# Cbe ITIunicipal University of Akron 

## Zannual Catalog 1915

Dublisbed by
Cbe ISuntcipal University of Bakron

## SECOND ANNUAL CATALOG

of

# The <br> MUNICIPAL UNIVERSITY of AKRON 

and
FORTY-FOURTH ANNUAL CATALOG
of
BUCHTEL COLLEGE

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## UNIVERSITY CALENDAR

1915
January 4, Monday, 7:30 A. M.- Class Work resumed.
January 18, Monday - Founder's Day. Senior Ashton Contest at 8:00 P. M.
January 15 and 19, Friday and Tuesday - Registration and Classification for Second Semester.
January 25 to 29 - Mid-year Examinations.
January 29, Friday - First Semester ends.
February 2, Tuesday, 7:30 A. M. - Second Semester begins.
February 12, Friday - Senior Promenade.
March 12, Friday, 8:00 P. M. - Sophomore Ashton Contest.
March 27, Saturday, 12:00 noon - Easter Recess begins.
April 6, Tuesday, 7:30 A. M. - Class Work resumed.
May 20, Thursday - General Student Elections.
May 28, Friday - Tree Day.
June 5, Saturday, 12:00 noon - Senior Vacation begins.
June $\quad 7-11$, Final Examinations.
June 11, Friday, 8:00 P. M. - Junior Ashton Contest.
June 13, Sunday, 2:30 P. M. - Baccalaureate Service.
June 14, Monday, 10:00 A. M. - Senior Class Day Exercises.
June 14, Monday, 8:00 P. M. - Junior Hop.
June 15, Tuesday, 3:00 P. M. - Out of door play by the Dramatic Study Club.
June 15, Tuesday, 8:00 P. M. - President's Reception.
June 16, Wednesday, 10:00 A. M. - Commencement Exercises.
June 16, Wednesday, 2:00 P. M.-Alumni Meeting, Buchtel Hall.
June 16, Wednesday, 8:00 P. M. - Alumni Banquet.
September 13, Monday?
September 14, Tuesday $\}$ Registration and Classification.
September 15, Wednesday, 7:30 A. M.-Class Work begins.
September 23, Thursday - Freshman Elections.

November 25, 26, 27, Thursday, Friday and Saturday Thanksgiving Recess.
December 17, Friday, 5:00 P. M. - Christmas Holidays begin.

1916
January 3, Monday, 7:30 A. M.- Class Work resumed.
January 18, Tuesday - Founder's Day, Senior Ashton Contest at $8: 00 \mathrm{P}$. M.
January 14 and 17, Friday and Monday - Classification for Second Semester.
January 24-28 - Final Examinations.
January 28, Friday, 5:00 P. M. - First Semester closes.
February 1, Tuesday, 7:30 A. M.-Second Semester begins.
February 18, Friday - Senior Promenade.
March 10, Friday, 7:30 P. M. - Sophomore Ashton Speaking Contest.
April 15, Saturday, 12:00 noon - Easter Recess begins.
April 25, Tuesday, 7:30 A. M. - Class Work resumed.
May 18, Thursday - General Student Elections.
May 26, Friday - Tree Day.
June 3, Saturday, Senior Vacation begins.
June 5-9-Final Examinations.
June 9, Friday, 8:00 P. M. - Junior Ashton Contest.
June 11, Sunday, 2:30 P. M. - Baccalaureate Service, Crouse Gymnasium.
June 12, Monday, $10: 00$ A. M. - Senior Class Day Exercises.
June 12, Monday, 8:00 P. M. - Junior Hop.
June 13, Tuesday, 3:00 P. M. - Out of door play by the Dramatic Study Club.
June 13, Tuesday, 8:00 P. M. - President's Reception.
June 14, Wednesday, $9: 30$ A. M. - Commencement Exercises.
June 14, Wednesday, 2:00 P. M. - Alumni Meeting at Buchtel Hall.
June 14, Wednesday, 8:00 P. M. - Alumni Banquet.

## THE BOARD OF DIRECTORS

Appointed December 15, 1913, by the Mayor of Akron Firank A. Seiberling ............................... Wilson A. Putt . . . . . . . . . . . . . . . . . . . . . . . . For two years Clarence Carlton ............................. For two years
Frank M. Cooke .............................. . For four years
James P. Loomis . . . . . . . . . . . . . . . . . . . . . . For four years
Mark D. Stevenson ............................ For four years
William B. Baldwin . . . . . . . . . . . . . . . . . . . For six years
Albert A. Kohler . . . . . . . . . . . . . . . . . . . . . For six years Parke R. Kolbe . . . . . . . . . . . . . . . . . . . . . . . . For six years

OFFICERS FOR 1915
Parke R. Kolbe . . . . . . . . . . . . . . . . . . . . . . . . . . . Chairman
Charles R. Olin ............................................ . Clerk
COMMITTEES FOR 1915
Committee on Finance: Baldwin, Loomis, Stevenson. Committee on Investments: Cooke, Seiberling, Kohler. Committee on Buildings and Grounds: Carlton, Kolbe, Putt.

## ADMINISTRATIVE OFFICERS OF THE UNIVERSITY

Parke R. Kolbe, Ph. D...... President of the University Charles R. Olin, M. S......Secretary of the University Oscar E. Olin, A. M....... Vice President of the Faculty M. Alice Rines, A. M. . . . . . . . . . Secretary of the Faculty Albert I. Spanton, A. M.
............ Dean of Buchtel College of Liberal Arts Fred E. Ayer, C. E. . . Dean of the College of Engineering Sarah E. Stimmel, B. S.
......... Director of the School of Home Economics Elizabeth A. Thompson, A. M......... Dean of Women Frank Haggerty, LL. B................ . Physical Director Rena B. Findley . . . . . . . . . . . . . . . . . . . . . . . . . Librarian

## GENERAL FACULTY AND OFFICERS

1914-1915
Parke R. Kolbe, Ph. D., President of the University and Hilton Professor of German Language and Literature
President's House
Charles M. Knight, A. M., Sc. D., Director of the Bureau of Industrial Research
129 S. Union Street
Josepf C. Rockwell, Ph. D., Professor of Latin and Greek
58 Casterton Avenue
Oscar E. Olin, A. M., Messenger Professor of Economics and Philosophy and Vice President of the Faculty
128 North Forge Street
Albert I. Spanton, A. M.,
Pierce Professor of English and Dean of Buchtel College
407 Vine Street
Frank Haggerty, LL. B., Director of the Department of Physical Education
620 East Buchtel Avenue
Sidney J. Lockner, A. M., Ainsworth Professor of Mathematics and Physics.
483 Orchard Court
Hezzleton E. Simmons, M. S., Buchtel Professor of Chemistry
448 Henry Court
Emily Ray Gregory, Ph. D., Professor of Biology
337 Carroll Street
Fred E. Ayer, C. E.,
Professor of Civil Engineering and Dean of the College of Engineering
401 Brown Street

Sarah E. Stimmel, B. S., Director of the School of Home Economics
169 Rhodes Avenue
Charles Bulger, Ph. B., Assistant-Professor of German Language and Literature
74 Mayfield Avenue On leave of absence 1914-15
Charles R. Olin, M. S., Assistant-Professor of Mathematics and Secretary of the University
421 Spicer Street
Frank D. Sturtevant, A. M., Assistant-Professor of English
268 Brown Street
M. Alice Rines, A. M., Assistant-Professor of Romance Languages
256 Cable Place
Arden E. Hardgrove, B. S., Assistant-Professor of Chemistry and Director of the Bureau of City Tests
137 Highland Avenue
Elizabeth A. Thompson, A. M., Assistant-Professor of History and Dean of Women
146 South College Street
Carita McEbright, A. B., Instructor in Oratory
396 East Market Street
K. Dolbeer Smith, B. S., Instructor in Chemistry and Assistant in the Bureau of Industrial Research
267 Brown Street
Eleanor Schmidt, Ph. B., Instructor in German
613 East Market Street
J. S. Mathewson, M. E.,

Instructor in Engineering
496 Carroll Street.
William F. Zimmerli, Ph. D., Instructor in Chemistry
84 Kirkwood Street
Edpard von Janinski, A. B., Instructor in German
66 South Forge Street
Albert Phelps Tuller, A. B.,
Instructor in Classics and French
197 Spicer Street
Henri Morin
Instructor in French
75 Nebraska Street
Robert L. Sibley, A. M., Instructor in Chemistry 296 Carroll Street
Max Morris, A. M.,
Instructor in Mathematics
848 Rhodes Avenue
Julius Boenisch,
Instructor in Architectural Drawing
30 North Summit Street
Albert E. Sidnell, B. S.,
Graduate Assistant in Chemistry
Cuyahoga Falls
Marjorie M. McNeil, Ph. B.,
Graduate Assistant in English
86 South Balch Street
Iris Johnson Carpenter,
Instructor in Physical Training for Women
156 Rhodes Avenue
Isabel A. Bradley, M. D.,
Medical Examiner for Women
221 Ash Street
Lectures on Hygiene for women were given in 1914-15 by Dr. Emily Ray Gregory of the Department of Biology.

## STUDENT ASSISTANTS

Pauline Weaver . . . . . . . . . . . . . . . . . . . . . . . . . . Chemistry
Dewey Lidyard . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Biology
Clement Sickler . . . . . . . . . . . . . . . . . . . . . . . . . . . . English
Louise Mrgnin . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . French

Eleanor Bowman ..................................... . . German
Catharine Blanchard . . . . . . . . . . . . . . . . . . . . . . . Library
Elmer Spencer . . . . . . . . . . . . . . . . . Bureau of City Tests
Elliott Geisinger . . . . . . . . . . . . . . . Bureau of City Tests

## GENERAL STAFF

Rena B. Findley ................................... Librarian 112 South Maple Street
Gladys P. Weeks . . . . . . . . . . . . Secretary to the President 248 South Balch Street
Anna F. Eisenibart............................................ . . .
Secretary to the Dean of the College of Engincering 299 Cross Street
Mildred Lawrence . . . . . . . . . . . . . . . . . . . Office Assistant Barberton
Fred H. Nestele e. . . . . . . . . . . . . . . . Janitor and Engineer 343 Margaret Street
 261 Carroll Street
H. Hood . . . . . . . . . . . . . Ground Keeper at Athletic Field 415 Kling Street

## ORGANIZATION OF THE UNIVERSITY

## FACULTY

Parke R. Kolbe. . . . . . . . . . . . . . . . . . . . . . . . . . . . . President
Oscar E. Olin. . . . . . . . . . . . . . . . . . . . . . . . . Vice President
M. Alice Rines. . . . . . . . . . . . . . . . . . . . . . . . . . . . .Secretary

COMMITTEES OF THE FACULTY
1914-1915
Executive Committee
Kolbe, O. E. Olin, Spanton, Ayer
Classification and Records
Buchtel College - Rockwell, Spanton, Simmons,
Lockner
College of Engineering - Rockwell, Ayer
Curtis School-Rockwell, Stimmel
Public Speaking
Sturtevant, McEbright
Socials and Holiday Observances
Thompson, Lockner, Gregory, Sturtevant
Athletics
Ayer, Haggerty, C. R. Olin, K. D. Smith
Buildings and Grounds
C. R. Olin, Kolbe

Assembly Observances
O. E. Olin, Gregory, Thompson

Student Elections
Simmons

## GENERAL INFORMATION

## FOUNDATION

1. The Municipal University of Akron was created by an ordinance of the Akron City Council, passed on August 25, 1913. This ordinance accepted in behalf of the city the offer of the Trustees of Buchtel College to give to the city the entire plant and endowment of the college as the nucleus of a municipal university, the Council promising in behalf of the city to support properly the new institution thus created. After the transfer of property had been completed by President Kolbe and Secretary Olin for the Trustees of Buchtel College, Mayor Rockwell on December 15, 1913, together with City Solicitor Taylor, accepted the deeds of transfer in behalf of the city and appointed nine citizens of Akron as members of the Board of Directors of the Municipal University of Akron.

Buchtel College, the institution thus turned over to the city of Akron, was founded in 1870 by the Ohio Universalist Convention and took its name from its most generous benefactor, Hon. John R. Buchtel, who consecrated his life and his wealth to its support. It was chartered by the Ohio Legislature in the same year as a College of Liberal Arts and Letters and first opened its doors for the admission of students in September, 1872.

By the terms of transfer to the City of Akron provision was made that Buchtel College retain its name and identity as Buchtel College of Liberal Arts of the Municipal University.

The Municipal University of Akron, being supported in large part by public taxation, is entirely non-sectarian.

The City of Akron has, however, agreed to carry out all provisions made by donors of funds to Buchtel College. Such funds were given in most cases to establish professorships and scholarships in the College of Liberal Arts.

AIM OF THE UNIVERSITY
As a representative of the new type of municipal institution, the University seeks to develop its units or departments not in accordance with the historical meaning of the term "University," i. e., into the four faculties of Philosophy, Law, Medicine and Theology, but rather into such schools as may train the high school graduate in various practical and technical callings. Generally speaking, the College of Liberal Arts will be used as the basis for all the units or schools of the University. The College of Liberal Arts will also continue to give the regular fouryear courses common to institutions of its kind.
departments of The university
Buchtel College of Liberal Arts.
The College of Co-operative Engineering.
The Curtis School of Home Economics.
The Department of Municipal Co-operation.

## Buchtel College of Liberal Arts

(See page 30)
The College of Liberal Arts will endeavor to carry out the wishes of the Founder of Buchtel College, namely, "to secure the highest grade of Classical, Scientific and Literary Culture." Four-year courses are offered leading to the degrees of Bachelor of Arts, Bachelor of Philosophy and Bachelor of Science.

The College of Engineering
(See page 100)
This College was opened in September, 1914, and during its first year received only the entering or first year class. Courses in various branches of engineering are being developed.

The Curtis School of Home Economics
(See page 119)
Like the College of Engineering, the School of Home Economics was opened to students in September, 1914. A four-year course will be offered leading to the degree of Bachelor of Science in Home Economics.

The Department of Civic Co-Operation
(See page 141)
It is the intention of the Directors of the University to bring its various schools into close touch with municipal activities and to assist the work of various city departments in every possible manner by expert advice and service. Advanced students will be employed wherever possible in the activities of this department, receiving credit for work thus performed and gaining the additional advantage of a practical training in various phases of municipal affairs.

COMBINATION COURSES
(See page 132)
To those who wish to enter the learned professions such as law or medicine, the College of Liberal Arts offers opportunities of combination with the various professional schools of the country. By means of such combination courses a student may receive both the Arts and the professional degree, at the same time shortening by one year the period otherwise necessary.

## EQUIPMENT

At the time of the foundation of Buchtel College in 1870 a plot of six acres of ground was purchased at the outskirts of the village of Akron on a hill overlooking the valley. The growth of the city has included this site so that now the University campus lies at the head of College Street, only a short distance from the business center of the city.

In 1899 the old main building was destroyed by fire and in 1901 Buchtel Hall was completed as the first of a modern group of college buildings. From earlier times there already existed on the campus the Observatory, Crouse Gymnasium and the President's residence. Since the completion of Buchtel Hall there have been constructed the building first known as Buchtel Academy, and now used as an Engineering Building; the central heating plant; Curtis Cottage, used as the home of the School of Home Economics; and the Knight Chemical Laboratory, toward the construction of which Andrew Carnegie gave $\$ 25,000$.

BIERCE LIBRARY
The College Library had its origin in a collection of works donated in 1874 by the late General L. V. Bierce. During the early days of Buchtel College the Library was augmented by books purchased from the proceeds of a bequest received from General Bierce's estate. In recognition of this early gift the Library has been called the Bierce Library. It embraces about 10,000 volumes, exclusive of public documents, and is at present located in Buchtel Hall.

FUNDS, PRIZES AND SCHOLARȘHIPS
The Katherine Claypole Loan Fund
This fund has been established by a number of women's organizations of the city and dedicated as a me-
morial to Mrs. Katherine Claypole, wife of Dr. E. W. Claypole, former Professor of Natural Science at Buchtel. Mrs. Claypole was the founder of organized women's work in Akron and always manifested a deep interest in the young people of the College.

The principal of the fund is loaned to students "who in mid-term, as often happens, find themselves without sufficient means to complete the year's work." Applications should be addressed to Mrs. C. W. Milliken, Chairman Women's Committee, 396 East Market Street, or to Mrs. E. F. Voris, Treasurer, 77 Fir Street.

## The Ashton Prizes.

A fund consisting of $\$ 3,000$ has been established by the late Oliver C. Ashton, endowing the O. C. Ashton Prizes for excellence in reading and recitation.

The annual income of this fund will be paid, one-third to competitors from the senior class, one-third to competitors from the junior class, and one-third to competitors from the sophomore class, in a first and second prize to each class, in the proportion of two to one.

These are public exercises, and will take place at stated times during the year.

The Senior Alumni Prize
A fund has been established by the Alumni Association for the purpose of awarding an annual cash prize of $\$ 50.00$ to that senior student in Buchtel College of Liberal Arts who has completed the regular four-year course with the highest average grade. Only students who have spent their entire course at Buchtel College are eligible.

The Tomlinson Prizes
Thru the kindness of Rev. Irving C. Tomlinson, Class of ' 80 , of Boston, Mass., two prizes of $\$ 30.00$ and $\$ 20.00$
respectively will be offered each year to those two students of the University who present the best papers on the subject: "The Municipal University." The subject is to be treated with especial reference to broadening the field and increasing the usefulness of the University, to its true character as a municipal university, and to its value, and need by the city.

## Buchtel College Scholarships

(See pages 34-35.)
A number of scholarships have been endowed by friends of the College to aid worthy and deserving students. The donor of a scholarship may, at all times, designate one student who shall be entitled to the remission of a part of the tuition charges in the College of Liberal Arts. Scholarship benefits will be limited to $\$ 50.00$ per year to any one student, and in the distribution of these scholarships by the University preference will be given to the immediate descendants of the donor, if the donor is deceased.

Students thus receiving scholarships may be called upon to render services to the University for any part, or all, of such aid. They will be expected to maintain their standing in scholarship, and to conduct themselves in accordance with the rules of the institution. A scholarship is granted with the expectation that the student will complete his course of study at the University of Akron, and, without a reason that shall be satisfactory to the Directors, honorable dismissal will not be granted until full tuition and all other college dues have been paid.

## FREE TUITION

## (Extract from The By-laws of the University Directors.)

Tuition in Buchtel College of Liberal Arts shall be free to all students whose parents are residents of Akron.

Students whose parents are not residents of Akron must prove one year's consecutive residence in Akron before they can be considered as candidates for remission of tuition charges.

Tuition can be charged in the case of all students under twenty-one years of age (whose parents do not reside in Akron) who move into the city with the express purpose of attending college, even tho such students be self-supporting.

Non-residents owning property taxed in Akron: Any person living outside of Akron but owning property within the City of Akron which is taxed, may receive credit on tuition of his child or children during any semester to the extent of taxes actually paid by him for that half-year towards the University levy, upon presenting a certificate from the County Auditor or Treasurer, stating the amount so paid.

## STUDENT ORGANIZATIONS

The following student organizations have been formed in the University:

The Athletic Association; The Women's League; The Tel-Buch Association (Junior Class) ; The College Orchestra; The Buchtelite Association; The Dramatic Study Club; The Y. W. C. A.; the class organizations.

Elections for the great majority of these are held on the same day and are controlled by a joint Board from the Faculty and the student body.

THE BUREAU OF STUDENT EMPLOYMENT
This Bureau is established for the purpose of aiding selfsupporting students in finding part-time work during the school year. Its organization is directed by the University and its services are free to all students.

## P HI SIGMA ALPHA

Phi Sigma Alpha is an, honorary society, founded for the purpose of encouraging high scholarship among the Buchtel College students. Only three students are chosen for membership from each senior class.

First:-That member of the senior class having the highest grades for three and one-half years.
Second:-The two members (one a man, the other a woman) having the next highest grades for three and onehalf years.
These three students are elected for membership at the beginning of the second semester of their senior year, and are given at once the privilege of wearing the fraternity's badge and colors during the remainder of their senior year. The regular initiation takes place during Commencement week of the same year.
The badge of the fraternity is of gold in the shape of an ancient coin, bearing on the obverse side a serpent, a helmet and the Greek letters Phi Sigma Alpha, and upon the reverse side ten stars, the owner's name, the year of the class and "Buchtel College."
The colors of the fraternity are green and silver.

## ATHLETICS

All participation in intercollegiate athletics is under the direct supervision of the Faculty and the Department of Physical Training. All teams representing the University are governed by the rules of the Ohio Conference.

## ADMISSION

Each candidate for admission must have had at least a full high school preparation, or college preparatory course, amounting to 15 units and embracing the specific subjects named for college entrance.

No student will be admitted to the freshman class who has an entrance deficiency of more than one unit, or the equivalent of a year's work in one study, and no student from the Akron High Schools will be admitted with less than 16 units without the recommendation of the Superintendent of Schools.

Students coming from other institutions of collegiate rank must furnish certificates of honorable dismissal.

Admission is by examination or on certificate.
In place of entrance examinations the following certificate plans will be accepted:
I. The certificate of principals of approved high schools and academies will admit students to the freshman class on probation, and such statement must be a certification of the specific subjects in which the candidate has passed satisfactory examinations covering the requirements as stated for college entrance. Such certificate must be filed with the Committee on Classification by the candidate on application for entrance. Blank forms for the record of such work will be furnished on application to the President or Secretary of the University.
II. The pass-cards, certificates and academic diploma of the State Board of Regents of New York State for the subjects which they cover will be accepted for college entrance on probation. Such credentials will not, however, be accepted for advanced standing.

Any freshman failing to receive unconditional credit for at least eight term hours at the end of the first semester or of the second semester shall be dropped from the institution, and shall be allowed to re-enter only after passing the entrance examinations as specified by the Faculty.

SPECIAL STUDENTS
Students over 21 years of age who have not fulfilled the entrance requirements may be admitted as special
students, not in candidacy for a degree, to such courses as they are prepared to enter.

## ADVANCED STANDING

Students may be admitted to advanced standing on presentation of a certificate of work from an institution of recognized standing, together with a certificate of honorable dismissal.

Applicants for advanced credit, who do not present satisfactory grades from other colleges, will be examined in the courses in question and receive full credit on the successful passing of such examinations.

Students presenting high school credits in a modern language or in mechanical drawing above and beyond the entrance requirements for College will be allowed college credit at the rate of fifty per cent. in term hours for high school work, provided that it results in a full credit in term hours and also provided that the student shows the ability to carry advanced work.

## REGISTRATION

The registration days for the beginning of the school year 1915-1916 will be Sept. 13 and 14 ; for the second semester, January 14 and 17.

All students, both old and new, are required to register and classify for work on these days between the hours of $8: 30 \mathrm{~A}$. M. and $5: 00 \mathrm{P}$. M.

Candidates for admission to the freshman class are required to submit a certificate giving details of their high school work as early as possible during the summer preceding entrance to the University. Such certificate should be addressed to the Chairman of the Classification Committee.

Procedure for registration and classification

1. Fill out registration card (main office, Buchtel Hall).
2. a. If a new student, take registration card to the Committee on Entrance ; then see the Classification Committee of the school to be entered.
$b$. If not a new student, take registration card to the Classification Committee of the school to be entered.
3. Take Classification slip to the Secretary's office, where term bills should be paid.
4. Present Classification slip to various instructors at first meeting of class for signature.

## GENERAL REGULATIONS

The Term-Hour-The unit of instruction is one hour per week for one semester. From two to three hours of laboratory work shall be considered as equivalent to one recitation hour with preparation therefor. This unit is known as a "term hour."

Required for degree- 128 term hours, except in the College of Engineering.

Freshman Failure-Any freshman failing to receive unconditional credit for at least eight term hours at the end of the first semester or of the second semester shall be dropped from the institution, and shall be allowed to reenter only after passing the entrance examinations as specified by the Faculty.

Election of Subjects in other Schools-No student in one school or college shall be allowed to elect subjects in other schools until all freshman and entrance requirements are satisfied.

Not more than 12 term hours' work elected in other schools, and not catalogued in the Liberal Arts Courses, shall be allowed to apply for graduation in the College of

Liberal Arts. Work thus elected must not interfere with required major and minor studies in the College of Liberal Arts, nor can it be substituted for them.

Quality Requirement for Graduation-No student shall be graduated from Buchtel College nor from the Curtis School who shall not have gained at least 64 semester hours of the total 128 with a grade of $G$ or $E$.

FEES
Resident Students-All students who are residents of the City of Akron according to the rules adopted by the Board of Directors (see "Free Tuition" page 20), or whose parents are residents of Akron, are entitled to free tuition at the University. They are, however, required to pay an incidental fee of $\$ 10.00$ per semester, covering registration, incidentals and student activity fee. If not paid before September 20 of the first semester, or February 10 of the second semester, the fee is $\$ 12.50$ per semester. Fees to cover breakage and materials are also charged to all students in laboratory courses (See various Departments).

Non-resident Students-_The tuition for non-resident students is $\$ 40.00$ per semester in the College of Liberal Arts and the School of Home Economics, in addition to the incidental fee of $\$ 10.00$ per semester. The tuition for co-operative students in engineering is $\$ 30.00$ per semester plus the regular incidental fee of $\$ 10.00$ per semester. Fees to cover breakage and materials are also charged to all students in laboratory courses (See various Departments). If not paid before September 20 of the first semester or February 10 of the second semester the tuition fee is $\$ 35.00$ in the Engineering College and $\$ 45.00$ in other departments and the incidental fee is $\$ 12.50$.

Summary of Fees-The following table gives a summary of all fees for resident and non-resident students (ex-
cept laboratory fees, for which see various Departments), also for students electing eight hours or less:

Tuition Fee-
For residents of $\Lambda$ kron: free.
lior non-residents per semester.

| More than 8 hours per week. | If paid before Sept. 20 Feb. 10 <br> . . . $\$ 40.00$ | If paid be tween Sept. Nov. 1 or Feb. 10 and April 1 $\$ 45.00$ |
| :---: | :---: | :---: |
| From 5 to 8 hours per week. | 25.00 | 27.50 |
| 4 hours or less per week. | 15.00 | 17.50 |

Incidental Fee-
Payable by resident and non-resident students.

|  |  |  |
| :---: | :---: | :---: |
|  |  | If paid between Sept. 20 and |
|  | ${ }^{\text {If }}$ ( ${ }_{\text {Said }}^{\text {Sept. }} \mathbf{2 0}$ | $\xrightarrow{\text { Nov. } 10 \text { or }}$ |
| More than 8 hours per week. | Feb. 10 <br> $\$ 10.00$ | April 1 <br> $\$ 12.50$ |
| From 5 to 8 hours per week. | 8.00 | 10.00 |
| 4 hours or less per week. | 5.00 | 6.50 |

Students whose entire fees are not paid by Nov. 1 for the first semester or by April 1 for the second semester will be suspended from further participation in class work until such fees are paid.

Non-resident students, already registered during the school year 1913-1914, will, by special act of the Board of Directors, be allowed to finish their courses on the basis of the rate of tuition charged in that year.

## EXPENSES FOR LIVING

Non-resident students at the University of Akron can obtain a good room for $\$ 1.50$ to $\$ 2.50$ per week. The common price for a single room, occupied by one person, is $\$ 2.00$
per week; for a double room, occupied by two persons, $\$ 1.50$ per person. The University maintains no dormitories, but lists of rooms for men may be found at the general office. All women attending the University are under direct charge of the Dean of Women. No non-resident woman is allowed to select a rooming place not on the approved list of the Dean of Women. Non-resident women intending to enter the University should write beforehand to Mrs. E. A. Thompson, Dean of Women, who will gladly assist them in obtaining suitable living quarters.

Board may be secured in private families (often in connection with room), in boarding houses near by or at the Y. M. C. A. and Y. W. C. A. A number of restaurants also offer rates by the week. The usual price is from four dollars to five dollars per week.

The School of Home Economics serves a cafeteria luncheon in Curtis Cottage every noon during the school year.

SELF HELP
A large proportion of the men of the institution are self supporting. Akron offers a great variety of work for men students, such as clerking, soliciting, waiting on table, playing in orchestras, etc. The University maintains a Bureau of Student Employment which helps new students in getting work for odd hours, evenings and on Saturdays. The demand for such student aid on the part of Akron citizens is usually larger than the University can supply.

No student, however, should enter without sufficient money for payment of term bills and for living expenses for several months, since too much outside work often seriously hampers the beginning of a college course,

The opportunity for women in the matter of self help is more limited. It consists largely of work during certain hours of the day in private families in return for board and room, clerking and, to a limited extent, work in offices or libraries.

The University offers a number of student assistantships in various departments to upper classmen. Such positions pay, usually, $\$ 100$ per year. All inquiries regarding self help for men should be addressed to the Bureau of Student Aid; for women, to the Dean of Women.

## BUCHTEL COLLEGE OF LIBERAL ARTS

Buchtel College was founded as a College of Liberal Arts in 1870 by the Ohio Universalist Convention in co-operation with the Hon. John R. Buchtel. It became a part of the Municipal University of Akron on December 15, 1913. The following is a list of the original incorporators of Buchtel College:
*J. S. Cantwell, D. D.
*Col. Geo. T. Perkins.
*Henry Blandy.
*Rev. Geo. Messenger. Rev. B. F. Eaton.
*Judge Newell D. Tibbals.
*Rev. J. W. Henley, D. D.
*Judge E. P. Green.
*O. F. Haymaker.

* John R. Buchtel.
*Rev. H. F. Miller. Rev. E. L. Rexford, D. D. Rev. H. L. Canfield, D. D.
*Willard Spaulding.
*George Steese.


## PRESIDENTS OF BUCHTEL COLLEGE

S. H. McCollester, D. D., Litt. D. . . . . . . . . . . .1872-1878
E. L. Rexford, D. D. . . . . . . . . . . . . . . . . . . . . . . . 1878-1880
*Orello Cone, D. D. . . . . . . . . . . . . . . . . . . . . . . . 1880-1896
C. M. Knight, Sc. D. (ad interim) . . . . . . . . . . . 1896-1897
I. A. Priest, D. D. . . . . . . . . . . . . . . . . . . . . . . . . . . 1897-1901
*A. B. Church, D. D., LL. D. . . . . . . . . . . . . . . . . 1901-1912
P. R. Kolbe, Ph. D. . . . . . . . . . . . . . . . . . . . . . . . . . 1913-

* Deceased.


## FACULTY AND INSTRUCTORS

1914-1915
Parke R. Kolbe, Ph. D.,
President of the University
Joseph C. Rockwell, Ph. D., Professor of Latin and Greek

Oscar E. Olin, A. M., Messenger Professor of Economics and Philosophy and Vice President of the Faculty

Albert I. Spanton, A. M.,
Pierce Professor of English and Dean of the Faculty
Frank Haggerty, LL. B., Director of Physical Education

Sidney J. Lockner, A. M., Ainsworth Professor of Mathematics and Physics

Hezzleton E. Simmons, M. S.,
Buchtel Professor of Chemistry
Emily Ray Gregory, Ph. D., Professor of Biology
Charles Bulger, Ph. B., Assistant-Professor of German Language and Literature

Charles R. Olin, M. S., Assistant-Professor of Mathematics

Frank D. Sturtevant, A. M., Assistant-Professor of English
M. Alice Rines, A. M., Assistant-Professor of Romance Languages

Elizabeth A. Thompson, A. M., Assistant-Professor of History and Dean of Women

Carita McEbright, A. B., Instructor in Oratory

Eleanor Schmidt, Ph. B., Instructor in German

William F. Zimmerli, Ph. D., Instructor in Chemistry
Edward von Janinski, A. B., Instructor in German
Albert Phelps Tuller, A. B., Instructor in Classics and French

Henri Morin
Instructor in French
Robert L. Sibley, A. M., Instructor in Chemistry
Max Morris, A. M., Instructor in Mathematics
Albert E. Sidnell, B. S., Graduate-Assistant in Chemistry

## ENDOWMENTS

## MESSENGER PROFESSORSHIP

The Messenger Professorship of Mental and Moral Philosophy was endowed by Mrs. Lydia A. E. Messenger, late of Akron, in memory of her deceased husband, Rev. George Messenger.

HILTON PROFESSORSHIP
The Hilton Professorship of Modern Languages was endowed by John H. Hilton, late of Akron.

PIERCE PROFESSORSHIP
The Pierce Professorship of English Literature was endowed by Mrs. Chloe Pierce, late of Sharpsville, Pa.

BUCHTEL PROFESSORSHIP
The Buchtel Professorship of Physics and Chemistry was named in honor of Mrs. Elizabeth Buchtel, late of Akron.

## AINSWORTH PROFESSORSHIP

The Ainsworth Professorship of Mathematics and Astronomy was endowed by Henry Ainsworth, late of Lodi.

RYDER PROFESSORSHIP
The Ryder Professorship of Rhetoric and Oratory was established by the Board of Trustees in memory of Dr. William H. Ryder, late of Chicago.

## MESSENGER FUND

The Messenger Fund was created by Mrs. Lydia A. E. Messenger, late of Akron. The fund consists of $\$ 30,000$.

ISAAC AND LOVINA KELLY FUND
The Isaac and Lovina Kelly Fund was created by Isaac Kelly, late of Mill Village, Pa. This fund consists of \$35,788.

WILLIAM PITT CURTIS FUND
This fund was established by William Pitt Curtis, late of Wadsworth, O. It now amounts to $\$ 25,000$.

## CROSLEY LIBRARY FUND

Rev. Lotta D. Crosley has established this fund with a gift of $\$ 3,000$.

## PERPETUAL SCHOLARSHIPS IN BUCHTEL COLLEGE

The following named persons have established perpetual scholarships in Buchtel College:
*Miss E. V. Steadman .........................................
*James Pierce .............................. Sharpsville, Pa.
*Elijah Drury ............................................... Pard,
*Mrs. Mary C. Martin .............................. Lebanon
*James F. Davidson .................................Brimfield

*John Perdue ............................... Lafayette, Ind.
*Eli M. Kennedy ......................... Higginsville, Mo.


*Јонл B. Smith ......................................Urbana
*Mrs. Candia Palmer ............................ . Painesville
*Mrs. Geo. W. Steele............................ . Painesville
*George W. Steele ................................ Painesville
*Mrs. Betsey Dodge.......................... McConnellsville
*John Espy .........................................................
*Joseph Hidy, Sr. ................................effersonville
*Mrs. Henry Boszar ............................. . Brimfield
*Henry Boszar (3)................................ Brimfield

*Thomas Kirby ............................... Muncie, Ind.
*Isaac and Lovina Kelly ............... Mill Village, Pa.
*S. T. and S. A. Moon.................................. . Cuba
*George Thomas ......................................enwich
*Mrs. E. W. Terrill . . . . . . . . . . . . . . . . . . . . Jeffersonville
*Mrs. John H. Hilton .............................. Akron
*Samuel Birdsell .......................................eru
*Samuel Grandin ................................ Tidioute, Pa.
*N. B. and A. E. Johnson ............................ Mingo
*Henry Ainsworth (10) .....................................

Mr. and Mrs. John Miller..................... . Edgerton *John P. Chapin .........................New Philadelphia *Christian Swank ..............................Creston *Mrs. S. O. Асомв ................................. Tidioute, Pa. *Mrs. Jane Betz (2) ............................. Hamilton
 *Mrs. Rosa G. Wakefield ................................ *Martha A. Bortle . ............................. . . Hamilton \#\#Delia Loring Morris .......................... Belpre

These scholarships are intended to aid worthy and deserving students, and are awarded by a Scholarship Committee under authority from the Board of Directors.

## *Deceased.

IIn honor of her father, Eliphas Burnham.
$\ddagger$ In memory of her father and mother, Mr. and Mrs. Israel Allyn, and her sister, Lucy Allyn.
$\ddagger \ddagger$ In memory of her father, Oliver Rice Loring.

## ENTRANCE REQUIREMENTS

Unconditional requirements (all courses): 15 units.
No student will be admitted to the University who has an entrance deficiency of more than one unit, and no student from the Akron High Schools will be admitted on less than 16 units without the recommendation of the Superintendent of Schools.

A unit is a full year's work in a subject with recitation periods of one hour held four times a week, or 45 minutes held five times a week.

CLASSICAL COURSE
The candidate must present:
English (page 38) ............................... 3 units Mathematics (page 38) ......................... $2^{11 / 2}$ units Latin (page 40) ............................... 4 units General History (page 45) ..................... 1 unit Elective (from the subjects on pages $36-37$ ) .... $41 / 2$ units

The candidate must present:
English (page 38) ................................ 3 units
Mathematics (page 38) ........................ $2^{2} 1 / 2$ units
Foreign Languages (page 40) .................. 4 units
General History (page 45) ...................... 1 unit
Elective (from the subjects on pages $36-37$ ).. $4^{\prime} 1 / 2$ units

## SCIENTIFIC COURSE

The candidate must present:
English (page 38) .............................. 3 units
Mathematics (page 38) ......................... 3 units
Foreign Languages (page 40) .................. 4 units
Sciences (page 43 ) [one unit must be Chemistry
or Physics]...........................${ }^{2}$. units
Elective (from the subjects on pages $36-37$ ).... 3 units
In the Philosophical and Scientific Courses two units at least must be of one language. Not less than a full unit is the beginning of any language will be accepted toward this requirement.

## ELECTIVE SUBJECTS

The elective work for admission to any of the three courses may be made from the following subjects or their equivalents, details of which will be found on the pages referred to:-


History, General, 1 or 2 units (page 45) ...
History, English, 1 or $1 / 2$ unit (page 45)..

| History, E | Not more |
| :---: | :---: |
| History, Advanced U. S., 1 or $1 / 2$ unit (page 45) | s |

Physics (page 43) ................................. 1 unit
Physical Geography (page 44) ............... 1 or $1 / 2$ unit
Physiology (page 44) .............................1/2 unit

Zoology (page 44) ........................... 1 or $1 / 1 / 2$ unit
Language .........................Not more than 6 units
$\left.\begin{array}{l}\text { Domestic Science. ..... } \\ \text { Manual Training. .... }\end{array}\right\}$ 1 unit

Commercial Law..... $\}$
Commercial Geography
Graduates of Manual Training courses in high schools are allowed a maximum of two units in manual training and mechanical drawing toward entrance to the scientific course.

ENTRANCE AT MID-YEAR
Students graduating from high schools at mid-year with two or more years of German or four years of Latin may elect from the following subjects if they desire to enter at once:

Latin 26 ( 3 h. )
German 104 (3 h.)
German 132 ( 3 h .)
Federal Govt. 262 (2 h.)
English 66 (3 h.)
Botany 414 ( 4 h .)
At the beginning of the following fall the student will be assigned to the regular freshman work of one of the three courses and can pursue his studies without irregularity.

## DESCRIPTION OF ENTRANCE UNITS

Following is a detailed statement of the requirements in each of the various subjects that may be offered for admission to college:

$$
\text { ENGLISH, } 3 \text { Units }
$$

The requirements include the College Entrance Requirements in English, practically uniform thruout the United States.

Three years, with five recitations a week, should be given to preparation, the work in Rhetoric and Composition being done simultaneously with the reading and study of the required English and American classics.

The applicant should bring a written statement from the principal or superintendent of the school attended, stating definitely the books read, and the amount of time given (1) to Rhetoric and Composition and (2) to the reading and study of the required classics.

The leading requirement, however, is the ability of the student to express his ideas in his mother tongue, clearly, forcefully, and accurately. Lacking this, his preparation to enter college is very inadequate, no matter how many books he may have read, or how much time he may have given to English in the grammar school and the high school.

MATHEMATICS AND ASTRONOMY
Algebra and Plane Geometry are required for entrance into all courses. Solid Geometry is required for entrance to the scientific course. Astronomy may be offered as one of the electives in any course, but it is required in none,

## Algebra, I, I/2 Units

The work in Algebra should include the following subjects: fundamental operations, factors, multiples, fractions, simple equations, methods of elimination, problems, interpretation of solutions, involution, evolution, surds, exponents, complex numbers, quadratic equations, theory of quadratic equations, simultaneous quadratics, binominal theorem for positive integral exponents, ratio, proportion, variation, series and logarithms.

It is suggested that the time spent in preparing to meet this requirement be five 55 -minute periods per week for a year and a half. It is further suggested that the work of the last half-year be done late in the preparatory school course in order that there may be close and ready articulation with the required mathematics of the freshman year in college. It is especially desirable that the student come to his college work with habits of neatness and accuracy well formed, and that he have some sense of mastery over so much of mathematics as he may have studied.

## Geometry, I, I/2 Units

Plane and Solid Geometry. The set propositions required are those found in the older text books. Among the topics required may be mentioned: plane rectilinear figures; the circle and the measure of angles; similar polygons; areas, regular polygons; the measure of the circle, the relation of lines and planes in space; the properties and measure of prisms, pyramids, cylinders, and cones; the sphere, and the spherical triangle.

From the demonstration of many original propositions and the solution of many original problems, the student should have gained a fair degree of confidence in his own ability to build up a geometrical proof. Accuracy of statement and elegance of form are to be emphasized.

It is suggested that the time spent in preparing in Geometry be one and one-half school years, and that the work of the last half-year come in the third or fourth year of the preparatory course.

$$
\text { Astronomy, } 1 / 2 \text { Unit }
$$

A thoro knowledge of the fundamental facts and principles of Astronomy is required. Familiarity with so much of the science as is contained in Young's Elements of Astronomy will suffice.

## FOREIGN LANGUAGES

Latin. I, 2, 3 or 4 Units
Four units of at least four recitations a week are required for entrance to the Classical Course. One, two, three, or four units may be offered for entrance in the Scientific or Philosophical courses, subject to the requirement that at least two units must be offered in some one foreign language.

First Year. (One Unit.) Collar and Daniell's First Latin Book, or Bennett's Latin Lessons, with twenty-five pages of Viri Romae or an equivalent.

Second Year. (One Unit.) Cæsar's De Bello Gallico, Books I.-IV., or an equivalent, with thirty lessons in Prose Composition.

Third Year. (One Unit.) Cicero's Orations: four against Catiline, Poet Archias, the Manilian Law, Verres and Roscius. For the last two an equivalent may be offered. Thirty lessons in Latin Prose Composition based upon Cicero.

Fourth Year. (One Unit.) Virgil's Eneid, Books I.-VI.

Grammar, including Prosody (New Allen and Greenough, Bennett, or Harkness).

Greek, I or 2 Units
One or two years of Greek may be offered for entrance.
First Year. Beginners' Lessons in Greek.
Second Year. Xenophon's Anabasis.

## German, I, 2, 3 or 4 Units

One, two, three or four years of German may be offered for admission to the Scientific or Philosophical courses. Candidates must present from former teachers a full statement of work covered, texts used, and time spent. No student will be allowed to enter an advanced course without examination.

The following work should be offered for one, two, three or four years' credit, respectively:

One Year. Joynes-Meissner's Grammar (Part I.) Fair equivalents in standard beginners' books will be accepted as substitutes. One hundred and fifty pages of simple German, in which should be embraced some of the best known songs and ballads and at least one longer story, such as Immensee, Germelshausen, or Hoeher als die Kirche. The candidate should be able to pronounce German correctly, to understand and form simple sentences, and to write German script.

Two Years. In addition to the requirements for the first year, the candidate should by review have accurately familiarized himself with the principles of grammar, and should be able to translate with readiness easy connected English prose into German.

He should be able to write German from dictation, and should have read at least one of the easier classics besides two hundred pages of easy prose.

Three Years. In addition to the requirements for the first two years, the candidate should have read at least two more classic dramas, and at least one hundred pages of
more difficult prose, such as Die Harzreise or selections from Dichtung and Wahrheit, and should be able to discuss these freely in the German language. He should show the results of an additional year's drill in translating more difficult English prose into German either by writing or orally, and should have had instruction in the literary history of Germany in the later Classic and Modern Period.

Four Years. The work of this year should be a continuation on the groundwork of the first three years, and should include at least eight hundred pages of reading, altho a less number may be presented if such difficult works as Faust have been attempted. In addition the candidate should have a thoro knowledge of the history of German literature from the earliest periods, and should know something of Germany and modern German life.

It is advised that some subjects of general practical interest such as German schools, stores, meals and amusements be treated.

$$
\text { French, } 1,2,3 \text { or } 4 \text { Units }
$$

One, two, three or four years of French may be offered for admission to the Scientific or Philosophical courses. Candidates must present from former teachers a full statement of work covered, texts used, and time spent. No student will be allowed to enter a higher course than French 154 without examination or personal conference with the instructor in charge of the French Department.

The following work should be offered for one, two, three or four years' credit, respectively:

One Year. A thoro knowledge of the leading principles of French grammar as set forth, for instance, in Fraser and Squair; an accurate acquaintance with the more common irregular verbs; the ability to translate
easy English prose into French and to read easy French at sight; the ability to pronounce French, and the careful reading of two hundred pages of less difficult French.

Two Years. In addition to the above, the candidate should know accurately all irregular verbs in common use, and should be able to read a page of French with accurate pronunciation. He should have read at least four hundred pages of various authors, which should include one or two classic dramas. He should have had some practice in writing from dictation, and should be able to translate ordinary English prose into French.

Three Years. The work of the third year should comprise the reading of approximately five hundred pages of French of ordinary difficulty; memotizing of passages of matter read, either prose or poetry; writing from dictation; review of grammar.

Four Years. The work of the fourth year should include the reading of at least eight hundred pages of standard French, classical and modern ; the writing of numerous short themes in French; a knowledge of the principal authors and works of French literature and of the important periods in French history; an ability to discuss in French the works read.

## SCIENCES

Physics, I Unit

Recitations at least four times per week for a school year, together with a note-book, containing the description and results of at least fifty experiments, neatly recorded.
Chemistry, I Unit

Recitations three times per week for a school year, together with laboratory practice for two hours per week and
a note-book containing an account of all experiments made by the student's own hands, with sketches of the apparatus used.

$$
\text { Zoology, I/z or } I \text { Unit }
$$

To count for one unit, the course should extend thruout a year of 36 weeks, four times per week, reciting at least 45 minutes. One-fourth should be laboratory work in dissections and drawings. Drawings and notes should be presented to show the nature of the work done. Davenport or any good elementary text.

$$
\text { Botany, } I / 2 \text { or } I \text { Unit }
$$

If offered for one unit, it should consist of thirty-six weeks of work, four times per week, at least one-fourth of which should be of the nature of field or experimental work and dissections. Coulter, or Bergen and Caldwell, is recommended as a text book. Note-book required.
Physiology, I/2 Unit

Only work done above the grades will count for entrance. It should consist of eighteen weeks' work, four times per week, of at least 45 -minute periods each. Not less than about twenty hours of laboratory work, of dissections, drawings, and experiments should be offered. Martin's Human Body (briefer course) revised by Fitz is recommended as a good text.

Physical Geography or Physiography, I/z or I Unit
Four times per week for one-half year. A good text book, such as Davis' Physical Geography, should be supplemented by field excursions and laboratory, to cover about one fourth of the time. Note-book required.

NOTE:-In all science subjects at least two periods of laboratory or experimental work should count as the equivalent of one recitation.

## HISTORY AND CIVICS

Advanced U. S. History, I/2 or I Unit
One year's work with any approved high school text book.

General History, $I$ or 2 Units
The equivalent of one or two years' work in Ancient and Modern History, using any approved high school or academy text.

English History, I/2 or I Unit
One year's work in high school or academy, using any standard text.

> Civics, I/z Unit.

One half-year's work in Civil Government. Only high school or academy work accepted.

## COURSES OF STUDY

Three courses of study, each requiring 128 term hours for graduation, are offered in Buchtel College: the Classical, Philosophical and Scientific (for terms of admission to these courses see page 35).

The studies of the freshman year are definitely assigned and required in each course. At the end of the freshman year the student is asked to indicate to the Committee on Classification whatever line of work he may wish to pursue. This subject is then known as the "major." Each major brings with it a number of required "minor" subjects, as indicated in the description of the various courses of study. All major and minor work must be beyond the student's freshman requirements. Twenty-four term hours above the freshman year is the minimum requirement for a major, a term hour being a study carried one hour per week through one semester. All work beyond the freshman year and outside of the major and minor requirements is elective, 16 hours per semester being counted as regular work.

$$
\begin{aligned}
& \text { I. THE CLASSICAL COURSE } \\
& \text { Freshman Year (required) }
\end{aligned}
$$

| First Half-Year | Term Hrs. | Second Half-Year | Term Hrs. |
| :---: | :---: | :---: | :---: |
| Greek 1 |  |  |  |
| Latin 25 | 3 | Latin 26 |  |
| Mathematics 301 |  | Mathematics 302 |  |
| *Chemistry 353, or | . 4 | or English 66 |  |
| Chemistry 351, or |  | *Chemistry 354, o |  |
| Zoology 401 | . 4 | Chemistry 352, |  |
| Rhetoric 51 |  | Botany 414 |  |
|  |  | Rhetoric 52 |  |

*Students who have not had a year of Chemistry in high school are required to take Chemistry 353 and 354. Students who have had a year of Chemistry in high school will take Chemistry 351 and 352 , or Zoology 401 and Botany 414.

## MAJORS IN THE CLASSICAL COURSE

(To be chosen at the end of the freshman year.)
Major Subjects.

1. In Greek.

Twenty-four term hours of Greek above the freshman requirements constitute a major in Greek. The History of Greek Sculpture will count toward this major.
2. In Greek and Latin.

Of the twenty-four term hours necessary for this major, twelve term hours at least must be in the Greek language above the freshman year.

Required Minor Subjects.
Term Hrs.
English . ............................................................. ${ }^{7}$
Science
Philosophy, or Logic and Economics ............................... 6
II. THE PHILOSOPHICAL COURSE

Freshman Ycar (required)
First Half-Year Term Hrs. Second Half-Year Term Hrs.
$\checkmark$ German ....at least 3 hours German .......at least 3 hours
Latin 25 .................... 3$\}$

- or French 151 ............ 4
- Mathematics 301 ............ 4
*Chemistry 353 , or ........4 Chemistry 351 , or $\ldots . . .4$
$\checkmark$ Zoology 401 .............. 4
$\checkmark$ Rhetoric 51 ................. 2
Latin 26 .................... 3 \}
or French 152 ............ 4
Mathematics 302 ........... 4 .
or English 66 ............. 3
${ }^{*}$ Chemistry 354, or $\ldots \ldots .{ }^{4}$ Chemistry 352, or $\ldots . . .4\}$
Botany $414 \ldots \ldots . . . .{ }_{2}^{4}$
Rhetoric 52
*Students who have not had a year of Chemistry in high school are required to take Chemistry 353 and 354. Students who have had a year of Chemistry in high school will take Chemistry 351 and 352 or Zoology 401 and Botany 414.

MAJORS IN THE PHILOSOPHICAL COURSE
(To be chosen at the end of the freshman year.)
Major Subjects.

1. In German.

Twenty-four hours required above freshman work.
2. In Romance Languages.

Twenty-four hours required above freshman work.
3. In English Literature.

Twenty-four hours required above freshman work.
4. In Philosophy and Economics.

Twelve hours each.
5. In Economics and History.

Twelve hours each.
6. In History and Philosophy.

Twelve hours each.

Required Minor Subjects.
For Major in German or Romance Languages:
Term Hrs.

Philosophy, or Logic and Economics ............................... 6
For Major in English Literature:

English History ...................................................................
Philosophy, or Logic and Economics .............................. 6
For Major in Philosophy and Economics, in Economics and History or in History and Philosophy:

|  | Term Hrs |
| :---: | :---: |
| English |  |
| Foreign |  |

III. THE SCIENTIFIC COURSE

Freshman Year (required)

| First Half-Year Term Hrs. | Second Half-Year |
| :---: | :---: |
| Rhetoric 51 ............... 2 | Rhetoric $52 . . . . . . . . . . . .22$ |
| German ..........at least 3 | German ..........at |
| Mathematics 301 .........4 | Mathematics 302 |
| *Chemistry 353, or ....... 4 | *Chemistry 354, or |
| Chemistry 351, or ......4 | Chemistry 352, or |
| Zoology $401 . . . . . . . . . . .4$ | Botany 414 |
| Mechanical Drawing 331..4 | Bescriptive Geometry |
| or French 151 | or French |

*Students who have not had a year of Chemistry in high school are required to take Chemistry 353 and 354 . Students who have had a year of Chemistry in high school will take Chemistry 351 and 352 , or Zoology 401 and 414.

MAJORS IN THE SCIENTIFIC COURSE.
(To be chosen at the end of the freshman year.)

## Major Subjects.

1. In Chemistry.

Twenty-four hours above the freshman year.
2. In Physics.

Twenty-four hours.
3. In Mathematics and Physics.

Calculus, ten hours.
Surveying, two hours.
Physics, twelve hours.
4. In Biology.

Twenty-four hours above the freshman year.
Required Minor Subjects.
For Major in Chemistry:
Term Hrs.


For Major in Physics:
Term Hrs.

For Major in Mathematics and Physics:
Term Hrs.
English ........................................................................
Science ............................................................................... 6
Mod. Lang., or Philosophy, or Economics and Logic........ 6
For Major in Biology:
Term Hrs.
English ..................................................................... 7
Chemistry (or Physics, 8) ............................................ 6
Philosophy, or Logic and Economics .......................................... 6

## DEGREES

The degree of Bachelor of Arts will be conferred on students who have completed the Classical Course.

The degree of Bachelor of Philosophy will be conferred on those who have completed the Philosophical Course.

The degree of Bachelor of Science will be conferred on those who have completed the Scientific Course.

## THESIS

A thesis showing original research by the student may be presented for graduation. It shall be taken in the subject chosen as the student's major, and shall count for two term hours if carried satisfactorily beyond the regular class-room work. The thesis must be handed to the instructor in charge on or before the beginning of the senior vacation.

## Master's Degree

The degree of A. M. may be conferred upon those who have acquired the degree of A . B. or $\mathrm{Ph} . \mathrm{B}$. , and the degree of M. S. upon those who have acquired the degree of B. S. These degrees may be granted in not less than two years after graduation, unless the applicant, in residence, can devote his entire time to the work, when the degrees may be granted in one year. At least one year of residence is required of all candidates for a Master's Degree.

The candidate must accomplish the equivalent of a fuli college year's work of thirty-two term hours, choosing his subjects as Majors and Minors, twenty-four of which must be in the Major field.

In the Minor, the work may be partly unduplicated undergraduate, but the applicant will be expected to carry it beyond the lines of usual college work. In the Major, the work must be confined to graduate subjects and methods, and in this a satisfactory thesis must be presented which will give evidence of original work in the investigation of some new field rather than of a mere re-statement of what is already known. The subjects and methods must have received the sanction of the instructors in the departments chosen.

An examination will be required in both subjects.
A candidate for either of these degrees at any given commencement must present his thesis and report for examination not later than June 1st.

## FEES

For general statement see page 26. The following laboratory fees are charged for courses in the College of Liberal Arts. By action of the Directors these labora-
tory fees are collectable strictly in advance and are a necessary prerequisite to enrollment in classes.

Chemistry 351, 352, 353, 354, per semester........\$3.00
" All other courses. . . . . . . . . . . . . . . . . . . . . 4.00
" Deposit for breakage in all courses, per semester ................................. 5.00

The unused portion of this breakage deposit will be returned at the end of each semester.
Physics 343 and 344 each . . . . . . . . . . . . . . . . . . . . . . $\$ 2.50$
Botany 413 and 414 each . . . . . . . . . . . . . . . . . . . . . . 2.50
Zoology 401 and 403 each . ............................ 2.50
Embryology 404 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2.50
Physiology 407 and 408 each . . . . . . . . . . . . . . . . . . . 3.50
Histology 411 and 412 each . . . . . . . . . . . . . . . . . . . . 3.50
Surveying . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2.00
Graduation fee-Payable one week before
graduation ............................... 5.00
Master's degree-Payable one week before
graduation . . . . . . . . . . . . . . . . . . . . . . . . . 10.00
Students who have not met all term bills by November
1 for the first semester, or April 1 for the second semester, will be suspended from classes until payment is made.

## DEPARTMENTS OF INSTRUCTION

The general system of numbering and arrangement is according to the following groups:

Subject

Course Numbers

Ancient Languages ............................... 1- 50
English ........................................... 51-100
German . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 101-150
Romance Languages . ................................ 151-200
Mental and Moral Philosophy ..................... . 201-250
Economics, Political Science, History .............. $251-300$
Mathematics . ........................................ . 301-350
Chemistry ........................................... . $351-400$
Biology and Geology . . . . . . . . . . . . . . . . . . . . . . . . . $401-450$
Physical Training
SUBJECTS OF INSTRUCTION

| Page | Pag |
| :---: | :---: |
| Analytical Mechanics... 85 | Hygien |
| Astronomy ........... 81 | Latin |
| Botany | Logic |
| Chemistry ............ 86 | Mathematics |
| Classical Archeology ... 55 | Mechanical Drawing |
| Classical Mythology ... 55 | News Writing |
| Dynamos and Motors... 86 | Physical Training |
| Economics ........... 75 | Physics |
| Embryology ........... 90 | Physiology |
| English Language and | Political Science |
| Literature .......... 58 | Psychology |
| Ethics ............... . 74 | Public Speaking |
| French .............. ${ }^{7} 1$ | Rhetoric |
| Geology .............. 81 | Romance Languages |
| German .............. 65 | Sociology |
| Greek ................ 54 | Spanish |
| Greek Sculpture ....... 55 | Steam and Gas Engines |
| Histology ............ 91 | Strength of Materials |
| History .............. 77 | Surveying |
| Hydraulics ............ 85 | Zoology |

## GREEK

## PROFESSOR ROCKWELI.

MR. TULLER.
Major: The elective courses in Greek are 3-4, 7-8. Twenty-four hours elected above freshman year constitute a major, in Greek. Courses in Classical Archeology 17, 18 will count towards a major.

Major: Of the twenty-four hours necessary for a major in Greek and Latin, twelve hours at least must be of the Greek language above the freshman year.

Courses 1 and 2 will count for college credit.
In the advanced courses the great masterpieces of prose and poetry are studied in their proper historical and literary setting, and the effort will be made during the three years' rotation of courses for the student to become more thoroly acquainted with the lives and works of a small number of selected authors. As far as is admissible, some attention is given in connection with the regular work to Greek Private Life.

1. Goodwin's Greek Grammar and Xenophon's Anabasis(First Semester.)
M., Tu., W., Th., 10:15.
2. Xenophon (Anabasis, 3 books.)—(Second Semester.) M., Tu., W., Th., 10 :15.
3. Homer (Iliad Selections.)-(First Semester.) M., W., F., ${ }^{7}: 30$.
4. Homer (Iliad Continued): (New Testament Greek.)(Second Semester.)
M., W., F., ry:30.
5. Plato (Apology and Crito); Homer (Odyssey Selec-tions.)-(First Semester.)
M., W., F., $7: 30$. Not given 1915-1916..
6. Demosthenes (De Corona.)-(Second Semester.)
M., W., F., 7:30. Not given 1915-1916.
\%. Sophocles (Oedipus Rex.)-(First Semester.)
M., W., F., 7:30.
7. Thucydides (Book VI); Aristophanes' Birds (with special reference to Greek Private Life.)
M., W., F., $7: 30$.

## CLASSICAL ARCHEOLOGY.

PROFESSOR ROCKWELL.
These courses are open to all students above the freshman year. Courses 17 and 18 will count toward a major in either Greek or Latin.
17. History of Greek Sculpture.-(First Semester.)

Tu., Th., 7:30.
This has been planned as a general course and will not require work in Greek or Latin. It will consist largely of lectures. There will be a short introduction setting forth the relation of Greek Art to the Art of Egypt, Assyria and Phenicia, and this will be followed by a discussion of the various periods and schools of Greek Sculpture and the more important artists. The subject will be illustrated by photographs and lantern-slides. Richardson's Greek Sculpture will be made the basis of the course, and some collateral reading in histories of art will be required. The ability to read German, tho not absolutely necessary, will be decidedly advantageous. Note-books of the students will be examined by the instructor from time to time.
18. (Second Semester.)

Tu., Th., 7:30. Continuation of Course 17.
19. Classical Mythology.-(First Semester.)

Tu., Th., 7:30. Not given 1915-1916.
20. General course in Classical Archeology.-(Second Semester.)
Tu., Th., 7:30. Not given 1915-1916.

## LATIN

## PROFESSOR ROCKWELL

Four units in Latin are required of all students entering freshman Latin.

The elective courses are $27,28,29,30,33$ to 36,39 to 41 .
Major: Twenty-four hours elected above freshman year constitute a major in Latin.

The following arrangement of courses is suggested:
Sophomore year: Latin 27 and 28 (six hours.)
Junior year: Latin 31 and 32 (six hours), and one lecture course, 37 and 38 (four hours.)

Senior year: Latin 29 and 30 (six hours), and one lecture course, 35 and 36 (four hours.)

The remaining hours may be taken in a lecture course, the History of Greek Sculpture, or Latin Prose Composition.

Major: Twelve hours each of Greek and Latin above the freshman requirements constitute a major in Greek and Latin.
25. Cicero (De Senectute); Plautus (Manaechmi)—(First Semester.)
M., W., F., 8:25. Required of classical freshmen.

During the freshman year a careful study is made of grammatical forms, syntax and idiomatic expressions, and written translations constitute a prominent feature of the work.
26. Pliny (Selected Letters.)-(Second Semester.) M., W., F., 8:25. Required of classical freshmen.
27. Livy (Books XXI.-XXII.); Plautus Trinummus.(First Semester.)
M., W., F., $11: 10$. Courses 27 and 28 are open to students who have completed 25 and 26.
28. Terence (Andria); Horace (Odes and Epodes.)(Second Semester.)
M., W., F., $11: 10$.
29. Cicero (De Officiis, Selections.)-(First Semester.) Tu., Th., S., $8: 25$. Open to students who have completed 27 and 28.
30. Virgil (Eclogues and Georgics, Selections.) -(Second Semester.)
Tu., Th., S., $8: 25$.
31. Suetonius.--(First Semester.)

Tu., Th., S., 8:25. Not given 1915-1916.
32. Horace's Satires and Juvenal, Selections.-(Second Semester.)
Tu., Th., S., 8:25. Not given 1915-1916.
33. Latin Prose Composition.-(First Semester.) F., $10: 15$.

During the first half-year a systematic study will be made of the Latin sentence and paragraph, but in the second halfyear there will be the translation into Latin of connected passages of classic English.
34. Latin Prose Composition.-(Second Semester.)

Continuation of Course 33.
35. History of Roman Literature.-(First Semester.)

Tu., Th., 11:10.

First there will be a short survey of the laws in accordance with which the Latin language developed. Then the different forms and periods of Roman literature will be set forth by lectures. These will be supplemented by class readings from different authors.
36. History of Roman Literature.-(Second Semester.) Continuation of Course 35.
37. Roman Private Life and Social Institutions.-(First Semester.)
Tu., Th., 11:10. Prerequisite: Latin 25 and 26. Not given 1915-1916.
38. Roman Private Life and Social Institutions.-(Second Semester.)
Continuation of Course 37. Not given 1915-1916.
39 and 40. Vocational Course.-The teaching of Latin.(Thruout the year-two term hours.)
This course is given alternate years. It includes lectures on the different methods (German, English, American) of teaching Latin, discussions of the different beginner's books, and the principles and characteristics of the leading Latin Grammars. Practical exercises are given based on the authors read during the course.
41. Roman Law.-(Two term hours-time to be arranged.)

## ENGLISH

dean spanton. ASSISTANT-PROFESSOR STURTEVANT. ASSISTANT-PROFESSOR THOMPSON. graduate assistant, mrs. mcneil.

RHETORIC
ASSISTANT-PROFESSOR STURTEVANT. ASSISTANT-PROFESSOR THOMPSON.
mrs. MCNEIL.
51. Freshman Rhetoric.-(First Semester.)

Section a, Tu., Th., 7:30; Section b, Tu., Th., $10: 15$;

Section c, M., F., $11: 10$; Section d, M., F., 7:30.
Required of all freshmen. A thoro review of the principles of style. Two themes each week. Monthly reading of short stories. Frequent conferences with instructors in regard to work in composition.
52. Freshman Rhetoric.-(Second Semester.)

Section a, Tu., Th., $7: 30$; Section b, Tu., Th., $10: 15$;
Section c, M., F., $11: 10$; Section d, M., F., 7:30.
Required of all freshmen. Weekly themes. Conference work continued. Reading of selected novels and modern plays.
53. Argumentation.-(First Semester.)

Tu., Th., 11:10.
Required of all sophomores. The class is organized as an Assembly with the instructor as Chairman. Study and practice of rules of order ; the writing of minutes. Study of manual of debate. Weekly debates upon practical questions submitted by the members of the class. Text-book: Cushing's Manual of Parliamentary Practice (Revised edition).
54. Argumentation.-(Second Semester.)

Required of all sophomores. Continuation of Course 53. Study of correct form for resolutions and reports. The drafting of a Constitution and By-laws. Careful study of the principles of argumentation. Weekly debates as in the first semester.
55. Advanced Composition.-(First Semester.)
(Two term hours.) Time to be arranged when class meets.
Prerequisite: Courses $51,52,53,54$. Close study of the expository and descriptive essay. Wide reading in illustrative work of the best modern writers. A large amount of composition is required.
56. Advanced Composition.-(Second Semester.)

A continuation of Course 55. Study of the short-story with wide illustrative reading. Text-book: Pitkin's ShortStory Writing.
59. Newe Writing.-(First Semester.)
S., 7:30. (Two term hours.)

Recitation and practice work. A practical course in the characteristics of news style, in the writing of the lead, and in the most effective arrangement of material within the "story." As far as time permits, the student will do actual reporting on a "beat" assigned to him.
60. Nezws Writing.-(Second Semester.)

Continuation of 59.
Writing of heads, special articles, reviews, and editorial articles. Practice work as in course 59, and in the effective arrangement of the news stories upon the printed page. The purpose of courses 59 and 60 is not to make the student a finished reporter, but to give him an appreciation of the demands of the profession of journalism, and to prepare him best to meet them.

## LANGUAGE AND LITERATURE

DEAN SPANTON.

## ASSISTANT-PROFESSOR STURTEVANT.

Required work. In addition to the required work in Rhetoric, students in all courses must take, after the freshman year, at least three hours' work in the department of English Language and Literature. To fulfill this require-
ment, students will take Literature 65 or 66 unless they have had a course in the history of English literature at high school, in which case they will take American Literature 75 and 76.

Majors. The minimum for a major in English Literature is twenty-four term hours. Students choosing a major in Einglish Literature must elect a year of Composition in addition to the required freshman and sophomore Rhetoric.

Order of Work. Courses 65 and 66 are prerequisite to the more advanced courses. Hence students who desire to take all or most of the work offered in English must elect these courses in their sophomore year, and in no case should they be postponed to the senior year unless a student be sure that he desires no further work in this department.

All students taking their majors in English Literature are recommended to elect, in the sophomore year if possible, Professor Rockwell's course in Classical Mythology. (See Course 19.)
65. General Introduction to English Literature-(First Semester.)
M., W., F. Section a, 7:30; Section b, 10:15.

The work includes:
(a) The history of English Literature. Text-book: Long's English Literature.
(b) The reading of masterpieces illustrating literary types and representing the main movements in English Literature. Much reading is required; still more is recom-
mended. Text-book: Newcomer and Andrews' Twelve Centuries of English Poetry and Prose.
66. General Introduction to English Literature.-(Second Semester.)

Section a, M., W., F., $7: 30$, for freshmen who do not elect Mathematics; Section b, M., W., F., 10 :15, for sophomores.

A continuation of 65 . Courses 65 and 66 cover in outline the entire field of English Literature, and they or their equivalent must precede the more advanced courses.
67. Chaucer.-(First Semester.)
M., W., F., $8: 25$. Not given 1915-1916.
68. Word Study.-(Second Semester.)
M., W., F., 8:25. Not given 1915-1916.
70. Shakespeare.-(Second Semester.)
M., W., F., 8 :25.

A general study of the English drama to the death of Shakespeare. Twenty or more of Shakespeare's plays are read; also the tragedies of Marlowe, and selections from the works of other predecessors and early contemporaries of Shakespeare.
71. The English Bible as Literature.-(First Semester.) M., W., F., $8: 25$.

To the student of literature the Bible has a two-fold interest, entirely apart from its religious value: (1) It is itself noble literature; (2) It has influenced the literature of the English-speaking world more profoundly than has any other book. The object of this course is to help the student to see the beauty and the power of the Bible as
literature-its narrative, its oratory, its exposition, its poetry and song.
73. British Poets and Essayists of the Nineteenth Cen-tury.-(First Semester.)
M., W., F., $11: 10$.

Studies in Wordsworth, Coleridge, Scott, Byron, Shelley, Keats, Macaulay, Lamb, De Quincey.
74. Continuation of Course 73.-(Second Semester.)

Studies in Tennyson, the Brownings, Arnold, Landor, Clough, Rossetti, Morris, Swinburne, Carlyle, Ruskin.
75. American Literature.-(First Semester.)

Tu., Th., 8:25.
After a somewhat rapid survey of the literature of the Colonial and Revolutionary Periods, the work centers in a study of the leading poets and prose writers of our later literature.
76. American Literature.-(Second Semester.)

A continuation of Course 75.
Students are not allowed to enter this course in the middle of the year.
79. English Fiction.-(First Semester.)
M., W., $7: 30$.

The development of prose fiction to 19th century. Study of the evolution of the novel as a distinct literary type as illustrated in the stories popular in Saxon, Medieval, Elizabethan, Puritan, and Restoration Periods. The 18th century novel. Reading of important works.
80. English Fiction.-(Second Semester.)

Continuation of Course 79.
Study of 19 th and 20 th century fiction with special emphasis upon the work of living writers.

## PUBLIC SPEAKING

## MISS MCEBRIGHT.

A three-years' course is offered in the department of Public Speaking. Progressive educators recognize a welltrained voice with a well-trained mind to be an essential part of education. The voice is the reporter of the individual. A distinct and cultivated enunciation, a wellcontrolled and cultured voice, an effective and natural manner of speech, are all valuable assets in the business, educational and social world.
91. Elementary Course.-(First Semester.)

Tu., Th., S., $10: 15$.
Fundamental principles. Voice technique, tone placing, tone building, enunciation, literary analysis, gesture, evolution of expression-vocal and physical.
92. (Second Semester.) Continuation of 9 I.

Literary analysis, gesture, evolution of expression, development of imagination and sympathetic insight into literature.
93. Advanced Course.-(First Semester.)

Tu., Th., 11:10.
Literary, dramatic, artistic interpretation, character study. Shakespeare's plays. Classic comedies.
94. (Second Semester.)

Course 93 continued. Shakespeare's plays, extempore speeches, critiques, personal development.
95. Dramatic Study (First Semester.)

Time of reciting to be arranged when class meets.
(One term hour.)
The Dramatic Study Club meets once a week for class work. Only junior and senior students who have had one year of Public Speaking or its equivalent are eligible to this
class. Any member of this class pledges himself not only to the class, but to all rehearsals called by the President of the Study Club, or by the Instructor of Public Speaking. This club presents publicly all plays rehearsed. At least one play a semester will be presented.
96. Dramatic Study.-(Second Semester.)

Continuation of Course 95.
Instruction will be given those students who enter the oratorical and prize speaking contests.

## GERMAN LANGUAGE AND LITERATURE

PRESIDENT KOLBE. ASSISTANT-PROFESSOR BULGER.

On leave of absence.
MR. VON JANINSKI.
miss schmidt.
The following is suggested as the proper order in which a major in German should be taken by those who enter unprepared in this language. For those who have studied modern languages in secondary schools, a personal conference with the instructor will be found necessary in planning major work.

## REQUIREMENTS FOR GERMAN MAJOR

A minimum of 24 term hours above the freshman year constitutes a major. The following courses are required for a major and must be included: 105, 106, 111, 112 and at least two semesters' work to be selected from the following courses: $107,108,115,116,123$.

ORDER OF COURSES
Students Beginning German in College
should take the introductory courses in the following order:

Freshman Year
Courses 101 and 102.
Sophomore Year
Courses 103 and 104
Courses 105 and 106.
(Students whose work in the first year has been graded below G are advised to defer Courses 105 and 106 until the third year.)

The advanced courses may be selected as follows:
Course 104 admits to $105,108,115$ and 119.
Course 106 admits to 108,115 and 119.
Course 108 (or 116 or 124 ) admits to 117 .
Course 110 admits to 115,117 and 119 .
Students presenting German from Secondary Schools are admitted as follows:
'Those presenting one year are advised to enter 101.
Those presenting two are admitted on probation to 103. Those presenting three or four years will enter 131.

COURSES OF STUDY
INTRODUCTORY COURSES.
(Given every year.)
101. (First Semester.)
(a) M., W., Th., S., $9: 20$. (b) M., W., F,. S., $11: 10$. (Four term hours.)

## Reginners' Course.

Prokosch, Introduction to German. Stories and poems. Simple conversation. Students with one or more years of secondary school German may elect this course but will receive only half credit (2 hours.)
102. (Second Semester.)
(a) M., W., Th., S., $9: 20$ (b) M., W., F., S., $11: 10$.
(Four term hours.)
Beginners' Course.
Review of grammar; rapid oral translation of English sentences into German. The reading of some simple connected text will be started about Christmas and continued to the end of the second semester.
103. (a) (First Semester.)
M., W., F., 8:25. (Three term hours.)

This course is intended for those who have completed courses 101 and 102 , or their equivalent. Students with one year of secondary school German will be admitted on probation. The time will be divided between prose composition and reading of easier prose or poetical works. Students with two years of secondary school German must elect this course or 103 b .
104. (a) (Second Semester.)
M., W., F., $8: 25$. (Three term hours.)

Course 104 carries out in the second semester the work of Course 103.
103. (b) (First Semester.)
M., W., F., 11:10. (Three term hours.) A parallel course to 103 a , with equivalent work.
104. (b) (Second Semester.)
M., W., F., 11:10. (Three term hours.) A par-
allel course to 104 a, with equivalent work.
105. (First Semester.)

Tu., Th., $7: 30$. (Two term hours.)
The work of this course is intended primarily for those who have completed courses 101 and 102 (with a grade no lower than G), or courses 103 and 104. The work will con-
sist of lectures, dictated in German, on the history of German literature, and of a review of grammar.
106. (Second Semester.)

Tu., Th., 7:30. (Two term hours.)
The nature of this course is the same as that of course 105. For the grammar review of course 105 a study of German history will be substituted.
131. (First Semester.)
M., W., F., 10:15. (Three term hours.)

Students who present three or four years of secondary school German for entrance are required to take this course. Such students are not eligible to other courses. The work will consist of a rapid review of grammar, prose-composition and translation.
132. (Second Semester.)

A continuation of course 131.

## ADVANCED COURSES

First Semester
1915-1916.
107. M., W., Th., at $9: 20$. Prerequisite: Course 104.

Goethe's life and his literary productions up to the time of the Italian Journey, will be studied.

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1916-1917
    115. M., W., Th., at 9:20. Prerequisite: Course 104.
        Schiller's early dramas.
1917-1918
    123. M., W., Th., at 9:20. Prerequisite: Course
    104. Lessing.
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## Second Semester

1915-1916.
108. M., W., Th., at $9: 20$. Prerequisite: As for Course 107.
Goethe's life and literary productions after his return from Italy.

1916-1917
116. M., W., Th., at $9: 20$. Prerequisite: As for Course 115. Schiller's later literary zork and life. 1917-1918
124. M., W., Th., at $9: 20$. Prerequisite; As for Course 123. 'Post Classical Writers.

## First Semester

1915-1916.
117. M., W., F., at 10:15. Goethe's Faust. Prerequisite: Any one of the following courses: 108, $118,115,123,111$. Only juniors and seniors may elect this course.
$\left[\begin{array}{rll}\text { 1916-1917 } & & \\ 109 . & \text { M., W., F., at } & \text { 10:15. Prerequisite: } \\ \text { 104. } & \text { Modern German } & \\ \text { Literature. } & \end{array}\right]$

## Second Semester

1915-1916.
118. M., W., F., at 10:15. Prerequisite: As for Course 11\%. Modern Drama. Rapid reading and discussion of selected works.

1916-1917
110. M., W., F., at 10:15. Prerequisite: As for Course 109. A continuation of Course 109.

## 1917-1918

118. M., W., F., at $10: 15$. As described for 1915-
119. 

## First Semester

1915-1916.
119. Tu. and Th. at $8: 25$. Prerequisite: Course 104 or 131. A Study of German life and customs. [1916-1917
111. Tu. and Th. at 8:25. Prerequisite: Course 116 or 118. Interpretation of early texts from translations with particular view to their literary value. A study of the literary movements of the middle ages. Texts: Kluge, Vogt and Koch.
1917-1918
119. Tu. and Th. at $8: 25$. As described for 19151916.

## Second Semester

1915-1916.
120. Tu. and Th., at $8: 25$. Prerequisite: As for
119. Advanced theme writing and conversation.

1916-1917
112. Tu. and Th. at $8: 25$. Prerequisite: Course 111 A continuation of the work of 111. 1917-1918
120. Tu. and Th., at $8: 25$. As described for 19151916.

## ROMANCE LANGUAGES

ASSISTANT-PROFESSOR RINES.
MR. TULLER.
Mr. H. R. MORIN.
Major: Twenty-four hours in Spanish and French, not including Courses 151 and 152, constitute a major in the Romance Languages.

## FRENCH

ASSISTANT-PROFESSOR RINES.
MR. TULLER.

MR. H. R. MORIN.

## 151a. (First Semester.)

M., W., Th., S., 9:20. Fraser and Squair's French Grammar. Reader, François and Giroud's Simple French.

158a. (Second Semester.)
M., W., Th., S., 9 :20. Fraser and Squair's French Grammar continued. Labiche and Martin's Voyage de M. Perrichon. Dictation, memorizing and conversation.
151b. (First Semester.)
M., W., F., S., $10: 15$. The course is a duplicate of 151a.
152b. (Second Semester.)
M., W., F., S., 10:15. The course is a duplicate of 152a.
153. (First Semester.)
M., W., F., 7:30. Fraser and Squair's Grammar, Part II. Selected readings.
154. (Second Semester.)

Continuation of 153. Grammar work continued. Moliere's Le Bourgeois Gentilhomme and L'Avare.
155. (First Semester.)

Tu., Th., 11:10. The Short Story in French literature. Daudet. Coppee, Gauthier, Bazin, de Maupassant.
156. (Second Semester.) Course 155 continued.

15\%. (First Semester.)
Tu., Th., $11: 10$. Modern prose and poetry. Not given in 1915-1916.
158. (Second Semester.)

Course 157 continued. Not given in 1915-1916.
159. (First Semester.)

Tu., Th., $7: 30$. Study of the Classic Period. Plays of Corneille selected from Le Cid, Horace, Cinna, Polyeucte, Le Menteur. Not given in 1915-1916.
160. (Second Semester.)

Course 159 continued. Plays of Racine; Phedre, Andromaque, Esther. Not given in 1915-1916.
161. (First Semester.)

Tu., Th., 11:10. The plays, novels and poems of
Victor Hugo. Study of his times.
162. (Second Semester.)

Course 161 continued.
163. (First Semester.)

Tu., Th., $11: 10$. History of France studied and recited in French. Not given in 1915-1916.
164. (Second Semester.)

Course 163 continued. Not given in 1915-1916.
165. (First Semester.)

French Diary. 150-200 words in French to be entered daily in notebook. ( Bi -weekly half hour conferences with the instructor. No class room work. One term hour.)
166. (Second Semester.)

Course 165 continued.
167. (First Semester.)

Hour arranged. Conversational French. Buell's French Daily Life. Two term hours.
168. (Second Semester.)

Course $16 \%$ continued.

## SPANISH

ASSISTANT-PROFESSOR RINES.
171. (First Semester.)
M., W., F., $11: 10$. Hills and Ford's Spanish Grammar. Harrison's Elementary Spanish Reader. Not given in 1915-1916.
172. (Second Semester.)

Course ${ }^{\text {T }} 1$ continued. Not given in 1915-1916.
173. (First Semester.)
M., W., F., $11: 10$. Coester's Spanish Grammar. Selected texts in Spanish. Composition.
174. (Second Semester.)

Course 173 continued.

MENTAL AND MORAL PHILOSOPHY

PROFESSOR O. E. OLIN.
Major: Philosophy may be combined for two majors, Philosophy and Economics, and Philosophy and History, twelve term hours required in each subject.
201. Psychology.-(First Semester.)
M., W., F., 8:25. Text-book: James' Psychology.

Psychology is an elective for one year in either a major or a minor group. A text-book affords the basis of study,
and is supplemented by laboratory work which follows the lines of modern investigation.
202. Psychology.-(Second Semester.)

Continuation of Course 201. One hour of seminar work a wcek is given in this semester.
203. Ethics.-(First Semester.)
M., W., F., 10:15. 'Text-book: Mackenzie.

Moral Philosophy is an elective for two semesters. The subject embraces theoretical and practical ethics and is studied with reference to the origin and development of ethical ideas as viewed in the light of modern philosophy.
204. Ethics.-(Second Semester.)

Continuation of Course 203 with Natural Theology.
Text-books: Mackenzie and Valentine.
During the last thirteen weeks of the second semester, the course in Ethics is supplemented by a course in Natural Theology. A text-book is used as an outline, while the student is given problems for original investigation and application, and topics for library research.

## LOGIC

PROFESSOR O. E. OLIN.
205. Logic.-(First Semester.)
M., W., F., 7:30. The text-book, Jevons' Advanced

Logic. Any other logic is good for reference, Mill, Bain, Hibben, Davis, Robinson, and others.

It would be well for students to elect logic early, because inductive and deductive reasoning are fundamental to all other studies.

SOCIAL SCIENCE
Economics, Sociology and Political Science
PROFESSOR O. E. OLIN.
Major: Economics can be combined with Philosophy for a major, Philosophy and Economics, twelve hours of each. Also with History for a major, Economics and History, twelve hours of each.

Such students as desire to take all the work in this department are advised to take Courses 251 and 261 in the sophomore year.

The courses are so arranged that they can be taken in consecutive terms, and should be taken in the following order:

Course 251 should precede any other; 261 should precede 262; 252 should follow 251 ; the other three courses can then be taken at any time.

## 251. Political Economy.-(First Semester.)

M., W., Th., $9: 20$. Text-book: Ely's Outlines, revised edition. References to Seligman, Fetter, Seager, Laughlin, Blackmar, Bullock, Fairchild, and others.
This is an introductory course, designed for the study of the leading principles of the science, and aiming to acquaint the student with the data of economic inquiry and the nature of economic laws.
252. Sociology.-(Second Semester.)
M., W., Th., $9: 20$. Text-book: Fairbanks' Introduction to Sociology. References: Small and Vincent, Dealey, Ross, Blackmar, and others.
An elementary course designed to introduce the student to the principles of human association, and to develop the power of observing and aualyzing social facts.

## 253. Sociological Problems.-(First Semester.)

Tu., Th., $11: 10$.
This course will be an application of the principles brought out in Sociology to a few of the problems of society. The work will be lecture and research, with two hours of field work each week.
254. Economic Problems.-(Second Semester.)

Tu., Th., 11:10.
A detailed study of the problems and theories involved in some of the great economic questions now before the American people, such as transportation, taxation, corporations, money, and banking. The method is lecture, seminar, and research, with reference to late economic books, journals and periodicals.
261. Political Science.-(First Semester.)

Tu., Th., $10: 15$. Text: Leacock's Elements of Political Science.
A study of the nature of the state, the organization of government of every kind, and the province of government. The course is designed to open the field of Political Science, and lay a foundation for later College or University work.
262. Federal Government.-(Second Semester.)

Tu., Th., $10: 15$.
This course continues Political Science in the study of Federal Government, by a comparative study of the federal governments of the world. Lecture, library, and research work.
264. Municipal Organization and Management.-(Second Semester.)
Tu., Th., 8:25. (Three term hours.)
A detailed study of the organization and administration of city government in Europe and America. A compara-
tive study of Federal Form, Commission Form, and Manager Form of Government. A careful study of municipal ownership of public utilities. Two lectures each week, and two hours of field work in the municipal departments of Akron. Open only to those who have had Political Science.

## HISTORY

## ASSISTANT-PROFESSOR THOMPSON.

Major: History may be combined for two majors. One, History and Economics, 12 term hours each; the other, Philosophy and History, 12 term hours each.
273. History of England to the seventeenth century.(First Semester.)
M., W., F., $11: 10$.

The formation of the English race and civilization, the growth of a national government, economic and social conditions, influence of the church. Frequent readings from original sources, and from authorities other than the prescribed text-book.
274. History of the British Empire to the present time.(Second Semester.)
Continuation of 273 .
Emphasis will be laid on the history of the various colonies, and the present problems of the British Empire.
275. History of Western Europe. The development of Europe from the beginning of the eighteenth century to 1815.-(First Semester.)
M., W., F., 8:25.
276. History of Western Europe from 1815 to the present time.-(Second Semester.)
Continuation of 275 .
277. History of the United States to 1830.-(First Semester.) From 1783 to the Civil War period.
Tu., Th., 8:25.
278. History of the United States from 1860 to the present time.-(Second Semester.)
Continuation of $27 \%$.
279. History of the Renaissance and the Reformation.(First Semester.)
Tu., Th., $11: 10$.
280. Continuation of 279 .

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MATHEMATICS-PURE AND APPLIED
PROFESSOR LOCKNER.
ASSISTANT-PROFESSOR OLIN.
MR. MORRIS.
MR. MATHEWSON.
Major in Mathematics and Physics
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- Calculus, ten term hours.

Surveying, two term hours.
Physics, twelve term hours.
Total twenty-four term hours.
301. Plane and Spherical Trigonometry.-(First Semester.) In three sections. Sections a and b, Tu., W., Th., F., at 7:30. Section c, Tu., W., Th., F., at 8:25. Required of all freshmen.

During the first four weeks a review is given in college algebra. This review includes quadratics with graphical representations, variation, inequalities, progressions, partial fractions, logarithms and the general theory of equations. Text: Hawkes.

This preliminary work in college algebra is followed by the regular work in trigonometry. This work includes goniometry, trigonometric equations, solution of plane and spherical triangles and construction of tables. Text: Rothrock.
302. Plane and Solid Analytic Geometry.-(Second Semester.)
In three sections. Sections a and b, Tu., W., Th., F., at 7:30. Section c, Tu., W., Th., F., at 8:25. Prerequisite for the course, Plane and Spherical Trigonometry. Required of all scientific students; elective for all others. Text: Nichols.
The work includes: The straight-line and general equation of the first degree, polar co-ordinates, transformation - of co-ordinates, conic sections and equations of the second degree, tangents, normals, loci, parametric equations, poles and polars, the general equation of the second degree, a few higher plane curves, the plane and straight-line in space and surfaces of the second order.
305. Differential Calculus.-(First Semester.)

At $8: 25$. Five times a week. M., Tu., W., Th., F.
Text: Osborne. Prerequisite: Courses 301 and 302.
The work includes functions, theory of limits, differentiations, series, expansion of functions, indeterminate forms, maxima and minima of functions of one or more variables, partial derivatives, direction of curves, curvatures, tangents and normals, evolutes, involutes, order of contact and envelopes.
306. Integral Calculus and Differential Equations.-(Second Semester.)
At $8: 25$. Five times a week. M., Tu., W., Th., F. Text: Osborne. Prerequisite: Courses 301, 302 and 305.

The work includes integration of standard forms, constant of integration, integration of rational fractions, integration of irrational fractions, trigonometric forms, integration by parts, integration by substitution, summation and the definite integral, application to curves and simple volumes of revolution, moments of inertia, center of gravity of any solid, application to pressure of fluids, force of attraction, etc. The solution of ordinary differential equations of the first and higher orders.

## 304. Elementary Surveying.-(Second Semester.)

(Two term hours.) One recitation each week, F., $10: 15$, to be accompanied by at least forty hours of field work to be put in during the afternoons and Saturday mornings if necessary. Required of scientific students with major in Mathematics and Physics. Elective for all others except freshmen. Prerequisite: Plane and Spherical Trigonometry.
The work of the course covers the general principles of leveling and transit surveying, and the making of one map. 'ext: Merriman and Brooks' Handbook for Surveyors.
308. Advanced Surveying.-(Second Semester.)
(Two term hours.) One recitation each week, Friday $10: 15$, to be accompanied by at least forty hours of field work to be put in during the afternoons and Saturday mornings if necessary. Prerequisite course, 304.

Field practice is given in topographical methods, stadia traversing and triangulation; in a study of the elements of railroad reconnaissance and location, including details of curves and turnouts; and in selected problems in geodosy, which will include the determination of time, latitude and azimuth with ordinary instruments.

ASTRONOMY AND GEOLOGY

PROFESSOR LOCKNER.
323. General Geology.-(First Semester.)

Three times a week: M., W., Th., $9: 20$.
The work includes dynamic, structural, physiographical and historical geology. Instruction is given in regard to geological forces and their effects, the formation, alteration and destruction of land masses, the succession of geological ages with regard to both their physical features and their plant and animal life.

Before taking up the historical geology a brief lecture course is given in systematic zoology in order that the student may become somewhat familiar with various forms of animal life.

## 320. Descriptive Astronomy.-(Second Semester.)

Three times a week: M., W., Th., 9:20. Elective for those who have completed Mathematics 301. Text: Young's Manual of Astronomy.

Celestial sphere, astronomical instruments, elementary celestial mechanics, solar system, fixed stars, double stars, nebulae, constellations. Study one evening a week, demonstration at equatorial, meridian circle and other instruments of the observatory.
322. Practical Astronomy.-(Second Semester.)

Time to be arranged. (Three term hours.) Elective for those who have completed Mathematics 301 and 302, Astronomy 320, and Physics 341. Text: Campbell's Practical Astronomy.

Preliminary work with accessory instruments, such as: micrometer, level, reading microscope, etc. Theory of as-
tronomical instruments, observations with engineers' transit, sextant, and meridian circle. Determination of time, latitude, longitude, right ascension and declination of stars by differential method.

## MECHANICAL DRAWING AND DESCRIPTIVE

## GEOMETRY

ASSISTANT-PROFESSOR C. R. OLIN.
The work in drawing comprises a general course in Mechanical Drawing and Descriptive Geometry for freshmen preparing for Engineering courses.
331. Elementary Mechanical Drawing.-(First Semester.) (a) M., Th., F., 1-3:40; (b) Tu., W., Th., 1-3:40; (Four term hours.) Two and one-half hours' draft ing or recitation each day. Text: French's Engineering Drawing.
Drawing Outfit includes Set of Drafting Instruments, drawing board, T-square, triangles, curve ruler, triangular scale, etc., and costs about $\$ 10$ for a satisfactory outfit. Good work cannot be expected with an inferior set of tools.

The work includes: Use of drawing instruments, elementary geometrical drawing, lettering, orthographic projections, tracing, blue-printing, etc.

Courses 331 and 332 are elective in place of French for Scientific Freshmen.
332. Descriptive Geometry.-(Second Semester.)
(a) M., Th., F., 1-3:40; (b) Tu., W., Th., 1-3:40. (Four term hours.) Two and one-half hours' drafting or recitation each day. Text: Smith, Descriptive Geometry. Prerequisites: Solid Geometry and Drawing Course 331.

The work includes: Representation of points, lines, planes, and intersections in orthographic projection ; curved lines, tangents, development and intersection of surfaces, and simple pattern-making.
334. Mechanical Drawing. Same as Course 33I.—(Second Semester.)
For students entering College the second semester.
Same days as Course 332. (Four term hours.)
335. Descriptive Geometry. Same as Course 332.-(First Semester.)
For students entering as freshmen with Mechanical Drawing taken in high school. Same days as Course 331. (Four term hours.)
336. (Second Semester.)

For students completing Course 335 a course in machine design, architectural drawing and design, or other similar work will be offered. Same days as Course 332. (Four term hours.)

PHYSICS
PROFESSOR LOCKNER.
MR. MORRIS.
Major in Mathematics and Physics
Physics, twelve term hours.
Surveying, two term hours.
Calculus, ten term hours.
Total, twenty-four term hours.
Major in Physics
Physics, twenty-four term hours.
The courses in this department have been planned to serve two purposes:

First: Courses $341,342,343$ and 344 provide the broad general training in Physics which has become a necessary part of every liberal education.

Second: The advanced Courses 345, 346, 347, 348, 349 and 350 are of a purely technical nature, being designed especially for those students who wish to make a profession of engineering.

These courses, together with those required for a major in Mathematics and Physics, will furnish the student with sufficient technical training to earn a fair compensation in ordinary engineering work.
341. General Physics.-(First Semester.)

Four recitations a week: M., Tu., W., Th., 10:15. Text: Loney. The work includes elementary mechanics, wave motion and sound. Required of all scientific students, elective for all others.
Prerequisites for the course: A year of Elementary Physics, a year of Chemistry, Plane and Spherical Trigonometry and Plane and Solid Analytical Geometry.
342. General Physics (Continued.)-(Second Semester.)

Text: Kimball. Required of all scientific students, elective for all others. The work includes light, heat, electricity and magnetism. Prerequisite: Course 341.
343. General Physics, Laboratory.-(First Semester.)

Two three-hour laboratory periods on two afternoons of each week. (Two term hours.) Required of all scientific students in connection with Course 341, elective for all others.
344. General Physics, Laboratory.-(Second Semester.)

Continuation of 343 . Required of all scientific students in connection with Course 342 , elective for all others.

## 345. Analytical Mechanics.-(First Semester.)

Three recitations a week: M., W., F., 11:10. Text: Martin. Prerequisites: Calculus and one year of College Physics.
The work includes the rectilinear motion of a particle with applications, relative motion, simple harmonic motion, the curvilinear motion of a particle, the motion of rigid bodies, the kinetics of a particle and of the mass center of a rigid body, constrained motion, the kinetics of a rigid body, work, energy and the applications to machines, impact, and also the solution of numerous problems involving the principles of mechanics.
346. Strength of Materials.-(Second Semester.)

Three recitations a week: M., W., F., 11:10. Text: Merriman. Prerequisites: Calculus and one year of College Physics.

The work includes stress, strain, tension and compression, shearing force, torsion, bending, shearing and combined stresses, curves for shearing stresses and bending moments, the slope and deflection of beams, columns and struts, stress on members of frames, framed structures and miscellaneous problems involving an application of the general theory of the subject.
347. Hydraulics.-(First Semester.)

Three recitations a week: M., W., F., $11: 10$. Prerequisite courses: Calculus and one year of College Physics.

Omitted 1915-1916.
348. Steam and Gas Engines.-(Second Semester.)

Three recitations a week: M., W., F., $11: 10$. Prerequisite courses: Calculus and one year of College Physics.

Omitted 1915-1916.
349. Dynamos and Motors.-(First Semester.)

Two recitations a week: Tu., Th., 11:10. Prerequisites: Calculus and one year of College Physics. Text: Sheldon.

This course includes a study of magnetism; a study of applications of Ohm's laws; the theory of commutation; and the theory and characteristics of direct current generators and motors, including series, shunt, and compound wound machines.
350. Dynamos and Motors.-(Second Semester.)

Continuation of 349.
The course includes a preliminary study of the sine wave as applied to alternating currents and of circuits containing resistance, inductance, and capacity; and a study of the characteristics of single-phase and polyphase generators and motors, the induction motor, the synchronous motor, and the transformer.

## CHEMISTRY

PROFESSOR SIMMONS.
Dr, ZIMMERLI.
MR. SIBLEY.
ASSISTANT, MR. SIDNELL.
Major: Twenty-four term hours in Chemistry above the Freshman year and courses in Physics 341-344 inclusive, are the minimum requirements for a major in Chemistry and Physics.
351. General Chemistry.-(First Semester.)

Text: Alex. Smith. A study of the newer theories of Chemistry. Six hours per week. Section a-reci-
tations M., W., $9: 20$; laboratory, 1-3:00 M. and F. Section b-recitation Tu., Th., 11:10; laboratory $3: 00-5: 00 \mathrm{M}$. and F. (Four term hours.)
353. General Chemistry.--(First Semester.)

Text: Remsen. Six hours per week. Tu. and Tl., $10: 15$; Tu. and W., 1:00-3:00. (Four term hours.) Required of freshmen beginning Chemistry.
352. General Chemistry.-(Second Semester.)

Six hours per week. Continuation of 351 . Inorganic Preparation; Blow-pipe Analysis.
354. General Chemistry.-(Second Semester.)

Six hours per week. Continuation of 353 . (Four term hours.) Inorganic Preparations.
365. Qualitative Analysis.-(First Semester.)

Lecture F., $9: 00$. Laboratory M., W., F., 3:00-5:00. (Three term hours.) Open to students who have passed 352 or 354.
366. Qualitative Analysis.-(Second Semester.)

Lecture F., 2:00. Laboratory M., W., F., 3:00-5:00. (Three term hours.)

35\%. Organic Chemistry.-Recitations and Laboratory Practice-(First Semester.)
Six hours per week, M., W., $9: 20$; Th., $1: 00$ to $5: 00$. (Three term hours.) A study of the aliphatic series of hydrocarbons and their derivatives.
Required of all students who select Chemistry as their major.
358. Organic Chemistry.-(Second Semester.)

A continuation of Course 357.
359. Quantitative Analysis.-(First Semester.)

Lecture and Laboratory Practice, M., W., F., $3: 00-$ 5:00. (Three term hours.)
360. Quantitative Analysis.-(Second Semester.)

A continuation of 359 .
363. Chemistry of India Rubber.-(First Semester.)
F., $7: 30$; Tu. and Th., 1:00-5:00. (Three term hours.) Lecture and Laboratory covering the theory and practice in the Chemistry of India Rubber.
364. Chemistry of India Rubber.-(Second Semester.)

Continuation of 363.
The course supposes a previous course of a year of organic chemistry and a year of quantitative analysis.
367. Advanced Organic Chemistry.-Lectures, Recitations and Laboratory Practice.-(First Semester.)
Six hours per week. Tu., 1:00 to 5:00; Tu., Th., 10:15. (Three term hours.) A study of the Aromatic series of hydrocarbons and their derivatives.
368. Advanced Organic Chemistry.-(Second Semester.)

A continuation of Course 367 .
(Required of students who major in Chemistry.)
369. Advanced Practical Chemistry.-(First Semester.)

Laboratory and Seminar. (Three term hours.) F., $1: 00-5: 00$; S., 7:30-12:00. (Courses 360 and 368 required.) The course will deal with problems of an industrial nature and with cooperative work in connection with the Bureau of City Tests.
370. Advanced Practical Chemistry.-(Second Semester.) Continuation of 369.

## BIOLOGY

PROFESSOR GREGORY.
Twenty-four term hours constitute a major. The required minors are: English, seven hours; Chemistry, six, or Physics, eight ; Philosophy, or Logic and Economics, six.

## 401. Invertebrate Zoology.-(First Semester.)

Tu., Th., $8: 25$ and $1: 00-3: 00 ;$ F., $11: 10$. (Four term hours.)

A study of the fundamental principles and processes common to plants and animals, and of the distinctions which separate them, followed by a study of the structure, relationships, habits and economic value of different types of invertebrate animals. Two lectures, two laboratory periods, and one recitation each week. Open to freshmen and sophomores.
414. Botany.-(Second Semester.)

Tu., Th., $8: 25$ and 1:00-3:00; F., 11:10. (Four term hours.)

A study of the structure and relationships of types of the various groups of the plant kingdom, with outlines of the principles of physiology, ecology, and distribution. The economic uses of plants will also be kept in view. Several field trips will be taken. Two lectures, two laboratory periods, and one recitation each week. Open to freshmen and sophomores.

Courses 401 and 414 give an understanding of the principles of General Biology and have been arranged with special reference to the needs of the general student, as a part of a liberal education, and as a preparation for Psychology and Sociology. They should be taken as early as possible by prospective medical students, who can then follow them
with Vertebrate Zoology, Physiology and Embryology. (Students needing Biology as a minor should take 401 and 414 in their freshman or sophomore year.)
t13. Another semester of work in Botany will be arranged for students wishing to take the combined Arts-Agriculture Course at the Ohio State University.
403. Comparative Zoology of Vertebrates.-(First Semester.)
M., W., Th., $9: 20$; Laboratory, M., W., $1: 00-3: 00$. (Four term hours.)

A study of the structure and relationships of the various groups of Vertebrates, their life-habits and economic value. It will include a discussion of evolution. Lectures, laboratory, and recitations. Open to sophomores, juniors and seniors. Courses 401 and 414 are recommended in preparation.
404. Vertebrate Embryology.-(Second Semester.)
M., W., Th., $9: 20 ;$ M., W., 1:00-3:00. Alternates with 408. (Four term hours.)

Prerequisites: 401, 414, 403. Open to sophomores, juniors and seniors.
407. Physiology.-(First Semester.)

Alternates with 403. (Four term hours.) Not given 1915-1916.
408. Physiology.-(Second Semester.)

Continuation of 407 . Not given 1915-1916.
Prerequisites for 407 and 408 are Courses 401 and 414,
one year of College Chemistry, and Elementary Physics. Open to sophomores, juniors and seniors.
411. Methods in Histology.--(First Semester.)

Hours to be arranged with the instructor. (Four term hours.)

A course in the preparation of tissues for microscopical study, with some study of normal tissues, will be arranged for advanced students desiring such work.

Prerequisite 401 and 414. Prerequisite, or taking, 403 - and 404. Open to juniors and seniors.
412. Methods in Histology.-(Second Semester.)

Continuation of 411.
415. Advanced Hygiene.-(First Semester.)
W., 8:25. (One term hour.) Lectures on Municipal Hygiene and Sanitation, and Preventive Medicine. Open to juniors and seniors.

This course is intended to give the biological knowledge essential to the proper understanding of the Housing, Sanitation and Welfare work which is discussed by Professor Olin from the sociological point of view.
416. Heredity.-(Second Semester.)
M., W., 8:25 for the first-half of the semester. (One term hour.)

A course of lectures explaining the bases of heredity in Biology and Embryology and including a discussion of the principles of environment. Open to junior and senior women students.

## Lectures on Hygiene for Freshmen Women.-(First Semester to Thanksgiving.)

Tu., 3:00-4:00. (One term hour with Gymnasium work.)

## PHYSICAL EDUCATION

MR. HAGGERTY, DIRECTOR.
Physical education is conducted under the direct supervision of an experienced physical director, who is a member of the college faculty. He is assisted by an associate director for women. The main floor of the gymnasium ( 80 by 50 feet) is well equipped with modern gymnastic apparatus. It is used by the men on Monday, Wednesday, and Thursday, and by the women on Tuesday and Friday afternoons.

College students of the three upper classes desiring to specialize as coaches or instructors in certain sports, games, or events, may do so by conferring with the physical director.

The aims of the department are to develop organic power, the basis of vitality, the prerequisite to physical and mental efficiency ; to secure and maintain good posture, a harmonious muscular development, and a certain degree of bodily skill and grace.

A thoro physical examination is given, and measurements taken of all male students on entering and also on leaving the University. Physical defects, abnormalities, and weaknesses are noted, and judicious, healthful exercise is prescribed to fit the student's individual needs; this may include athletic sports or remedial gymnastics.

## MR. HAGGERTY.

All first-year men are required to take the following work, beginning September, 1914: 32 hours of out-door work; 24 hours in-door class work; 8 hours lecture work, (hygiene, dietetics and exercises).

For this work they are to receive one hour credit.
The gymnasium is one hundred feet in length and fifty feet in width. On the ground floor are locker rooms and bath rooms. Above is the practice floor where exercises are conducted. Directly over the practice floor is the running track.

A four acre athletic field is provided for the use of the men students, and all intercollegiate and other games and meets are held there. The field is equipped with a grandstand, dressing rooms, cinder running track, baseball diamonds, and football fields with bleachers to accommodate 4000 spectators.

The intercollegiate sports are under the government of the faculty committee appointed by the President, and a Board of Control consisting of members from the faculty and representatives of the student body elected by the students.

A limited number of intercollegiate games are scheduled subject to the approval of the faculty.

The Athletic Association is honored by the gift of the Medal presented by Mr. Frank Talbot Fisher, of New York, and also by his very generous donation of prizes for the Track Meet. They consist of two cups of the value of $\$ 50$ each and a Medal, and are given under the following conditions:

The Individual Cup is to be awarded to the athlete making the greatest number of points in the Track Meet, and must be won by him three years in succession in order to become his permanent property.

The Class Cup is the permanent property of the Athletic Association and is to be competed for by classes each year. An honorary position upon the cup is awarded the name of the class scoring the greatest number of points in each annual Track Meet.

The medal is to be given to the athlete scoring the greatest number of points, and at once becomes his personal possession. One such Medal is to be offered for each annual Track Meet.

The Individual Cup and the Medal are open to all bona fide students. The Class Cup is open to the four classes.

The annual Track Meet to compete for these prizes will be held early in June of each year.

## PHYSICAL TRALNING FOR WOMEN

MRS. CARPENTER.
The regular work in physical training for women will begin about the middle of November and will continue for eighteen weeks. The work is required of all first year students, and may be elected by others.

The course will include gymnastics, dancing, and athletics.
On certain afternoons, the exclusive use of the gymnasium is reserved for women. Athletic sports, in basket ball and lawn tennis, are encouraged.

DR. GREGORY.
First-year women are also required to attend a course of lectures on hygiene, given by Dr. Gregory.

A credit of one term hour will be given for the completion of both of the above courses.

## SCHEDULE FOR FIRST SEMESTER

## 1915-1916

|  | MONDAY |
| :---: | :---: |
|  | Homer 3 Sophocles 7 |
| 7:30 | Soph. Lit. 65a Eng. Fiction 79 |
|  | Sec. Yr. French 153 Logic 205 |

TUESDAY WEDNESDAY
Gk. Sculpt. $17 \quad$ Homer 3 Rhet. 51a Sophocles 7

German $105 \quad$ Rhet. 51d
Fresh. Math. 301a and b Sec. Yr. French 153
Logic 205
Fresh. Math. 301a and b
Fresh. Latin 25
Cicero 29 Fresh. Latin 25
Bible Lit. 71
Amer. Lit. 75 Bible Lit. 71
8:25 German 103a
Ger. Life $\mathbf{1 1 9}$
Psychology 201
Hist Wig
Amer. Mist. 277
Fresh. Math. 301c
German 103a

| Psychology 201 |  | Psychology 201 <br> Hist. West. Europe 275 |
| :---: | :---: | :---: |
| Hist. West. Europe 275 | Amer. Hist. 277 |  |
|  | Fresh. Math. 301c Calculus 305 |  |
| Calculus 305 | Inv. Zool. 401 | Adv. Hyg. 415 |
| First Yr. Germ. 101a Goethe 107 <br> First Yr. French 151a |  | First Yr. Germ. 101a Goethe 107 <br> First Yr. French 151a |



Fresh. Rhet. 51c
y 27

10 19th Cent. Lit. 73 First Yr. Germ. 101b
German 103b
French Short Story 155
Ficench Short Story 155 Spanish 173
Spanish 173 Sociol. Prob. 253 Hist. of Eng. 273
Hist. of Eng. 273 Renaiss. Hist. 279 Mechanics 345
Mechanics 345
Dyn. and Mot. 349
Fresh. Chem. $\mathbf{3 5 1 b}$


ADDITIONAL STUDIES
The time for the following studies will be arranged to suit the convenience of instructor and students: Latin Teachers' Course 39 (two term hours), Advanced Composition 55, Roman Law 41

## SCHEDULE FOR FIRST SEMESTER

## 1915-1916



## SCHEDULE FOR SECOND SEMESTER

1915-1916


The time for the following studies will be arranged to suit the convenience of instructor and students: Latin Teachers' Course 40 (two term hours), Advanced Composition 56, Dramatic Study Club

## SCHEDULE FOR SECOND SEMESTER

1915-1916

## THURSDAY

FRIDAY
SATURDAY
Homer ${ }^{4}$ Thucydide's 8
Greek Sculpt. 18 7:30

Rhet. 52 a
German 106
Rhet. 52d
Fresh. Lit. 66a
Sec. Yr. French
154 Newswriting 60

Vergil 30
Amer. Lit. 76
Rub. Chem. 364 (7:30 to 12:00)
Fresh. Latin 26
Vergil 30
8:25 Ger. Themes 120
German 104a
Mun. Org. and Man. 264 Psychology 202
Amer. Hist. $278 \quad$ Hist. West. Europe 276
Fresh. Math. 302c Fresh. Math. 302c
Calculus $306 \quad$ Calculus 306


9:20 $\begin{aligned} & \text { First Yr. French } \\ & \text { Sociology } \\ & 252\end{aligned}$
Astronomy 320

Lat. Prose Comp. 34
Vert. Embryol. 404
Greek ${ }^{2}$ Rhet. 52b
Elem. Pub. Sp. 92

10:15 Fed. Gov. $262 \quad$\begin{tabular}{l}
German <br>
Physics 342

$\quad$

First $Y_{\text {r }}$ <br>
Ethics 204
\end{tabular} French 152b First Yr. French 152b

Physics 342
Ethics 204
Fresh. Chem. 354
Elem. Surv. 304
Adv. Surv. 308
Adv. Org. Chem. 368
Roman Lit. 36
Soph. Rhet. 54
Adv. Pub. Sp. 94
Terence 28
Fresh. Rhet. 52 c
19th Cent. Lit. 74
First Yr. Germ. 102b First Yr. Germ. 102b

| 11:10 | French Short Story Victor Hugo 162 |
| :---: | :---: |
|  | Econ. Prob. 254 |
|  | Renaiss. Hist. 280 |
|  | Dyn, and Mot. 350 |
|  | Fresh. Chem. 352b |

German 104b
Spanish 174
Hist. of Eng. 274
Strength of Materials 346
AFTERNOON
1:00 Org. Chem. 358
to Rul. Chem. 364
3:00 Adv. Pract. Chem.
Ady. Pract. ${ }^{(1: 09}$ to $\left.5: 00\right)$
1:00 Descr. Geom. 332a and b Descr. Geom. 332a
1:00 Mech. Draw. 334a and b Mech. Drawing 334a
3:40 Drawing 336a and b Drawing 336a
3:00 Org. Chem. $358 \quad \begin{gathered}\text { Fresh. Chem. } \\ \text { Ouant. Anal. } \\ 360\end{gathered}$
5:00 Rub. Chem. 364 Qual. Anal. 366
96 (one term hour), French Diary 166 (one term hour), Practical Astronomy 322 (three term hours), General Physics Laboratory 344 (two term hours), Histology 412 (four term hours), Conversational French 168.

## COLLEGE OF ENGINEERING

Fred E. Ayer, C. E., Dean

GENERAL INFORMATION
The College of Engineering was established by the Directors of the Municipal University in 1914. Applicants are assigned to shop work in July and accepted as students in September.

A five-year co-operative course in engineering, patterned after the "Cincinnati Plan," has been adopted.

The "Cincinnati plan" requires the practice of engineering to be learned under actual commercial conditions, and the science underlying this practice to be taught in the University by trained educators. Its aim is to give the student a thoro training in both the theory and the practice of engineering. The students are grouped in two sections, one of which is at work and the other in attendance at the University. Thus, during any bi-weekly period, one-half the students are at the University and one-half are in the shops. At the end of the period, those who were at the University go to the shops, and those who were in the shops go to the University.

Five years of eleven months each are required to complete the course. Each student is allowed a vacation of one week at Christmas time and three weeks in the latter part of the summer.

The number of students that can be accepted in the fall of 1915 is limited both by the positions open in the factories of Akron and by the facilities of the University; therefore, applications for admission should be filed with the Dean of
the Engineering College before July 1, 1915. Students applying after that date will be admitted if any positions remain open, or if any vacancies occur due to resignations.

While a student is at work, he is subject to all the rules and regulations imposed by his employer upon the other employees. All existing labor laws and conditions, including those pertaining to liability for accident, apply to the student the same as to any other employee.

In order to operate a co-operative course in engineering, the Engineering College must be located in or near an industrial center. There are over six hundred colleges and universities in the United States, and less than fifty of them are so located that such a course is practicable. Akron is essentially a manufacturing center, and the President and Directors of the Municipal University of Akron selected this type of engineering education as being the latest and the one best adapted to the city's needs. No other courses in engineering will be offered.

## SHOP WORK

The Dean of the College of Engineering and the employer so plan the work that the student gets a carefully graded training beginning with work requiring no skill or experience and ending with actual engineering work.
The shop work and the University work will be co-ordinated by a technically trained man, experienced in shop practice. Thruout the five years of University work he will give courses whose aim is twofold. First, they supple-
ment the shop training by explaining the different operations, the sequence of work, the technicalities of the machines, and, in short, any part of the work which the student does not understand, and which the shop foreman has not time to explain. This shows the student the vast educational opportunities open to him in his shop work and makes him more useful to his employer. Secondly, these courses cover the field of factory organization and cost accounting, routing of work for efficient production, study of the conditions leading to maximum production, and the influence of shop environment. The instruction given in all the courses is carefully planned to develop in each student the power of observation and the ability to analyze the problems arising in his work.

The shop work, properly co-ordinated with the University training, furnishes a large part of the technical detail required in engineering subjects.

## WAGES

Engineering students are paid for their work in the shops at the same rate as other employees. Beginners will be paid a little more than apprentices and will be increased according to a rate agreed upon by the employer and the Dean of the Engineering College. Specific information will be given applicants previous to the beginning of their work. Students are paid only for the time actuaily employed in the shops, and receive their wages direct, the same as any other employee.

## ADMISSION

Candidates for admission must be at least sixteen years of age, and must present fifteen units of secondary school work. Students will be admitted with entrance conditions amounting to not more than one unit. Such conditions must be removed during the freshman year.

ENTRANCE REQUIREMENTS
The following units must be presented without conditions:
English ............... 3. units
Mathematics ......... $21 / 2$ units ( $1 / 2$ unit of Solid Geometry required)

Foreign Language .... 2 units (In one language)
History ................ 1 unit
Chemistry or Physics. . 1 unit
Elective .............. $51 / 2$ units

## COURSES OF STUDY

The courses of study given in the Engineering College will be of the same grade as those required in any recognized technical institution. The student will be required to maintain good standing in both his shop and University work, and the work in both places will be so planned that he will be equipped at graduation to enter the field of practical engineering at once without further preliminary training by his employer.
(First two years.)
FRESHMAN YEAR

| First Semester | Exercises per alternate week | Second Semester | Exercises per alternate week |
| :---: | :---: | :---: | :---: |
| Mathematics 725 | and 727.6 | Mathematics 728 | 6 |
| French 717 or |  | French 718 or ? |  |
| German 713 , |  | German 714 |  |
| Chemistry 741 | . 8 | Chemistry 742 |  |
| English 701 |  | English 702 |  |
| Co-ordination 801 | . 2 | Co-ordination 802 | . 2 |
| Mechanical Draw | ing 811.. 2 | Descriptive Geom | etry 812.2 |

## Summer Term



SOPHOMORE YEAR

| First Semester $\quad \begin{gathered}\text { Exercises per } \\ \text { alternate week }\end{gathered}$ | Second Semester $\begin{gathered}\text { Exercises per } \\ \text { alternate week }\end{gathered}$ |
| :---: | :---: |
| Mathematics 731 ........ 6 | Mathematics 732 |
| French 719 or | French 720 or |
| German 715 \} | German 716 |
| Physics 781 ............ 6 | Physics 782 |
| Physics Laboratory 783.. 2 | Physics Laboratory 784.. 2 |
| English $703 . . . . . . . . . .11$ | English 704 |
| Co-ordination 803 ...... 2 | Co-ordination 804 |
| Graphic Statics $813 . . .2$ | Machine Drawing $814 . . .2$ |

## DEGREES

The degrees of Civil Engineer and Mechanical Engineer will be given to those students who satisfactorily complete the required work in those departments. In addition to his diploma, each student will receive a certificate showing his shop experience in detail.

## FIRST SEMESTER

## 1915-1916

| 7:30 | $\quad$ MONDAY German 713 or French 717 Math. 731 | $\begin{aligned} & \text { TUESDAY } \\ & \text { German } 713 \\ & \text { or } 717 \\ & \text { French. } 731 \\ & \text { Math. } 731 \end{aligned}$ | ```GermaDNESDAY or French 717 Math. 731``` |
| :---: | :---: | :---: | :---: |
| 8:25 | German 715 <br> French 719 <br> Math. 725 | $\begin{aligned} & \text { German } 715 \\ & \text { French } 719 \\ & \text { Math. } 727 \end{aligned}$ | German 715 French 719 Math. 727 |
| 9:20 | Physics 781 <br> Coordination 801 | Assembly | Physics 781 <br> Coordination 801 |
| $\frac{10: 15}{11: 10}$ | Chem. 741 <br> Coordination 803 | $\left\{\begin{array}{l} \text { Chem. } 741 \\ \text { Physics } 783 \\ \text { Laboratory } \end{array}\right.$ | Chem. 741 <br> Coordination 803 $\qquad$ |
| $\begin{gathered} 1: 00 \\ \text { to } \\ 5: 00 \end{gathered}$ | Mech. Drawing 811 | AFTERNOON <br> Eng. Conference 701-703 | Graphic Statics 813 |

## SECOND SEMESTER

## 1915-1916



FIRST SEMESTER
1915-1916

| $\mathbf{7 : 3 0} \begin{aligned} & \text { German } 713 \\ & \text { or } \\ & \text { THURSAY } \\ & \text { French 717 } \\ & \text { Math. 731 } \end{aligned}$ | $\quad$ FRIDAYGcrman 713 <br> or <br> French <br> Math. 731Mat | ```SATURDAY German 713 or French 717 Math. }73``` |
| :---: | :---: | :---: |
| 8:25German 715 <br> French 719 <br> Math. 725 | Germian 715 <br> French 719 <br> Math. 727 | German 715 French 719 <br> $\stackrel{\text { Mrench }}{ }{ }^{\text {M17 }}$ <br> ath. 72 |
| $\begin{gathered} 9: 20 \\ \begin{array}{l} \text { Chem. } 741 \\ \text { Physics } 781 \end{array} \end{gathered}$ | Assembly | Chem. 741 <br> Physics 781 |
| 10:15 $11: 1 \begin{aligned} & \text { Chem. } 741 \\ & \text { Physics 783 } \\ & \text { Laboratory }\end{aligned}$ | $\left\{\begin{array}{l}\text { Chem. } 741 \\ \text { Physics 783 } \\ \text { Laboratory }\end{array}\right.$ | $\left\{\begin{array}{l}\text { Chem. } 741 \\ \text { Physics } 783 \\ \text { Laboratory }\end{array}\right.$ |
| 1:00 Mech. Drawing 811 to | AFTERNOON <br> Graphic Statics 813 |  |

SECOND SEMESTER
1915-1916


## FEES

Resident Students:-According to the rules adopted by the Board of Directors, all students who are residents of the City of Akron or whose parents are residents of Akron, are entitled to free tuition at the University. They are, however, required to pay an incidental fee of $\$ 10.00$ per semester, covering registration, incidentals and student activity fee. If not paid within one week after registration the fee is $\$ 12.50$ per semester. Small fees to cover breakage and materials are also charged to all students in laboratory courses.

Non-resident Students:-The tuition for non-resident students is $\$ 25.00$ for the first semester, $\$ 25.00$ for the second semester and $\$ 10.00$ for the summer term, in addition to the incidental fee of $\$ 10.00$ per semester. Small fees to cover breakage and materials are charged to all students in laboratory courses. If not paid within one week after registration the tuition fee is $\$ 30.00$ for the first and second semesters and the incidental fee is $\$ 12.50$ and the tuition for the summer term is $\$ 12.50$.

## Laboratory Fees

The following laboratory fees are charged for courses in the College of Engineering. By action of the Directors these laboratory fees are collectable strictly in advance and are a necessary pre-requisite to enrollment in classes.

Chemistry 741, 742, per semester . . . . . . . . . . . . . . . . $\$ 3.00$
Deposit for breakage in all courses, per semester..... 5.00
Surveying 813 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2.00
The unused portion of the breakage deposit will be returned at the end of each semester.

## ESTIMATED EXPENSE OF FRESHMAN YEAR

First Semester


Second Semester


## Summer Term



Board and room can be obtained at from $\$ 5.00$ to $\$ 7.00$ per week. The minimum wage paid is ten cents per hour or $\$ 5.50$ per week for time worked.

DEPARTMENTS OF INSTRUCTION
The general system of numbering and arrangement is according to the following order:
English ..... 701-711
German ..... 713-716
French ..... 717-720
Economics and Political Science ..... 721-724
Mathematics ..... 725-740
Chemistry ..... 741-770
Biology and Geology ..... 771-779
Physics and Mechanics ..... 780-800
Engineering subjects ..... 801-900
ENGLISH

English Composition will be taught by the "Laboratory method." Inspection trip, laboratory, and special reports will be written under the direction of the English Department. These reports will be criticized by the Engineering Department for contents and by the English Department for language. The written work will be supplemented by conferences and lectures. This work will continue thruout the five years of the course, the object being to finally impress the student with the fact that his language, in reports, recitations, examinations, etc., is always under the criticism of the English Department. The work will receive one hour of credit per semester.

In addition to English Composition a six-hour course in English Literature will be given during one semester of the third year.
701. English Composition (Freshman Year, First Semester.)
(One Hour.)
702. English Composition (Freshman Year, Second Semester.)
(One Hour.)
703. English Composition (Sophomore Year, First Semester.)
(One Hour.)
704. English Composition (Sophomore Year, Second Semester.)
(One Hour.)
705. English Composition (Pre-Junior Year, First Semester.)
(One Hour.)
706. English Composition (Pre-Junior Year, Second Semester.)
(One Hour.)
707. English Composition (Junior Year, First Semester.) (One Hour.)
708. English Composition (Junior Year, Second Semester.)
(One Hour.)
809. English Composition (Senior Year, First Semester.) (One Hour.)
710. English Composition (Senior Year, Second Semester.)
(One Hour.)
711. English Literature (Pre-Junior Year.)
(Six Hours for one semester.)

## GERMAN

Two years of modern language are required of all engineering students. Those presenting two, three or four years of secondary school German for entrance will be required to take German 713, 714, 715 and 716.
713. (Freshman Year, First Semester.) (Six Hours.)
A review of Grammar, Prose Composition and reading of Scientific German.
\%14. (Freshman Year, Second Semester.)
(Six Hours.) A continuation of 713.
715. (Sophomore Year, First Semester.)
(Six Hours.)
The reading of German Technical Journals, Engineering Texts and Transactions of German Engineering Societies.
716. (Sophomore Year, Second Semester.)
(Six Hours.) A continuation of 715 .

## FRENCH

Engineering students who are not prepared to take German 713 are required to take French.
817. (Freshman Year, First Semester.)
(Six Hours.)
Fraser and Squair's French Grammar. Francois and Giroud's Simple French Reader. Practice in pronunciation, dictation and composition.
718. (Freshman Year, Second Semester.)
(Six Hours.) A continuation of the work of $71 \%$.
In addition to the reader begun in the first semester, the class will read Bowen's First Scientific French Reader.
719. (Sophomore Year, First Semester.)
(Six Hours.)
Reading of French Technical Books and Journals.
720. (Sophomore Year, Second Semester.)
(Six Hours.) Continuation of 719.

## MATHEMATICS

725. College Algebra.-(Freshman Year, First Semester.) (Two Hours.)
This course aims to give a general review of advanced algebra. The work includes quadratics with graphical representations, variation, inequalities, progressiors, partial fractions, logarithms, the general theory of equations and the solution of equations of a higher degree.

## 727. Plain Trigonometry.-(Freshman Year, First Semester.)

(Four Hours.)
The work includes goniometry, trigonometric equations, solution of plane triangles and construction of tables. Effort is made to acquaint the student with the means of testing the accuracy of his work and to develop habits of neat arrangement and rough checking in his computations. Numerous applications to practical problems are made.
728. Plane Analytic Geometry.-(Freshman Year, Second Semester.)*
(Six Hours.)
The work includes:-The straight-line and general equations of the first degree, polar co-ordinates, transformation of co-ordinates, conic sections and equations of the second degree, tangents, normals, loci, parametric equations, poles and polars, the general equation of the second degree, and a few higher plane curves.
729. Spherical Trigonometry.-(Freshman Year, Summer Term.)
(Three Hours.)
The work includes the development of necessary formulae for the solution of right and oblique spherical triangles, the astronomical triangle and the applications of spherical trigonometry to geodesy and navigation. The problems are mainly practical applications of the subject.
730. Solid Analytic Geometry.-(Freshman Year, Summer Term.)
(Three Hours.)
The work includes the plane and straight-line in space, and surfaces of the second order.
731. Differential Calculus.-(Sophomore Year, First Semester.)
(Six Hours.)
The work includes functions, theory of limits, differentiations, series, expansion of functions, indeterminate forms, maxima and minima of functions of one or more variables, partial derivatives, direction of curves, curvatures, tangents, normals, evolutes, involutes, order of contact and envelopes.
732. Integral Calculus.-(Sophomore Year, Second Semester.)
(Six Hours.)
The work includes integration of standard forms, constant of integration, integration of rational fractions, trigonometric forms, integration by parts, integration by substitution, summations and definite integral, application to curves and simple volumes of revolution.
733. Differential Equations.-(Sophomore Year, Summer Term.)
(Six Hours.)
The work includes the solution of ordinary differential equations of the first and second order, and numerous applications of the calculus to problems involving moment of inertia, center of gravity, pressure of fluids, force of attraction, etc.
734. Engineering Mathematics.-(Entire Year.)
(Four Hours.)
This course is given during the senior year, and gives a review of the algebra, trigonometry, analytical geometry, calculus and analytical mechanics, showing the logical connection of the several subjects and their connection with engineering problems.

## CHEMISTRY

?41. (Freshman Year, First Semester.)
(Four hours recitation, four periods laboratory.)
A study of the newer theories of Chemistry with special attention to their application to commercial problems. (Text book, McPherson \& Henderson.)
742. (Freshman Year, Second Semester.)
(Four hours recitation, four periods laboratory.) A continuation of 741 .

During the last half of the semester each student is required to make, and test before the class, at least one salt of each metal.

This course is planned to develop originality in the student rather than cover a large field. He is thrown upon his own resources as much as possible and taught how to attack a problem.

## PHYSICS

780. Elementary Mechanics.-(Freshman Year, Summer Term.)
(Six Hours.)
This is essentially a problem course involving the fundamental principies of statics and their applications to simple machines. The work includes composition and resolution of forces, parallel forces, moments, couples, general conditions of equilibrium, work, center of gravity and friction.
781. General Physics.-(Sophomore Year, First Semester.)
(Six Hours.)
The work includes dynamics, velocity, acceleration, impulse, work and energy, projectiles, mechanics of liquids and gases, the properties of matter and its internal forces, wave motion, general principles of sound and of heat.
782. General Physics Laboratory.-(Sophomore Year, First Semester.)
(Two Periods.)
Experiments involving mechanics, sound and heat.
783. General Physics.-(Sophomore Year, Second Semester.)
(Six Hours.)
The work includes light, electricity and magnetism.
784. General Physics Laboratory.-(Sophomore Year, Second Semester.)
(Two Periods.)
Experiments involving light, magnetism and electricity.
785. Strength of Materials.-(Pre-Junior Year, First Semester.)
(Six Hours.)
This work includes stress, strain, tension and compression, shearing force, torsion, bending, shearing and combined stresses, curves for shearing stresses and bending moments, the slope and deflection of beams, columns and struts, stress in members of frames, framed structures and miscellaneous problems involving an application of the general theory of the subject.
786. Analytic Mechanics.-(Pre-Junior Year, Second Semester.)
(Six Hours.)
The work includes the rectilinear motion of a particle with applications, relative motion, simple harmonic motion, the curvilinear motion of a particle, the motion of rigid bodies, the kinetics of a particle and of the mass center of a rigid body, constrained motion, the kinetics of a rigid body, work, energy and the applications to machines, impact and also the solution of numerous problems involving the principles of mechanics.

## ENGINEERING

801. Co-ordination.-(Freshman Year, First Semester.) (Two Hours.)

- Discussion of questions arising in students' work. Observation sheets, detailed reports and problems.

802. Co-ordination.-(Freshman Year, Second Semester.)
(Two Hours.)
Continuation of 801.
803. Co-ordination.-(Sophomore Year, First Semester.)

Continuation of 802 .
804. Co-ordination.-(Sophomore Year, Second Semester.) Continuation of 803.
811. Mechanical Drawing.-(Freshman Year, First Semester.)
(Two Periods.)
Standard details of structural shapes, bolts, nuts, screws, etc. Free hand lettering and sketching. Elementary descriptive geometry.
812. Descriptive Geometry.-(Freshman Year. Second Semester.)
(Two Periods.)
Projections of lines, intersections of planes, projections of solids with practical applications. Free hand lettering and sketching.
813. Graphic Statics.-(Sophomore Year, First Semester.)

A continuation of 780 with special attention to graphical solutions.
814. Machine Drawing.-(Sophomore Year, Second Semester.)
Detail drawings from measurements of machines.

# CURTIS SGHOOL OF HOME ECONOMICS 

Director, Sarah E. Stimmel, B. S.

GENERAL INFORMATION
The Curtis School of Home Economics was established as a unit of the Municipal University in 1914. It occupies the building known as Curtis Cottage, made possible by gifts from the late William Pitt Curtis of Wadsworth, Ohio, and from many citizens of Akron. Besides the necessary laboratories for work in Home Economics, the building is equipped with dining-room, kitchen, laundry, and a reception room for the women of the College.

## Admission

Candidates for unconditional admission must present at least 15 units of secondary school work. No student will be admitted with entrance conditions amounting to more than one unit. Such deficiency must be made up during the freshman year.

## Entrance Requirements

| English | 3 units |
| :---: | :---: |
| Mathematics | 21/2 units |
| Foreign Language* | 4 units |
| Physics | unit |
| Elective | 41/2 units |

*Two units at least must be of one language. Not less than a full unit in the beginning of any language will be accepted toward this requirement.

## Course of Study

The course in Home Economics requires four years of regular university work and is planned to meet the practical needs of women students. It combines a thoro training in those branches of science essential to intelligent home management with the broadest possible cultural education. Especial attention will be given to providing training for those who may wish to become teachers of the subject.

## OUTLINE OF REQUIRED STUDIES <br> First Year

| First Semester. Term hrs. | Second Semester. Term hrs. |
| :---: | :---: |
| Chemistry 351 or 353....... 4 | Chemistry 352 or 354....... 4 |
| English $51 . . . . . . . . . . . . . . . . .2$ | English 52 ................ 2 |
| Modern Language ....... 3 or 4 | Modern Language ....... 3 or 4 |
| Designing 601 .............. 1 | Designing $602 \ldots . . . . . . . . . .1$ |
| Textiles 603 ............... 2 | Textiles 604 ................ 2 |
| Public Speaking 619.......... 3 | Public Speaking 620.......... 3 |
| Physical Training ........... 1 |  |
| 16 or 17 |  |

## Second Year



Third Year

| Household Chemistry 623. | Household Chemistry 624. |
| :---: | :---: |
| Physiology 407 ......... | Physiology 408 .............. 4 |
| Hist. Western Europe 275.... 3 | Hist. Western Europe 276.... 3 |
| Bacteriology 627 ............ 2 | Bacteriology $628 . . . . . . . . . .^{2}$ |
| Art 607 .................... 2 | Sanitation 612 .............. 3 |
| Dress 609 .................. 3 |  |
| - $\overline{17}$ | 15 |

Fourth Year


Elective studies must be chosen sufficient in number to complete a total of 128 term hours.

## Degrees

For the completion of the four-year course in Home Economics (128 term hours required for graduation) the degree of Bachelor of Science in Home Economics will be conferred. By means of a five-year combination course degrees may be gained from both the College of Liberal Arts and the School of Home Economics.

## Fees

The regular incidental and student activity fee of $\$ 10.00$ per semester will be charged to all students. The tuition in this school is free to all residents of Akron. The tuition for non-residents of Akron is $\$ 40.00$ per semester. A graduation fee of five dollars is charged all graduates.

## Laboratory Fees

Chemistry 351, 352, 353, 354, per semester........... $\$ 3.00$
Chemistry, all other courses, per semester. .......... 4.00
Chemistry, deposit for breakage in all chemistry courses 5.00
The unused portion of this breakage deposit will be returned at the end of the semester.

| Zoology 401 | . 5 |
| :---: | :---: |
| Botany 414 | 2.50 |
| Physiology 407, 408, per semester | 3.50 |
| Bacteriology, 627, 628, per semester | 4.00 |
| Bacteriology, deposit for breakage | 5.00 |
| Foods, per semester | 7.50 |
| Dietetics, per semester | 7.50 |
| NOTE:-Students provide their ollowing courses: Designing, Text ng and House Planning, Art, Dress, | in the Draw- |

## SUBJECTS OF INSTRUCTION

All courses numbered over 600 are offered primarily only for students in the school of Home Economics and may be elected by students in the college of Liberal Arts only under the restrictions imposed by that College. For description of courses mentioned only by number, see pages 54-95.

## ENGLISH

Courses: 51, 52, 65, 66.

## PUBLIC SPEAKING

## MISS McEBRIGHT.

619. Elementary Course.-(First Semester.)

Tu., Th., S., $8: 25$. (Three term hours.)
Fundamental principles. Voice technique, tone placing, tone building, enunciation, literary analysis, gesture, evolution of expression-vocal and physical.
620. (Second Semester.) Continuation of 619.

Literary analysis, gesture, evolution of expression, development of imagination and sympathetic insight into literature.

## GERMAN

Students who have had no German will enter 101; those with one year of German are advised to do the same. Students with two years of German will enter 103-with three or four years, 131 . Courses: 101, 102, 103, 104, 105, 106, 131, 132.

## FRENCH

Courses: 151, 152, 153, 154.
ECONOMICS AND SOCIOLOGY
Courses: 251, 252.

## HISTORY

Courses: 275, 276.

## CHEMISTRY

Courses: 351, 352, 353, 354.
621. Organic Chemistry.-(First Half-Year.)

Five hours per week. Tu. and Th., $11: 10$; Tu., $3: 00-$ $5: 00$. (Three term hours.)

The course is designed to give a thoro knowledge of the principal classes of organic compounds and their most important derivatives. The laboratory practice consists of the preparation of typical compounds.

Prerequisite-One year of general chemistry.
622. Organic Chemistry.-(Second Half-Year.)

Continuation of 621 .
623. Household Chemistry.-(First Semester.)

Six hours per week. Th., $8: 25$; Tu., $1: 00-3: 00$; Th., $3: 00-5: 00$. (Three term hours.)
This course includes the chemistry of foods and testing for adulterations; also the chemistry of cooking and cleaning. This course is open to students who have completed Course 622.
624. Houschold Chemistry.-(Second Semester.)

Continuation of 623.

> BIOLOGY

Courses: 401, 414, 407, 408.

## BACTERIOLOGY

ASSISTANT-PROFESSOR HARDGROVE.
527. Bacteriology.-(First Semester.)

Tu., $10: 15-12: 00 ;$ W., 1:00-4:00. (Two term hours.)
An elementary course in Bacteriology consisting of lecture and laboratory work, designed particularly for third year Home Economics students. Others will be admitted only on permission of instructor.
(In case of lecture Tuesday, period will be $10: 15$ to 11:10.)
628. Bacteriology.-(Second Semester.)

Continuation of 627 .
MECHANICAL DRAWING
MR. BOENISCH.
625. Mechanical Drazing.-(First Semester.)
M., W., 3:00-5:00. (Two term hours.)
626. House Planning.--(Second Semester.)
M., W., $3: 00-5: 00$. (Two term hours.)

## DESIGNING AND ART

MR. BOENISCH.
601. Designing.-(First Semester.)

Th., 1:00-3:00. (One term hour.)
To develop a taste for harmony in color, line and space. Work done in pencil, pen, charcoal and water color.
602. Designing.-(Second Semester.)

Continuation of 601.
607. Art.-(First Semester.)

Tu., $3: 00-5: 00 ;$ F., $1: 00-3: 00$. (Two term hours.)
Prerequisite, Designing. A continuation of Designing with advanced problems in color and line.

## HOME ECONOMICS

## MISS STIMMEL.

603. Textiles.-(First Semester.)

Lecture, M., 7:30 ; laboratory, Th., 3:00-5:00. (Two term hours.)
Concurrent Designing. A study of fibres and fabrics. Laboratory work includes the proper selection of materials, the making of suitable designs and the making of wearing apparel.
604. Textiles.-(Second Semester.)

Continuation of 603.
605. Foods.-(First Semester.)

Lecture hours, Tu., Th., $10: 15$; Laboratory, W., F., 1:00-3:00. (Four term hours.)
Prerequisite, Chemistry $351-2$ or $353-4$. The selection and preparation of foods. Their ordinary occurrence; their nutritive values and their comparative costs. The laboratory work, the basis for certain methods of food preparation, is correlated with the lecture work.
606. Foods.-(Second Semester.)

Continuation of 605 .
609. Dress.-(First Semester.)
M., Th., $1: 00-3: 00 ;$ W., $10: 15$. (Three term hours.)

Prerequisite, Textiles 603-4; concurrent, Art 607. The making of a simple unlined dress. Modification of pattern; selection and combination of suitable materials.
612. Sanitation.-(Second Semester.)
M., W., F., $11: 10$. (Three term hours.)

Prerequisite or concurrent, Bacteriology. Principles underlying the situation, construction, sanitation, ventilation, heating and plumbing of the house. First aid to the injured and home nursing. Personal hygiene.

## 613.* Dietetics.-(First Semester.)

(Five term hours.)
Prerequisites, Food 605-6, Physiology 407-8, Household Chemistry 623-4. A study of the chemical, physical and physiological value of the nutrients. Dietary standards, infant and invalid cookery.
615.* The House.-(First Semester.)
(Three term hours.)
Prerequisite, Art 607, Economics 251, Home Economics 605-6, Home Economics 603-4. The care and management of the home in relation to its purpose and its arrangement and decoration from a practical and attractive standpoint.
616.* The House.-(Second Semester.)

A continuation of 615 .
618.* Seminar.-(Second Semester.)

Open only to seniors.
*Courses starred will not be given 1915-1916.

## PHYSICAL TRAINING

The regular work in physical training for women will begin after Christmas and will continue for three months. Freshman students in Home Economics are also required to attend a course of lectures on hygiene given by Dr. Gregory. One term hour credit will be given for the completion of both of the above courses.

SCHEDULE FOR FIRST SEMESTER
1915-1916
monday

7:30 | French |
| :---: |
| Textiles |
| 603 |

Fresh. Rhet

French 153

| 8:25 | German 103a <br> Hist. West. Europe 275 | Invert. Zool. 401 <br> Public Speaking 619 | G(rman 103a <br> Hist. West. Europe 275 |
| :---: | :---: | :---: | :---: |
| 9:20 | German 101a | Assembly | German 101a |
|  | Goethe 107 |  | Goethe 107 |
|  | French 151a |  | French 151a |
|  | Economics 251 |  | Economics 251 |
|  | Chem. ${ }^{\text {Physiol. }}$ 351a 407 |  | Chem. 351a |
|  | English 65 German 131 French 151b |  |  |
| 10:15 |  | Fresh. Rhet. 51b | English 65 |
|  |  | Chem. 353 | German 131 |
|  |  | Foods 605 | French 151b |
|  |  | Bacteriology 627 | Dress 609 |


| Fresh. Rhet. 51c <br> German 101b <br> German 103b | Chem. 351b <br> Org. Chem. 621 <br> Bacteriology 627 | German 101b <br> German 103b |
| :--- | :--- | :--- |

## afternoon

| $\begin{aligned} & 1: 00 \\ & \text { to Fresh. Chem. 351a } \\ & \text { 3:00 Dress } 609 \end{aligned}$ | Fresh. Chem. 353 <br> Invert. Zool. 401 Chemistry 623 | Fresh. Chem. 353 <br> Foods 605 <br> Bacteriology 627 |
| :---: | :---: | :---: |
| 3:00 Fresh. Chem. 351b to 5:00 Mech. Draw. 625 | Art 607 Chemistry 621 | Mech. Draw. 625 <br> Bacteriology 627 (till 4 o'clock) |

## SCHEDULE FOR FIRST SEMESTER

## 1915-1916

## THURSDAY

| 7:30 | Fresh. Rhet. 51a German 105 | French 153 |  |
| :---: | :---: | :---: | :---: |
| 8:25 | Invert. Zool. 401 <br> Public Speaking 619 Chemistry 623 | German 103a <br> Hist. West. Europe 275 | Public Speaking 619 |
| 9:20 | German 101a <br> Goethe 107 <br> French 151a <br> Economics 251 <br> Physiol. 407 | Assembly | German 101a <br> French 151a |
| 10:15 | Fresh. Rhet. 51b <br> Chem. 353 <br> Foods 605 | English 65 German 131 French 151b | French 151b |
| 11:10 | Chem. 351b Org. Chem. 621 | Fresh. Rhet. 51c <br> German 101b <br> German 103b <br> Invert. Zool. 401 | German 101b |
| $\begin{aligned} & 1: 00 \\ & \text { to } \\ & 3: 00 \end{aligned}$ | Invert. Zool. 401 <br> Designing 601 <br> Dress 609 | AFTERNOON <br> Fresh. Chem. 351a Foods 605 Art 607 |  |
| $\begin{gathered} 3: 00 \\ \text { to } \\ 5: 00 \end{gathered}$ | Textiles 603 Chemistry 623 | Fresh. Chem. 351b |  |

## SCHEDULE FOR SECOND SEMESTER

|  |  | 1915-1916 |  |
| :---: | :---: | :---: | :---: |
| 7:30 | MONDAY | TUESDAY | WEDNESDAY |
|  | French 154 | Fresh. Rhet. 52a German 106 |  |
|  | Textiles 604 |  | French 154 |
| 8:25 | German 104a <br> Hist. West. Europe 276 | Botany 414 <br> Pub. Sp. 620 | German 104a <br> Hist. West. Europe 276 |
| 9:20 | German 102a <br> Goethe 108 <br> French 152a <br> Sociology 252 <br> Chem. 352 a <br> Physiology 408 | Assembly | German 102a <br> Goethe 108 <br> French 152a <br> Sociology 252 <br> Chem. 352a <br> Physiology 408 |
|  | English 66 | Fresh. Rhet. 52b Chem, 354 | English 66 |
| 10:15 | German 132 |  | German 132 <br> French 152b |
|  | French 152b | Foods 606 <br> Bacteriology 628 |  |
| 11:10 | Fresh. Rhet. 62c German 102b German 104b | Chem. 352b | $\begin{array}{ll} \text { German } & \text { 102b } \\ \text { German } & 104 b \end{array}$ |
|  | Sanitation 612 | Org. Chem. 622 <br> Bacteriology 628 | Sanitation 612 |

AFTERNOON

| $\begin{aligned} & 1: 00 \text { Fresh. Chem. 352a } \\ & \text { to } \\ & 3: 00 \end{aligned}$ | Fresh. Chem. $\mathbf{5 5 4}$ Botany 414 Chemistry 624 | Fresh. Chem. 354 <br> Foods 606 <br> Bacteriology 628 |
| :---: | :---: | :---: |
| $\begin{aligned} & \text { 3:00 Fresh. Chem. }{ }^{352 b} \\ & \text { to House Planning } 626 \\ & 5: 00 \end{aligned}$ | Chemistry 622 | House Planning 626 Bacteriology 028 (till 4 o' clock) |

SCHEDULE FOR SECOND SEMESTER
1915-1916
THURSDAY
friday
saturday

| 7:30 Fresh. Rhet. 52a | French 154 |
| :---: | :---: |
| $\text { 8:25 } \begin{aligned} & \text { Botany } 414 \\ & \begin{array}{l} \text { Pub. Sp. } 620 \\ \text { Chemistry } 624 \end{array} \end{aligned}$ | German 104a <br> Hist. West. Europe. 276 Pub. Sp. 620 |
| German 102a Goethe 108 <br> 9:20 French 152a Sociology 252 Physiology 408 | Assembly $\quad$German 102a <br> French 152a |
| Fresh. Rhet. 52b <br> 10:15 <br> Chem. 354 <br> Foods 606 | English 66 <br> German 132 <br> French 152b French 152b |
| Chem. 352b $\text { 11:10 Org. Chem. } 622$ | Fresh. Rhet. 52c German 102b German 104b Inv. Zool. 402 Sanitation 612 |
| $\begin{array}{ll} \text { 100 } & \\ \text { t:0 } & \text { Botany } 414 \\ \text { 3:00 } & \text { Designing } 602 \end{array}$ | AFTERNOON <br> Fresh. Chem. 352a <br> Foods 606 |
| $\begin{aligned} & 3: 00 \\ & \text { to Textiles } 904 \\ & 5: 00 \text { Chemistry } 624 \end{aligned}$ | Fresh. Chem. 352b |

## COMBINATION COURSES

## I. AT THE UNIVERSITY OF AKRON

A combination may be made between the Arts and Home Economics Courses by which degrees may be obtained from both schools in a minimum period of five years. This may best be accomplished by spending four years in the Curtis School of Home Economics and an additional year in the College of Liberal Arts. If such combination course be desired the elective work in the fourth year must be shaped toward the fulfillment of the major and minor requirements in the College of Liberal Arts.

An arrangement is also possible by which the student may spend three years in the College of Liberal Arts and two years in the Curtis School of Home Economics, receiving both degrees. Those planning this combination should consult the Classification Committee at the beginning of the sophomore year in order that the subjects to be taken may be definitely determined, according to the major subject chosen.
2. WITH THE OHIO STATE UNIVERSITY

By special arrangement concluded with the Ohio State University on January 27, 1914, The University of Akron is enabled to offer combination courses in its own College of Liberal Arts with certain professional schools of the State University. By means of such a course, the student is enabled to shorten by one year the six to eight year period otherwise necessary for the acquirement of both college and professional degrees and training. Generally speaking, the plan contemplates an attendance of
three years at the University of Akron with an additional two or three years (depending on the subject chosen) at the State University. During the fourth year of his course (i. e., the first year at the State University) the student is counted as a senior in absentia by the University of Akron and at the end of this year returns to receive his Bachelor's degree with his class.
The following combinations have been arranged:

## THE ARTS-LAW COMBINATION COURSE

This course comprises a total of six years, three years at the Municipal University of Akron and three years at the Law School of the Ohio State University. At the end of four years the degree of Bachelor of Arts or Bachelor of Philosophy is conferred by the University of Akron for the satisfactory completion of 128 term hours of work. At the end of six years the student may become a candidate for the degree of Bachelor of Laws at the Ohio State University.

## Requirements in Buchtel College of Liberal Arts

1. No student is eligible for the Combined Arts-Law Course who has not been a resident student at the University of Akron for at least three years and who has not gained at least 96 term hours credit in Buchtel College. In order to receive the Bachelor's Degree from the University of Akron at the end of the fourth year, the student must complete 101 term hours of work in Buchtel College before entering the Ohio State University.
2. No student shall be eligible for a degree from Buchtel College of the University of Akron in the com-
bined Arts-Law Course who has not received sufficient credit at the State University to complete a total of 128 term hours of work.
3. A major must be chosen in Buchtel College of Liberal Arts in a course leading to the degree of Bachelor of Arts or Bachelor of Philosophy.
4. All of the major and minor requirements in the course chosen must be completed at the University of Akron.
5. The Faculty of Buchtel College reserve the right to refuse to recommend for the combined course any candidate who has, in their opinion, not maintained a standard of good scholarship.

THE ARTS-AGRICULTURE COMBINATION

> COURSE

Total time required, five years, three of which are to be spent at the University of Akron and two at the Ohio State University. At the end of four years' time, the degree of Bachelor of Science will be conferred by the University of Akron and at the end of five years the degree of Bachelor of Science in Agriculture by the Ohio State University.

## General Requirements in Buchtel College of Liberal Arts

1. No student is eligible for the Combined Arts-Agriculture Course who has not been a resident student at the University of Akron for at least three years and who has not gained at least 96 term hours credit in Buchtel College.
2. No student shall be eligible for a degree from Buchtel College of the University of Akron in the combined Arts-Agriculture course who has not received sufficient credit at the Ohio State University to complete a total of 128 term hours of work.
3. The Faculty of Buchtel College reserve the right to refuse to recommend for the combined course any candidate who has, in their opinion, not maintained a standard of good scholarship.

## Combination Arts-Agriculture Course

Three years at the University of Akron
First Year

| First Semeste |  | Second Semester |  |
| :---: | :---: | :---: | :---: |
| English $51 . . . . . . . . .$. | .. 2 | English $52 . . . .$. | ...... 2 |
| Mod. Lang. ....... | . 3 or 4 | Mod. Lang. | . . 3 or 4 |
| Chem. 351 or 353 | 4 | Chem. 352 or 354 | 4 |
| Mech. Draw. 331. | 4 | Desc. Geom. 332 | 4 |
| Mathematics 301 | 4 | Mathematics 302 | 4 |
|  | 17 or 18 |  | 17 or 18 |
|  | Secon | Year |  |


| First Semester | Second Semester |
| :---: | :---: |
| English $53 \ldots \ldots . . . . . . . . . .2$ | English 54 ................. 2 |
| Invert. Zool. $401 . . . . . . . . . . . .4$ | Botany 414 ................. 4 |
| Mod. Lang. .......... 3 or 4 | Mod. Lang. .......... 3 or 4 |
| History 275 or 277 .......... 3 | History 276 or 278 .......... 3 |
| Chem. 365 ................. 3 | Chem. 366 .................. 3 |
|  |  |

Third Year

## First Semester


In addition enough elective work to complete at least 96 hours.

Two years at the Ohio State University
Fourth Year
Animal Husbandry . . . . . . . . . 4
Agricultural Chemistry ...... 4
Rural Economics ............. 4
Agronomy ...................... 4
Choice of any two of these the fourth year. The remaining two the fifth year.
In addition to the two selected, at least ten hours to be elected with approval of the Adviser.

## Fifth Year

Two subjects of four required in senior year- 8 hours.
Ten hours a week thruout the year, from any of the courses related to the previous year's work in the College of Agriculture.
3. WITH WESTERN RESERVE MEDICAL SCHOOL

THE ARTS-MEDICINE COMBINATION COURSE
By arrangement concluded on February 2, 1914, a combination course has been established between the University of Akron and Western Reserve Medical School.

The completion of this course requires seven years, the first three of which are to be spent at the University of Akron and the last four at Western Reserve University. At the end of four years, the degree of Bachelor of Science will be conferred by the University of Akron and at the end of seven years, the degree of Doctor of Medicine will be given by Western Reserve University.

## General Requirements in Buchtel College of Liberal Arts

1. No student is eligible for the Combined Arts-Medicine Course who has not been a resident student at the

University of Akron for at least three years and who has not gained at least 96 term hours credit in Buchtel College.
2. No student shall be eligible for a degree from Buchtel College of Liberal Arts in the combined Arts-Medicine Course who has not received sufficient credit at the Western Reserve University to complete a total of 128 term hours of work.
3. The Faculty of Buchtel College reserve the right to refuse to recommend for the combined course any candidate who has, in their opinion, not maintained a standard of good scholarship.

Subject Requirements in Buchtel College of Liberal Arts

1. A major must be chosen in Buchtel College leading to the degree of Bachelor of Science.
2. All of the major and minor requirements in the course chosen must be completed at the University of Akron.
(The following are requirements of subjects to be taken at Buchtel necessary for entrance to the Medical School.)
(A) Chemistry: The equivalent of at least one year of collegiate work of a value of not less than 8 term hours, of which at least 4 term hours shall be laboratory work, and the total instruction shall be not less than 192 hours.
(B) Physics: The equivalent of at least one year of collegiate work of a value of not less than 8 term hours, of which at least 4 term hours shall be laboratory, and the total instruction shall be not less than 192 hours.
(If one year of high school physics has been presented for college entrance, then one-half of the above college physics will fulfill the requirements.)
(C) Biology; Zoology and Botany: The equivalent of at least one year of collegiate work of a value of not less than 8 term hours, of which at least 2 (or 4 ) shali be laboratory work, and the total instruction shall be not less than 192 hours.
(D) German or French: A total of not less than 9 term hours, all in one of these subjects. One unit of high school work may be counted as 3 term hours of this requirement, but at least 6 term hours shall be collegiate work.

All of the requirements indicated above may be fulfilied in a space of three years. The following plan is suggested: First Year: Regular Freshman Scientific Course.
Second Year: Zoology and Botany, 8 hours, Physics with Lab., 12 hours, German or French sufficient to make with freshman work a total of at least 9 term hours.
(This completes the requirements made by the Medical School. The remainder of time should be given to the completion of the major and ninor requirements of Buchtel College.)

## 4. COMBINATION COURSES WITH OTHER SCHOOLS

With Medical Schools
The University of Akron will enter into combination courses with any of the Medical Schools in the A Plus class, as fixed by the standards of the American Medical Association. These schools are: Leland Stanford, University of California, Yale, Northwestern University, Rush, Indiana University, University of Iowa, Tulane, Johns Hopkins,*
*Johns Hopkins requires a college degree for entrance.

Harvard, University of Michigan, University of Minnesota, Washington University, University of Nebraska, Columbia, Cornell, University and Bellevue Hospital Medical College of New York, Syracuse University, University of Cincinnati, Ohio State University, Reserve, Jefferson Medical College, University of Pennsylvania, University of Pittsburgh, Vanderbilt University, University of Texas, University of Virginia.

## With Other Professional and with Technical Schools

The University of Akron is willing to give the opportunity for combination courses with any graduate or professional school of the first class. In making such combinations, the University of Akron will insist on the fulfillment of the general requirements of three years' residence at Akron, the completion of 96 term hours there and of a total of 128 term hours for graduation-also of the completion of all required majors and minors.

While the University of Akron maintains a College of Engineering with five year courses on the co-operative plan (Cincinnati plan), yet the College of Liberal Arts will gladly offer opportunity to students who desire to enter upon a combination course with regular four year technical schools. Such a course usually requires five years' time, three years at the University of Akron and two years at the technical school. In these combination courses, however, the degree of the University of Akron is not given until the end of the fifth year.

Students are warned against haphazard work in Buchtel College of Liberal Arts with the vague idea that a course chosen at random can be combined with any professional school to which their inclination may later direct them. The choice of school with which the com-
bination is desired should never be delayed beyond the close of the freshman year. The committee on Classification is at all times ready to be of assistance to students in making combinations with reputable professional and technical schools.

## CIVIC CO-OPERATION

The work in Civic Co-operation has been undertaken for the purpose of bringing the University in all its departments into close touch with the activities of the city of Akron. The Directors of the University feel that an institution of higher learning, supported in large part by municipal taxation, should give freely to the city all possible practical aid by means of its instructors and equipment. This help is meant to supplement and guide the work of such city departments (or even private enterprises) as may find expert or technical advice of value in conducting their activities.

While the work of Civic Co-operation is not primarily organized for the purpose of teaching, yet one of its main objects will be to bring students into contact with the work of the city and to train them along various lines of practical usefulness to the community. Whenever possible, the actual problems of civic life and administration will be substituted in the various courses for purely theoretical work, since the University considers this training as one of the most important branches of its activity.

DIVISIONS OF CO-OPERATIVE WORK
The work properly falls under two heads.
I. Special organizations or Bureaus.
II. Co-operative work by various departments of the University.
I. SPECIAL ORGANIZATIONS

## The Bureau of City Tests

A. E. hardgrove, b. s., Director.

In accordance with a proposal made by the Directors of the University and accepted by the Akron City Council, the University has assumed entire charge of the testing work of the city. This work covers chemical and physical tests for various city departments and bacteriological tests for the Board of Health and the Water Department.

The Bureau is located in the Knight Chemical Laboratory and will co-operate with the Department of Chemistry in bringing students in advanced courses in chemistry into touch with city work by giving them the actual problems of the city for solution as a part of their regular class work. The Bureau will also offer a course in bacteriology in the School of Home Economics.

## THE BUREAU OF INDUSTRIAL RESEARCH

CHARLES KNIGIIT, A. M., SC. D., DIRECTOR.

> K. DOLBEER SMITH, B. S.

This Bureau, which has been in operation for less than one year, has been engaged in work along both chemical and plysical lines. The scope of its activities includes the solution of problems of general civic interest and those submitted by manufacturers and private individuals. To these a small charge is made, covering time and materials.

Beside working out problems of several small manufacturing concerns and private individuals, the Bureau has taken up work of general interest to the laundries of the city. It is the plan of the Bureau to take up the problems. of the other various industries which are represented in the city and vicinity.

It is believed that co-operation along these lines will be of benefit not only to the city at large, but also to individuals and small manufacturers whose business does not warrant the establishment of a private laboratory.

## II. CO-OPERATIVE WORK BY DEPARTMENTS <br> of THE UNIVERSITY

Under the joint direction of the Head of the Department of Economics and Political Science and the Director of City Charities, work has been carried out by University students in investigating housing conditions in Akron's congested districts. Such work is counted as laboratory practice in certain courses offered by the above department. The results are tabulated by the card system and submitted to the Board of Health, which has requested that a complete survey of the city be made in this manner. The Board of Health has found the information thus gained to be of practical value in directing the work of its inspectors and of the Building Inspection Department and has added to the value of student workers by conferring on them the legal powers of sanitary inspectors.

During the present year practical co-operative work is being carried on by students under the direction of the University in Boys' Club work and the teaching of foreigners. Certain research problems are also being undertaken for the United States Department of Labor.

At the request of the Akron City Council the College of Engineering has undertaken an examination of the city paving system and has issued a report on the subject (Akron Pavements, 74 pp. Fred E. Ayer, Dean of the College of Engineering.) The work embraces reports on the present condition, cost and durability of the pavements of the City of Akron; the advisability of adopting the di-
rect method of pavement construction; the cost and adaptability to various classes of traffic of the different pavement types now in general use.

The College of Engineering is also carrying on its cooperative system of training engineers in many of the factories of the city.

Various departments of the University have established courses of particular interest to citizens or have opened to the general public work of this nature already offered. Among others are courses in Sociological Problens with field work, Current Events, Municipal Hygiene and Sanitation, and work in Home Economics.

Several members of the Faculty have co-operated as individuals with city interests, as for example in supervising the playground work of the city, serving on joint committee with Council members in probing food prices, directing amateur athletics, heading Community Christmas movement, taking charge of yard inspection in city fly campaign, and addressing various civic organizations. Students have been encouraged to interest themselves in similar activities and a number have undertaken the work of playground supervisor, pavement inspector, director of boys' clubs in grade schools, teacher of foreigners, assistant in work of Bureau of City Tests, etc.

## REGISTER OF STUDENTS

## BUCHTEL COLLEGE

## 1914-1915

Students whose names are starred are not in full class standing.


## SENIORS IN ABSENTIA

Conger, Sidney-Combined Arts-Medical course with Cornell University.

Thomas, Joseph-Combined Arts-Law course with Ohio State University.
Tomlinson, Sprague-Combined Arts-Engineering course with University of Pennsylvania.

Seniors in Absentia-3

JUNIOR CLASS



SOPHOMORE CLASS

| Azar, Ro | Akron |
| :---: | :---: |
| Barnes, Winifred Ros | Tallmadge |
| *Bauman, Cleon | Akron |
| *Bridgewater, Ernest | Akron |
| Carlton, Clinton A | Medina |
| Darrah, David Harley | Akron |
| *Driesbach. Charles Ol | Akron |
| *Farst, Helen | Akron |
| Frederick, Ine | Copley |
| Gable, Norris Leroy | Akron |
| Geisinger Elliott | Akron |
| Hardie, Julia | Akron |
| *Hugi, William Edgar | Clarington |
| Kasch, Richard | . Akron |
| Kittleherger, Fred | Akron |
| Kneale, Sterling E | Akron |
| Knowlton, John | Akron |
| Kuntz, Harry | Akron |





SPECIAL STUDENTS
(Entrance requirements completed.)
Easton, M. Lucile Akron
Kasch, Ruth
Phelps, Arthur Lee.......................................................................................



SPECIAL STUDENTS
(Not candidates for degree.)


## CURTIS SCHOOL OF HOME ECONOMICS

> JIINIOR CLASS


SOPHOMORE CLASS

FRESHMAN CLASS
Babcock, Mabel ............................................... Akron
Cruickshank, Florence ......................................................
Duncan, Ruth ..................................................... Akron
Dunn, Elvira Inez ........................................................................................

Holcomb, Harriet ..................................................................

Leland, Florida .................................................. Akron
Lienhard, Grace ................................................ Akron
McConnell, Hazel .................................................... Akron
McVeigh, Gertrude .................................................. N. Y.
Mitchell, Martha Alice . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Akron


## SPECIAL STCDENTS

(Not candidates for degree.)


## COLLEGE OF ENGINEERING

FRESHWAN CLASS
Eail, Howard I......................................................... Mass.
Baysinger, Roy H.......................................Wadsworth
Bevington, Eldon ............................................Akron
Boecker, Theodore J................................................. Akron
Boedicker, Earl ................................................................................
Breen, Leo ..........................................................................
Cady, Emerson E............................................... Akron
Camp, Ferdinand Viest...............................................erton
Converse, Lucius ..................................................................
Cranz, Luman P..............................................................
Grafton, John ...............................................................................
Gulick, Earl ................................................................
Hilliard, Frank C..........................................Wadsworth
Hoskin, Minard ................................................. Akron


Kennedy, John ........................................................................



- Mitchell, Ernest ....................................................................
Moore, Harold .....................................................................
Lichter, Jacob ................................................... Akron
- Purdy, Harold .................................................... Akron



> SPECIAL STUDENTS
(Not candidates for degree.)


## SUMMARY

Buchiel College

|  | Men | Women | Total |
| :---: | :---: | :---: | :---: |
| Senior Class | 11 | 7 | 18 |
| Junior Class | 25 | 15 | 40 |
| Sophomore Class | 28 | 11 | 39 |
| Freshman Class | 36 | 25 | 81 |
| Specials (entrance requirements completed) | 2 | 3 | 5 |
| Specials (not candidates for degree). | 3 | 2 | 5 |

Total Men
125
Total Women ................................................... 63
Total Students in Buchtel College ................................ 188

Curis School of Home Economics
Juniors .......................................................................... 1

Freshmen (not candidates for degree)......................................................................
Total Students in Curtis School.................................... $\quad 31$

College of Engineering
Freshmen ........................................................................... $2 s$

Total in Collcge of Engncering..................................... 30

## Summary of Students in University

|  | Men | Women | Total |
| :---: | :---: | :---: | :---: |
| Total Seniors | 10 | 7 | 17 |
| Total Juniors | 26 | 16 | 42 |
| Total Sophomores | 28 | 15 | 43 |
| Total Freshmen | 84 | 47 | 131 |
| Specials | 2 | 3 |  |
| Specials (not candidates for degree) | 5 | 6 | 11 |

 Total Students ........................................................ 249

Summary of Geographical Distribution of Students

| Akron $\cdot$ - | 191 |
| :---: | :---: |
| Summit County outside of Akron. | 17 |
| Ohio outside of Summit County. | 34 |
| Other States | 5 |
| Foreign Countries | 2 |

## DEGREES CONFERRED

CLASS OF 1914
Bachelor of Arts

| Nelia Curtice Lily May Theiss |  |
| :---: | :---: |
|  |  |
| (lur Bachelor of Philosophy |  |
| Glenn Alexander | n |
| Juliette Irene Allen | Akron |
| Rutif Belden Harter | kron |
| Dene Marie Herriff | Kent |
| Ellen Douglas Jarvis .................................... Akron |  |
|  |  |
| Charles M. Kraus ........................................ ${ }^{\text {a }}$ Akron |  |
| Eva Irene Miller | Akron |
|  |  |
| Velma Pauline Staurfer ........................ Sharon Center |  |
|  |  |
| Helen I. Westley ....................................................... Bache Pa. |  |
|  |  |
| LeRoy T. Barnette . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Akron |  |
| Rilla M. Bruederlein ...................................... Akron |  |
| Earle Warren Caswell ........................ Perry N. Y. |  |
|  |  |
| Aldert Edward Sidnell ........................ Cuyahoga Falls |  |
| Lyman V. Weber ........................................ Hudson |  |
|  |  |

## PUBLIC ADDRESSES

The following delivered talks or addresses under the auspices of the University during the year 1914:

Charles J. Woodbury, friend of Emerson, two talks on Emerson's life and the Concord group; Hon. Louis F. Post, Assistant Secretary of Labor-"Diadems and Fagots" (Commencement Address) ; Edmund Vance Cooke-selected readings from his own works (before the Alumni Association); H. T. Waller, General Secretary, Akron Y. M. C. A.-"Education of Foreigners;" Father R. A. Dowed-""The Unofficial Duties of a Good Citizen;" W. S. Bixby, City Director of Charities-"The Work of the Charity Organization;"A. B. Jones-"The Honor System at Princeton;" Fred A. Harpham-"The Akron Chamber of Commerce."

## PRIZES AND HONORS

The Alumni Board of Trustees appropriate annually $\$ 100.00$ from the Alumni Prize Fund for an Alumni speaker, under the auspices of the Alumni Association; also a cash prize of $\$ 50.00$ to be awarded to that member of the graduating class who attains the highest average standing during the four year course. The prize for 1914 was awarded to Miss Lily Theiss.

THE OLIVER C. ASHTON PRIZES
Awarded for excellence in declamation.
1913-1914
In the Junior Class: First prize to Pauline Weaver; second prize to Leora Dowell.

1914-1915
In the Senior Class: First prize to Eleanor Bowman; second prize to Catherine Blanchard.
Sophomore and Junior contests held after publication.

> PHI SIGMA ALPHA

An honorary society for the purpose of encouraging high scholarship. Three students are chosen for membership from each senior class.

## 1914

Lily Theiss, Helen Westley, F. Glenn Alexander.

## BUCHTEL COLLEGE ALUMNI ASSOCIATION

Organised July, 1874
Incorporated October 19, 1899
OFFICERS FOR 19If-1915

| President, E. B. Foltz, '96 | ron |
| :---: | :---: |
| Vice Presidents, Arthur Warner, 03 | Akron |
| K. Dolbeer Smith, '1 | , N. Y. |
| Secretary, Mrs. H. E. Simmons, '06. | Akron |
| Treasurer, Hazel L. Cole, |  |

ALUMNI BOARD OF TRUSTEES
Officers

| E. B. Foltz, '96 | dent ex-officio |
| :---: | :---: |
| Mrs. H. E. Simmons, '06. | Secretary ex-officio |
| Hazel L. Cole, '09 | Treasurer ex-officio |

Term Expiring June, 1915

| Parke R. Kolbe, '01 | on |
| :---: | :---: |
| Frank Goehring, 08. | kron |
| Clara F. Brouse, '06 | Akron |
| Matde Herndon, '01. | Akron |

Term Expiring June, 1916





Tern Expiring June, 1917

Howard Rohan, ' $10 \ldots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .$. Barberton
Arden Hardgrove, '11....................................................................
Ethel Davies, '12............................................................
Annual meeting of the Association, June 16, 1915, $2: 00$ P. M.
Stated meetings of the Alumni Board of Trustees: the Thursday evening of the week following Commencement week, the third Thursday evening of November, February and May.

## SUMMARY OF ALUMNI

## NUMBER OF GRADUATES

| Men | 256 |
| :---: | :---: |
| Women | 229 |



Geographical Distribution

| Deceased | 43 |
| :---: | :---: |
| Unknown | 4 |
| In California | 13 |
| In Colorado | 4 |
| In Connecticut | 1 |
| In Florida | 1 |
| In Idaho | 3 |
| In Illinois | 8 |
| In Indiana | 13 |
| In Iowa' | 3 |
| In Massachusetts | 10 |
| In Michigan | 12 |
| In Minnesota |  |
| In Mississippi | 1 |
| In Missouri | 3 |
| In Montana | 1 |
| In Nebraska | 2 |
| In N. Carolina | 1 |
| In N. Dakota | 1 |
| In New Jersey |  |
| In New Mexico |  |
| In New York | 24 |
| In Ohio | 299 |
| In Oregon |  |
| In Pennsylvania | 18 |
| In Tennessee | 1 |
| In Texas | 1 |
| In Utah | 1 |
| In Vermont | 3 |
| In Washington | 2 |
| In Wisconsin | 1 |
| In Wyoming | 1 |
| In Alaska | 1 |
| In Panama | 2 |
| In France | 1 |

## REGISTER

Occupations of Alumni
Actors ..... 2
Artists ..... 1
Authors
3
3
Bankers
15
Chemists
11
Clerical Work ..... 18
Commercial Work ..... 28
Contractors ..... 1
Decorators
Engineers ..... 11.
Farmers ..... 9
Forestry ..... 1
Government Employ
Government Employ
Insurance and Real Estate
40
awyers
Librarians .............. ..... 2
Manufacturers ..... 4
MerchantsMusicians
Nurses..................................................... ..... 4
18
Physicians
Promoters ..... 4
Public Service
1
R. R. Agents
8
Salesmen
10 :
Secretarial Work
Secretarial Work
8
8
Teachers and Professors
85
85
Married ..... 83
Unknown ..... 35

## FINANCIAL REPORT FOR 1914

Summary of Current Income and Expense for Jan. I-Dec. 31, I9I4.


## EXPENDITURES

| Administration : |  |  |
| :---: | :---: | :---: |
| Salary | \$6,332.50 |  |
| Expense | 4,577.53 |  |
|  |  | \$10,910.03 |
| Buildings and Grounds: |  |  |
| Salary | \$3,300.64 |  |
| Expense | 5,375.25 |  |
|  |  | \$ 8,675.89 |
| Instruction |  |  |
| Salary | \$31,156.18 |  |
| Expense | 5,662.27 |  |
| Collateral Depts.: |  |  |
|  |  |  |
| Salary Expense | \$2,980.00 $1,196.58$ |  |
|  |  | \$ 4,176.58 |
| Property Investment expense |  | 177.68 |
| Annuities .................. |  | 1,855.65 |
| Dormitory expense (first half year only) |  | 1,279.90 |
| Refunds ............................ |  | 73.48 |
| Total Expenditures ........................ Cash balance on hand for current uses |  | \$63,967.66 |
|  |  | 2,203.00 |
|  |  | \$66,170.66 |

Condensed Balance Sheet Dec. 3I, 1914.
a. General Account:

Assets :-Lands ............................... . $93,000.00$

- Building
$\begin{array}{lr}\text { Buildings } \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots & 170,233.64 \\ \text { Equipment } \ldots \ldots \ldots \ldots \ldots \ldots\end{array}$
Notes and Accounts ........... 2,634.82
Book Store Stock ................ 1.399 .86
Ins. Premiums Prepaid ............ ${ }_{\mathbf{6} 59.25}$
Cash ............................. 2,203.90
Total assets-General account.............. $\$ 304,253.46$
Liability—Net Capital ................................. 304,253.46
b. Endowment Account:

Assets-Lands representing endowment... \$4,800.00
Notes, Mortgages and Bonds... $79,691.22$
Cash and Certificate of deposit.. $\quad 4,229.99$
Total assets-Endowment account........ $\$ 88,721.21$
Liability—Endowment funds .......................... 88,721.21
c. Sundry Trusts: $\quad$ Assets:-Cash....................................

Liabilities-Student activities account........ \$144.44
Breakage deposits ................. 795.56
Prizes (Income) .................. 102.68
Total Liability ............................ 1,042.68

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