. Va.
Edward Rees	Girard
Otto Herman Reichert	Newark
George William Retterbush	Piqua
Robert Rettig	Middletown
Edgar E. Rice	Bucyrus
Harvey Rife	Jewett
Stanton B. Rickett	Brighton, Mich.
John K. Riley	McMinnville, Ore.

Arthur O. Roberts	Cambridge
Merlyn J. Robertson	Tontogany
Kenneth Robinson	McConnellsville
Edwin L. Roe	Gilbert
Wilson F. Rosebraugh	Newark
Dean H. Rosensteel	Springfield
Harry Lionel Rowe	Johnstown
Herbert F. Schneider	Dayton
Glenn G. Schropp	Sandusky
Carl H. Seibel	Norwalk
Russell O. Sells	Buckeye City
Blynn T. Shafer	Centerburg
Robert H. Shepherd	Newark
John C. Shipps	Cochocton
William Shira	Newark
Edwin L. Shump	Portsmouth
Ernest T. Shrake	Zanesville
Robert W. Simpson	Mt. Vernon
Charles H. Sipe	Cambridge
Charles V. Slane	Granville
James R. Smith	Cochocton
Lawrence Eugene Smith	Cleveland
William T. Smith	Springfield
Clarence E. Snider	East Liverpool
Wilbur E. Snider	East Liverpool
Lars S. Snoor	Newark
Erville G. Sowards	Huntington, W. Va.
Wilbur S. Spiker	Utica
Albert E. Staniland	Ambridge, Pa.
Edward M. Steadman	Granville
James A. Stephens	Chicago, Ill.
Paul Stepahs	New Madison
Halson R. Stewart	Dayton
Paul David Stockman	Richmondale
Williard B. Stone	Springfield
Richard G. Strohmeier	Piqua
Frederick H. Stutz	Sandusky
Corwin Sutton	Attica
Clifford W. Swanson	Moline, Ill.
Forrest D. Swigart	Morrat
Curtis E. Taylor	Crooksville
Frederick E. Taylor	Crooksville
David D. Thompson	Newark

Earl B. Tilton	Zanesville
Miles E. Tipton	Zanesville
Willard F. Topping	Granville
Benjamin H. Trescott	Norwalk
James R. Trittipo	Newark
Otto Kennedy Vance	West Union
Roush R. Vance	Hillsboro
William Arthur Vogel	Granville
Edward L. Vogelmeir	Newark
David O. Voss	Toledo
Rolland U. Walters	Zanesville
Joseph E. Walters	Hebron
Russell Lee Walters	Buckeye Lake
Howard E. Wangen	Coshocton
Alden J. Ward	Toledo
Paul A. Warner	Utica
Elmer Emerson Warren	Medina
Adrian D. Watson	Coshocton
Gerald F. Watts	Crooksville
Ralph Weaver	St. Louisville
Ford R. Weber	Toledo
Earl J. Wendling	Port Clinton
Arthur W. Wenger	Cambridge
Halford Edwin Whitacre	Bowling Green
Roy Allen Whittington	Jamestown
Philip Wickham	Newark
Paul Wilkin	Newark
William K. Wildman	Norwalk
Harold Wiley	Camp Dennison
John Wayne Wilcox	Dresden
Joseph A. Willis	Dayton
Russell C. Wilt	New Madison
William Frederick Windle	Newark
Harold L. Wilson	Elyria
Reed H. Wilson	Ottawa
Oliver M. Wiseman	Ironton
Harry F. Woltjen	Newark
Paul G. Wood	Ottawa, Ill.
Walter Scott Wood, Jr.	Charleston, W. Va.
Hubert H. Wright	Granville
James Carroll Wright	Granville
Ambrose Wurtz	Seville

Coler A. Yoakam.....	Homer
Cyrus E. Yoakam.....	Homer
Ferdinand A. Zeller.....	Port Clinton
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	— 112
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Shepardson College.....	91
	— 200
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Shepardson College.....	18
	— 55
Conservatory of Music.....	131
Students Army Training Corps.....	330
Total Enrollment, exclusive of all repetitions.....	741

## Schedule of Courses by Hours

All odd numbered courses belong to the first semester, even numbered courses to the second. Laboratory courses, extending over two hour periods, are listed under both hours and marked with a star.

### A. CLASSES MEETING AT 8 A. M.

- |                              |                              |
|------------------------------|------------------------------|
| 1. Mon., Tues., Wed., Thurs. | 2. Mon., Wed., Fri           |
| *Civil Engineering, 5-6      | French 5-6                   |
| German 1-2                   | Geology 7-8                  |
| Latin 1-2, section 1         | German 5-6                   |
| Polit. Sci. 1                | History 7b-8b, 14            |
| Spanish 1-2, section 1       | Mathematics 1c-2c, section 1 |
| *Zoology 1-2                 | Physics 1-2, section 1       |
| 4. Tues., Wed., Thurs.       | Political Science 2c         |
| *Botany 11b-12b              | 3. Tues., Thurs.             |
| 5. Tues., Thurs., Fri.       | *Chemistry 1-2               |
| *Zoology 3-4                 | *Civil Engineering 1-2       |
| 6. Mon., Fri.                | English 5a-6                 |
| *Botany 7-8                  | Geology 4, 9                 |
| 7. Wed., Fri.                | *Physics 1a-2a               |
| Music 15-16                  |                              |

Mathematics 3b-4b Monday to Friday inclusive

### B. CLASSES MEETING AT 9 A. M.

- |                              |                              |
|------------------------------|------------------------------|
| 1. Mon., Tues., Wed., Thurs. | 2. Mon., Wed., Fri.          |
| *Chemistry 1-2               | *Botany 7-8                  |
| *Civil Engineering 5         | Education 1-2                |
| French 1-2, section 1        | English 1-2, section 1       |
| German 3-4, 11-12            | English 3-4, section 1       |
| Mathematics 3-4, 7, 18, 20   | Geology 10                   |
| 3. Tues., Thurs.             | German 7-8                   |
| *Botany 11b-12               | History 13, 20               |
| Civil Engineering 1-2, 10    | Mathematics 1c-2c, section 2 |
| Greek 1-2                    | Mathematics 11               |
| *Physics 1a-2a               | Political Science 5-6        |
| *Zoology 1-2, 3-4            | Spanish 5-6                  |
|                              | Zoology 11-12, 13-14         |
|                              | 5. Mon., Wed.                |
|                              | Civil Engineering 13         |

Mathematics 1b-2b Monday to Friday inclusive

## C. CLASSES MEETING AT 10 A. M.

- |   |   |
|---|---|
| <p>1. Tues., Wed., Thurs., Fri.</p> <p>Astronomy 3-4, 14</p> <p>*Civil Engineering 3, 12</p> <p>Geology 1-2</p> <p>Latin 1-2, section 2</p> <p>Mathematics 5-6</p> <p>*Physics 3-4, section 1</p> <p>Spanish 3-4</p> <p>*Zoology 7-8, 9-10</p> <p>3. Wed., Fri.</p> <p>*Botany 3-4, 5-6</p> <p>English 13a-14a</p> <p>French 7-8</p> <p>Music 11-12</p> <p>Philosophy 3-4</p> <p>Physics 9-10</p> | <p>2. Mon., Tues., Thurs.</p> <p>English 1-2, section 2</p> <p>English 3-4, section 2</p> <p>German 9-10</p> <p>History 1-2, section 1</p> <p>Mathematics 10</p> <p>Music 9-10</p> <p>Philosophy 1, section 1</p> <p>Philosophy 2, 10</p> <p>Physics 7-8</p> <p>Political Science 17-18</p><br><p>4. Mon., or Wed.</p> <p>*Botany 1-2</p> |
|---|---|

## D. CLASSES MEETINGS AT 11 A. M.

- |  |   |
|--|---|
| <p>1. Tues., Wed., Thurs., Fri.</p> <p>*Botany 3-4, 5-6</p> <p>*Civil Engineering 7-8</p> <p>Italian 2-3</p> <p>Latin 3-4</p> <p>*Physics 3-4, section 1</p> <p>3. Wed., Fri.</p><br><p>English 9-10</p> <p>Mathematics 0</p> <p>Music 3-4</p> <p>*Zoology 7-8, 9-10</p> <p>4. Wed.</p> <p>*Botany 1-2</p> | <p>2. Mon., Tues., Thurs.</p> <p>Astronomy 9-10</p> <p>Bible 1-2</p> <p>*Botany 1-2</p> <p>Education 12</p> <p>English 1-2, section 3</p> <p>English 7, 12b</p> <p>Geology 3, 5-6</p> <p>Greek C and D</p> <p>History 10a-11</p> <p>Mathematics 1c-2c, section 3</p> <p>Music 7-8</p> <p>Philosophy 1, section 2</p> <p>Political Science 4a, 8, 9a</p> <p>Public Speaking 1-2, section 1</p> <p>Spanish 7-8</p> <p>Zoology 5-6</p> |
|--|---|

## E. CLASSES MEETING AT 1:30 P. M.

1. Mon., Tues., Wed., Thurs.	2. Tues., Thurs., Fri.
Astronomy 1-2	*Chemistry 5-6, 9-10
*Chemistry 1-2	Education 5-6
*Civil Engineering 4	Latin 5-6, 7-8
French 1-2, section 2	Music 5-6
*Household Economics 1-2	Philosophy 9
*Physics 3-4, section 2	Physics 1-2, section 2
Spanish 1-2, section 2	Physics 5-6
3. Mon., Wed.	Public Speaking, 3a-4a
*Botany 9-10	4. Tues., Thurs.
Greek 3-4	*Civil Engineering 9
Latin 9-10, 11-12	5. Mon., Wed., Fri.
Music 13-14	Civil Engineering 15

## F. CLASSES MEETING AT 2:30 P. M.

1. Mon., Tues., Wed., Thurs.	2. Tues., Thurs., Fri.
Civil Engineering 4	*Chemistry 5-6, 9-10
French 3-4	Civil Engineering 16
*Physics 3-4, section 2	English 1-2, section 4
3. Mon., Wed.	English 3-4, section 3
*Chemistry 1-2	English 9-10, 11
English 15	History 1-2, section 2
*Household Economics 1-2	Mathematics 1c-2c, section 4
Music 1a-2a	Philosophy 6-7
Physics 11	*Physics 5-6
Public Speaking 5a	Public Speaking 1-2, section 2
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