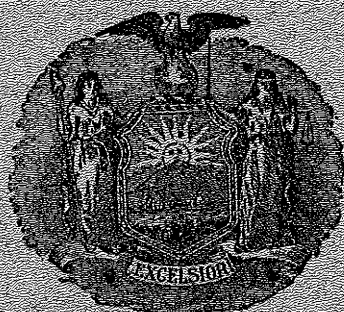


THE NEW YORK STATE SCHOOL OF CLAY WORKING AND CERAMICS



ALFRED, NEW YORK

1910-1911

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The New York State School of Clay-Working and Ceramics

Calendar

FIRST SEMESTER, 1910-1911

| | | |
|-------------------------------------|-------------------|---------------|
| | | 1910 |
| Registration, Entrance Examinations | Tuesday | Sept. 13 |
| Instruction begins | Wednesday | Sept. 14 |
| Election Day | Tuesday | Nov. 8 |
| Thanksgiving recess begins | Tuesday evening | Nov. 22 |
| THANKSGIVING RECESS | | |
| Instruction resumed | Tuesday morning | Nov. 29 |
| Holiday Recess begins | Wednesday evening | Dec. 21 |
| HOLIDAY RECESS | | |

| | | |
|---------------------------------|-------------------|---------|
| | | 1911 |
| Instruction resumed | Wednesday morning | Jan. 4 |
| Semester Examinations begin | Monday | Jan. 23 |
| Examinations end, Semester ends | Friday | Jan. 27 |

SECOND SEMESTER, 1910-1911

| | | |
|--|-------------------|----------------|
| Instruction begins | Tuesday morning | Jan. 31 |
| Washington's Birthday | Wednesday | Feb. 22 |
| Spring Recess begins | Wednesday evening | Apr. 12 |
| SPRING RECESS | | |
| Instruction resumed | Wednesday morning | Apr. 19 |
| Examinations begin | Friday | May 26 |
| Memorial Day | Tuesday | May 30 |
| Examinations end | Monday | June 5 |
| Degrees conferred at University Commencement | Thursday | June 8 |

SUMMER VACATION

FIRST SEMESTER, 1911-1912

| | | |
|-------------------------------------|-------------------|---------------|
| | | 1911 |
| Registration, Entrance Examinations | Tuesday | Sept. 19 |
| Instruction begins | Wednesday | Sept. 20 |
| Election Day | Tuesday | Nov. 7 |
| Thanksgiving recess begins | Tuesday evening | Nov. 28 |
| THANKSGIVING RECESS | | |
| Instruction resumed | Tuesday morning | Dec. 5 |
| Holiday Recess begins | Wednesday evening | Dec. 20 |
| HOLIDAY RECESS | | |

| | | |
|---------------------------------|-------------------|---------|
| | | 1912 |
| Instruction resumed | Wednesday morning | Jan. 3 |
| Semester Examinations begin | Monday | Jan. 29 |
| Examinations end, Semester ends | Friday | Feb. 2 |

SECOND SEMESTER, 1911-1912

| | | |
|--------------------|-----------------|--------|
| Instruction begins | Tuesday morning | Feb. 6 |
|--------------------|-----------------|--------|

Faculty

CHARLES F. BINNS, SC. M., Director,
Professor of Ceramic Technology.

ALPHEUS B. KENYON, SC. D., Registrar,
Professor of Mathematics.

PAUL E. TITSWORTH, PH. B.,
Professor of Modern Languages.

WAYLAND D. WILCOX, PH. B.,
Professor of English.

JAMES D. BENNEHOFF, SC. M.,
Professor of Natural Science.

LINTON B. GRANDALL, SC. B.,
Professor of Industrial Mechanics.

M. ELSIE BINNS,
Instructor in Art.

HERBERT K. CUMMINGS, SC. B.,
Instructor in Chemistry and Physics, and Assistant
to the Director.

DYER B. LAKE, SC. M.,
Instructor in Chemistry.

A. J. WHITFORD,
Janitor and Machinist.

New York State School of Clay-Working and Ceramics

In the field of applied science and commercial engineering the subject of Clay-working is becoming daily more important. To the architect and builder clay offers the most satisfactory fire-proof material, to the housewife pottery is indispensable and to the artist clay and clay-wares afford at once a facile means of expression and a prominent feature of home decoration.

The problems which confront the clay-worker are unique. He must learn to win his material economically from the earth, to shape his wares with due regard to both utility and art, to glaze or otherwise finish them in a satisfactory manner and to burn the whole successfully upon a large scale. His education must therefore be comprehensive and complete. He must, in a word, be a specialist, and to this end the New York State School was established.

Chapter 283, Laws of New York State, 1900, provided for the construction and maintenance of the school, and in order to secure the necessary facilities for collateral branches of study Alfred University was chosen as the location.

For this work the University offers great advantages. Laboratories of chemistry and physics, libraries, museums of geology and natural history, workshops for manual training, and all the departments of general culture are available, so that the many and varied requirements of a liberal education are fully met.

The State of New York contains vast deposits of clays and shales at present lying dormant. It also contains large numbers of young men and women who are seeking profitable employment. The work of the school is to bring these together. Neither the science nor the art is neglected. Attention is given to the improvement of methods of manufacture and the reduction of cost so that the resources of the state may be fully developed and that within its borders may be manufactured the clay-wares, both coarse and fine, necessary for its own consumption.

Building and Equipment

The building of the New York State School of Clay-Working and Ceramics has been especially designed for the purposes of the school, and is located on land which was deeded by Alfred University to the people of the State of New York. It is built of red brick and terra-cotta with gray trimmings and roofed with brown tile. It has a floor space of about thirteen thousand square feet, and a frontage of seventy-five feet.

In the lower story are located the heavy machinery for the manufacture of brick, tile, hollow blocks and roofing tile, the slip-making plant, cylinders for glaze preparation, and a workshop fitted with modern appliances for pottery and porcelain manufacture. There are also rooms for mold making and drying, and a damp cellar.

The motive power is supplied by a 36 horse power Otto gas engine, and a 6 horse power Fairbanks gas engine, natural gas being available.

On the principal floor are located the executive offices, rooms for director, laboratories, and a technical library.

The technical laboratories contain the following apparatus and appliances: small blungers for samples, ball mills for grinding, a Case crusher, a power blower, four gas furnaces, an air brush, an electric furnace, dy-

namo for the same, cement testing machine, gas analysis apparatus, rotating shaker, elutriation apparatus, draft meter, pyrometers, vacuum air pump, apparatus for expansion measurements, polarizing microscope, scales and balances.

The recitation room on the third floor is equipped with a stereopticon and contains numerous examples of ceramic wares, both ancient and modern.

The art department of the school is placed on the second floor. Studios are arranged, provided with the facilities necessary for the practice of mechanical drawing, free-hand drawing and applied design. Adjoining these is the modeling room where, in addition to ornamental work in clay, the production of pure form is studied.

Adjacent to the main building is the kiln house, within which are two kilns; one for firing common wares at a low temperature, the other for high temperature work.

Courses Offered

The courses of study which lead to a degree extend over a period of four years and embrace, together with the science, technology and art special to clay-working, such subjects as are the equivalent of the usual college course. Certain subjects are required, but the ceramic work is elective as to the particular branch of clay working to be followed.

The technical course is designed to qualify men to occupy positions as superintendents, scientific experts and ceramic chemists.

The course in ceramic art is intended to fit the student for the designing and producing of artistic pottery. The course covers a wide field of art and letters in the belief that a successful artist must possess a liberal education.

For the accommodation of those desiring to qualify as teachers it is permitted to elect psychology, history of education and pedagogy in place of other college subjects. An opportunity for practice teaching is afforded in the public schools of Alfred.

Students having a practical knowledge of clay working will be received for short terms, and certificates will be given according to the work done.

Benefits of the School

The demand for trained clay-workers has grown to considerable proportions during the last few years. Capital is becoming more and more interested in the development of clay lands and shale banks; nor is there any likelihood that this interest will decrease.

On the other hand the number of men who have studied in schools is very small compared with the openings to be filled. Hitherto, no student who has passed through the school successfully has remained unemployed, and the director is continually in receipt of applications for persons qualified to fill responsible positions. Every effort is made by the faculty to place the students in communication with manufacturers desiring to offer them employment.

The student successfully pursuing the technical course will be able, presuming that his personal capacity is good, to take up the practical work of manufacturing clay wares. He will have had experience with every description of clay, and with the minerals and oxides used in preparing bodies and glazes. He will have acquired a knowledge of machinery and kilns which he will find of the greatest value; in short, he will be a trained man as regards the problems of clay-working.

Students who conscientiously pursue the course in ceramic art will be able to design and make artistic

pottery, preparing their own clays and compounding their own glazes, if necessary. Those who elect normal studies will be thoroughly equipped to teach not only clay-working, but drawing and design in schools.

Physical Training

The aim of the work in physical training is to bring the whole body to its normal condition, to acquire ease and precision in movement, and to develop the health and strength of the student.

There are two gymnasiums in the university. The women have a large, well ventilated room on the third floor of the Ladies Hall, equipped with apparatus for light gymnastics. The gymnasium for men is on the lower floor of Babcock Hall. It is equipped with chest weights, dumbbells, wands, Indian clubs, horizontal and parallel bars, rings, poles, and floor mats. A dressing-room with individual lockers, a well equipped bath room with shower baths, and two handball courts are provided. The gymnasiums are in charge of the physical director. All students, unless excused by the instructor on the advice of a physician, are required to do two semester hours of work during the freshman year, under the direction of the instructor in physical training.

The university athletic field embraces over three acres of level land. All intercollegiate contests in football, baseball, and track athletics are held on this field. The field affords a running track (one-sixth of a mile). Appropriate apparatus for field sports is provided.

Outdoor sports are in the immediate charge of the athletic association, which has a football team playing under intercollegiate rules, a baseball nine, and a basketball team. The tennis club, which is provided with excellent courts, maintains an annual tournament. Athletics, however, are not carried to extremes. The committee on

athletics from the faculty, and the graduate manager, exercise general supervision, for it is the purpose of the school to give due attention to the physical welfare of its students, and at the same time keep the physical development in proper relation to intellectual and moral development.

Registration

All the students will register at the office of the University on the first day of the college year; and students entering at the beginning of the second semester will register on the first day thereof. Any student not registering on the day set therefor will be charged a fee of two dollars for late registration.

Fees per Semester

Students residents of the State of New York for one year preceding the date of their admission are entitled to free tuition.

| | | |
|--|-----------|---------|
| TUITION AND INCIDENTAL FEE (Except to residents of New York State) | | \$25 00 |
| READING ROOM FEE | - - - - - | 30 |
| EXTRAS, for use of instruments and laboratory materials: | | |
| Gymnasium fee (all Freshmen and others taking instruction) | | 1 00 |
| Surveying | - - - - - | 4 00 |
| Elementary Chemistry | - - - - - | 4 00 |
| Blowpipe Analysis and Mineralogy | - - - - - | 4 00 |
| Quantitative Analysis | - - - - - | 6 00 |
| Qualitative Analysis | - - - - - | 7 50 |
| Organic Chemistry | - - - - - | 5 00 |
| Physics, Laboratory | - - - - - | 5 00 |
| Botany or Zoology | - - - - - | 4 00 |
| Entomology | - - - - - | 2 00 |
| Physiology | - - - - - | 1 00 |
| Shop Fee | - - - - - | 4 00 |
| GRADUATION FEE | - - - - - | 5 00 |

Special students, not residents of the state, taking fewer than eight exercises per week will be charged three dollars for each semester hour.

Bills will be presented soon after the beginning of each semester and must be paid at the office of the treasurer before the third Friday of the semester.

Rooms and Board

Rooms and board for women can be had at Ladies Hall, and rooms for men at Burdick Hall, at the following rates:

| | |
|--------------------------------|--------------------|
| Rooms, furnished, per semester | \$10 00 to \$24 00 |
| Board, per week | 3 50 |

All rooms are fitted with gas fixtures for heating and lighting. Gas is paid for according to amount used at 32c per thousand.

Board is furnished to men at Burdick Hall on the co-operative plan.

Rooms and board, including fuel can be obtained in private families at from \$3.00 to \$5.00 per week. Board in clubs, organized and managed by the students themselves, varies from \$2.50 to \$3.50 per week, according to the means and inclinations of the members.

Estimated Annual Expenses

Excluding cost of clothing and travel, one can go through a college year by close economy upon \$175; and by exercising care, upon \$200. An allowance of \$250 is comfortable, and \$300 is liberal.

| | |
|--|----------------------|
| Board, \$2 50 to \$3 50 per week | \$80 00 to \$130 00 |
| Rooms, \$10 00 to \$24 00 per semester | 20 00 to 48 00 |
| Gas, \$3 00 to \$6 00 per year | 3 00 to 6 00 |
| Laundry, per year | 10 00 to 15 00 |
| Books | 10 00 to 25 00 |
| Lyceum taxes, etc. | 2 00 to 10 00 |
| Incidentals, and extras | 25 00 to 35 00 |
| Total for year | \$150 00 to \$269 00 |

Self-Support

Many of the graduates of the school have been persons of very limited means who worked their way through college. While work cannot be guaranteed to all applicants, enterprising students can usually find employment in the town with satisfactory compensation for all the time they can profitably spare from their studies. Some earn enough to meet the greater part of their expenses. Students should distinctly understand that when they attempt entire self-support they should lengthen their term of study.

Terms and Vacations

The school year consists of two terms, or semesters, of about eighteen weeks each. There is a recess at Thanksgiving, extending from Tuesday evening until Tuesday morning following; a vacation at the Holidays of about two weeks; a short recess at Easter time; and a summer vacation of about fifteen weeks.

Class Exercises

The class exercise period is one hour in length; in laboratory work, however, the class exercise continues through two or more hours, as the case may be. There are no class exercises on Saturday or Sunday. The schedule of recitation is fixed by the faculty. Each student is expected to have at least fifteen exercises per week. Students who take more than seventeen exercises weekly must maintain an average standing of ninety per cent and obtain the consent of the director. Any student who fails to attain a standing of at least seventy-five per cent in a given subject will not receive credit in that subject.

No student will be permitted to remain in the school unless he has received credit for ten hours of work in the preceding semester.

Unit or Measure of Credit

One class exercise per week for one term or semester, is taken as the unit or measure of credit, and is termed a semester hour. In each course one hundred and twenty semester hours are required.

Absences and Excuses

It is expected that no student will be absent from any college exercise except in case of necessity. Excuses for absence from class exercises are made to a committee of the faculty known as the committee on absences. All excuses are granted with the understanding that the work missed will be made up to the satisfaction of the instructor. Each unexcused absence deducts one per cent from the final standing for the semester, or two per cent if occurring within three days immediately preceding or following a recess or vacation.

Examinations

Final examinations are held at the close of each semester in addition to occasional written tests during the semester. Fees will be charged for all examinations taken by those not regular members of classes, or at other times than those appointed for the class examinations.

Admission

Candidates for admission to the freshman class must be at least fifteen years of age and must present certificates of good moral character. The particular requirements for entrance are explained below. Preparatory work may be estimated either in "units" or in New York State regents "counts." The "unit" represents a course of five recitations weekly throughout an academic year of the preparatory school. The regents "count" represents one recitation weekly for one year. Fifteen "units" or seventy-five "counts" must be offered.

Entrance Requirements

[a] To the Technical Course

ENGLISH. 3 units or 15 counts. The candidate must be familiar with elementary rhetoric, both as a science and an art, and must be proficient in spelling, punctuation, idiom and division into paragraphs. Preparation must include the work in English prescribed by the various college associations.

Each student must be able to pass an examination upon ten books selected from the list prescribed by the college entrance associations. The following ten are recommended: Shakespeare's *Julius Cæsar*, and *The Merchant of Venice*; *The Sir Roger de Coverly Papers*; Goldsmith's *The Deserted Village*; Scott's *Ivanhoe*; Hawthorne's *The House of the Seven Gables*; Irving's *Sketch Book*; Ruskin's *Sesame and Lilies*; Lowell's *The Vision of Sir Launfal*; Longfellow's *Courtship of Miles Standish*.

In addition to the above a thorough study of each of the works named below is required. The examination will be upon subject matter, form and structure.

Shakespeare's *Macbeth*; Milton's *L'Allegro*, *Il Penseroso* and *Comus*; or Tennyson's *Idylls of the King*; Burke's *Speech on Conciliation with America*, or Washington's *Farewell Address* and Webster's *Bunker Hill Oration*; Macaulay's *Life of Johnson*, or Carlyle's *Essay on Burns*.

MATHEMATICS. 3 units or 15 counts, viz; Elementary Algebra including fundamental operations, factoring, fractions, ratio, proportion, radicals, quadratics. Plane Geometry, including the straight line, angle, circle, proportion, similarity, and areas. Solid Geometry and Plane Trigonometry.

FOREIGN LANGUAGES. 2 units or 10 counts. Any one language may be offered.

The candidate will be expected to have a practical knowledge of pronunciation, as well as a thorough mastery of grammatical forms and syntax, and to possess a familiarity with the literature in proportion to the amount of work offered.

DRAWING. 1 unit or 5 counts. A year's course in Drawing.

SCIENCE. 3 units or 15 counts. Chemistry and any two of the following: Biology, Physical Geography, Physics.

ELECTIVE. 3 units or 15 counts.

SUMMARY

| | 3 units or 15 counts |
|-------------------------------|----------------------|
| English | 3 " " 15 " |
| Mathematics | 2 " " 10 " |
| Foreign Language | 1 " " 5 " |
| Drawing | 3 " " 15 " |
| Science (including chemistry) | 3 " " 15 " |
| Elective | 15 " " 75 " |
| Total | 15 " " 75 " |

For entrance to the course in ceramic art and normal study the requirements are those admitting to either of the courses in Alfred University.

NOTE—Candidates for admission to any of the above courses, may, in exceptional cases, offer equivalents as substitutes for the required studies subject to the approval of the director.

Admission is gained either on certificate or on examination, as follows:

Admission on Certificate

REGENTS' CREDENTIALS. The credentials of the University of the State of New York are accepted instead of an examination in the subjects required for admission, so far as they cover these requirements. [For description of subjects, see *Entrance Requirements*.]

PRINCIPAL'S CERTIFICATE. Certificates are also received from principals of preparatory or high schools outside of New York State, provided such schools are known to the faculty for thoroughness of instruction. Such certificate must specify, in connection with each subject, the extent to which it has been pursued, by giving the text-book used, the method of instruction, the amount of time given to it, the date of the final examination, the degree of the applicant's proficiency, and must clearly show that the student has met the requirements in every detail. The school furnishes blank forms for such certificates upon application of principals of approved schools.

Principals of preparatory schools who desire to have their students admitted on certificate are invited to correspond with the director.

Admission on Examination

Candidates who fail to present satisfactory certificates must pass a written examination in the required subjects. Examinations in all subjects required for admission are held at Alfred at the beginning of the year. Candidates must report at the director's office and obtain permits for examination. The result of the examination may be obtained from the director.

Conditioned Students

Under the provisions of section 59 of the ordinances of the University of the State of New York no student can enter the freshman class conditioned in more than three academic subjects. These conditions must be removed within one year. The text of the ordinance is as follows:

"§59 Degree Preliminaries. No degree shall be conferred on students matriculating after Jan. 1, 1905, for completion of a course of study or on examination, unless the candidate has as a preliminary general education at least a four-year high school course or its full equivalent as determined by the University rules. Satisfactory evidence of such preliminary education must be offered before beginning the course of study for the degree, and any condition for deficiency (which must not exceed three academic subjects) must be made up within one year."

Admission to Advanced Standing

Students from other schools, having a course equivalent to that of the New York State School, may enter at the point from which they take dismissal, upon presentation of satisfactory certificates of standing and character, including an honorable dismissal.

Senior Thesis

There is required of each candidate for a degree a thesis, for which credit is given, two hours in the first semester and three in the second semester of the Senior year. The title of the thesis must be chosen in the field of Ceramics not later than November 1, and must be approved by the director. The thesis shall embody the results of actual independent research, and must be submitted for approval not later than May 1. A type-written copy must be deposited with the director.

Graduation

While no student will be permitted to graduate with a smaller credit than one hundred and twenty semester hours, four full years of resident work will be required in either course. Upon students who satisfactorily complete the technical course Alfred University will confer the degree of Bachelor of Science, and upon students who satisfactorily complete the course in Ceramic Art the degree of Bachelor of Philosophy in Ceramics.

Courses of Study

The studies in the Freshman and Sophomore years are required. Those of the Junior and Senior years are elective in part, but every student is expected to cover as far as possible the subjects indicated.

Required Studies

Arabic numerals indicate the number of class exercises per week.

Freshman Year

| TECHNICAL COURSE | |
|-------------------|---|
| English | 3 |
| Foreign Language | 3 |
| Chemistry (2) | 3 |
| Mathematics | 3 |
| Laboratory | 1 |
| Woodshop | 1 |
| Physical Training | 1 |

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| ART COURSE | |
|-------------------|---|
| English | 3 |
| Foreign Language | 3 |
| Chemistry (1) | 3 |
| Mathematics | 3 |
| Design | 1 |
| Drawing | 1 |
| Modeling | 1 |
| Physical Training | 1 |

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Sophomore Year

| TECHNICAL COURSE | |
|------------------|----|
| English | 2 |
| Mathematics | 3 |
| Chemistry | 3 |
| Physics | 3 |
| Ceramic Theory | 3 |
| Machine Shop | 1½ |
| Laboratory | 1½ |

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| ART COURSE | |
|----------------------|----|
| English | 2 |
| Foreign Language | 3 |
| Logic and Psychology | 2 |
| Philosophy | 2 |
| Ceramic Theory | 3 |
| Design | 1 |
| Drawing | 1½ |
| Modeling | 1 |
| Laboratory | 1½ |

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Students in the technical course will take ceramic technology as major subject and will elect as minor, chemistry, mathematics or foreign language.

Students in the art course will take ceramic art as major, and will elect as minor, history, philosophy, natural science or mathematics.

The following subjects should be pursued as far as possible in the Junior and Senior years, enough work being elected to complete at least one hundred and twenty semester hours.

TECHNICAL COURSE

| | |
|------------------|-----|
| Chemistry | 2 |
| " | 4 |
| " | 6 |
| " | 7 |
| " | 8 |
| Physics | 2 |
| Geology | (1) |
| Economic Geology | (3) |
| German | |
| Graphics | |
| Mathematics | (6) |
| " | (7) |

ART COURSE

| | |
|----------------|-----|
| Biology | (1) |
| " | (2) |
| Chemistry | 3 |
| History | (1) |
| " | (2) |
| " | (3) |
| Education | (4) |
| " | (5) |
| History of Art | |
| Design | |
| Drawing | |
| Modeling | |

The numbers in parenthesis refer to the courses described in the college catalogue of Alfred University to which reference should be made.

Departments of Instruction

Technology

Professor Binns

1. A course of lectures, with recitations, on the principles of calculation involved in ceramic composition. First semester. Sophomore year, *three hours*.

2. A course of lectures, with recitations and notes, on the methods of manufacture of clay wares, ancient and modern. Second semester. Sophomore year, *three hours*.

3. A course of lectures, with recitations and notes, on the mineralogy of clay. Junior year, *two hours*.

4. A course of lectures, with recitations, on the technology of clay wares for special purposes. White wares, faience, earthenware, sanitary ware, once fired ware, fireproof and refractory ware, hard and soft porcelain, electrical insulating ware. Senior year, *two hours*.

5. A course of laboratory demonstration and practice. Methods of manufacture. Elementary kiln work. Sophomore year, *one and one-half hours*.

6. A course of laboratory demonstration and practice. Mixing clay bodies and glazes. Chemical and mineral analysis of clays. Junior year, *two hours*.

7. Laboratory and workshop practice in continuation of course 6. Production of fine and special wares. Kiln construction and pyrometry. Senior year, *four hours*.

Students in the short course will be admitted to any of the foregoing lectures and laboratory work at the discretion of the faculty.

Chemistry

Mr. Lake

Mr. Cummings

1. GENERAL CHEMISTRY. For beginners. Two recitations or lectures a week and one two hour laboratory period. *Three hours.*

2. ADVANCED INORGANIC CHEMISTRY. This course takes up a more detailed consideration of inorganic chemistry than course 1, and is planned to teach the student the modern theories and the methods of stoichiometrical calculation. Prerequisite, course 1 or its equivalent. *Two hours.*

3. QUALITATIVE ANALYSIS. The detailed separation of the metals, non-metals, and acid radicals. A laboratory course consisting of six hours of laboratory work a week throughout the year, with an occasional lecture. Required of major students. Prerequisite, course 1 or its equivalent. *Three hours.*

4. ELEMENTARY QUANTITATIVE ANALYSIS. A course of six hours laboratory work a week for the first twelve weeks of the first semester. Gravimetric methods leading up to the analysis of silicate rocks. Prerequisite, courses 1 and 3. *Two hours. I.*

5. ORGANIC CHEMISTRY. Not required. (See College Catalog.)

6. TECHNICAL ANALYSIS: CLAYS AND MINERALS. The detailed analysis of clays and like bodies will occupy six hours weekly during the last six weeks of the first semester, following course 4. *One hour. I.*

7. TECHNICAL ANALYSIS: FUEL AND GAS. Comparative study of fuels together with the conditions and products of combustion. Four hours, laboratory work supplemented by lectures. Prerequisites, courses 1, 3 and 6. *Three hours. II.*

8. PHYSICAL CHEMISTRY. Introduction to the concepts of modern physical chemistry. Solutions, chemical equilibrium, the phase rule, chemical kinetics, etc. Much assigned reading is covered and original problems solved. Prerequisites, courses 1, 2 and 3. Recitations and lectures. *Two hours.*

Physics

Mr. Cummings

1. GENERAL PHYSICS. A course in general physics for those who have had high school physics. The student should have studied trigonometry, college algebra, and preferably analytic geometry. Lectures and recitations with class-room demonstration, written exercises, and constant drill in solving problems. *Three hours.*

(a) MECHANICS AND HEAT. The work of the first semester is grouped about these two subjects, sound being considered in connection with the discussion of wave-motion. Especial importance is attached to the concepts of force, work and energy.

(b) LIGHT AND ELECTRICITY. The second semester is largely devoted to the principles of electricity and magnetism with some of their most important practical applications.

2. PHYSICAL MEASUREMENTS. Laboratory course with one recitation, two two-hour laboratory periods and a written report each week. Open to those who have taken or are taking course 1. *Three hours.*

(a) PROPERTIES OF MATTER. The experiments are designed to cover the same ground as course 1a.

(b) ELECTRICITY AND MAGNETISM. Continuation of the above during the second semester, or:—

(c) CALORIMETRY AND PYROMETRY.

Graphics.

Professor Crandall

1. **ELEMENTARY DRAFTING.** A general course in mechanical drawing, including geometrical drawing and orthographic projection. *Two hours, counting one and one-half hours.*

2. **DESCRIPTIVE GEOMETRY.** A mathematical course in orthographic projection, intersection and development of geometrical surfaces, shades and shadows, and linear perspective. *Two hours.*

3. **WORKING DRAWINGS.** The making of plans, elevations, sections, and details of either buildings or machinery as the student may elect, under the approval of the professor. *Two hours, counting one and one-half hours.*

4. **WORKING DRAWINGS.** To continue 3, or special work as the student may elect, under the approval of the professor. *Two hours, counting one and one-half hours.*

Ceramic Art

Miss Binns

This course is intended to give the student an appreciation of the principles underlying all art expression, especially through the crafts and pottery in particular. For this purpose courses are given in the History of Art and of ornament, as well as in the study of nature, the possibilities and limitations of materials and principles of true decoration. The course is planned to extend progressively over the four years.

The following outlines the course :

DRAWING, in charcoal or pencil from casts, nature or life. Plant growth and form.

MODELING, in clay from casts, nature and life, with experience in casting in plaster.

POTTERY BUILDING, including the designing and producing of pottery forms by the process of building; decoration and the methods used.

DESIGN. Study of the principles of design, the possibilities and limitations of decorations as applied to the crafts, consideration of all-over patterns and space filling. Adaptation of plant form. Color. Historic ornament.

NORMAL TRAINING. Drawing, design and clay-work as applied in public schools, with opportunity for practice teaching.

HISTORY OF ART. A course of lectures on the History of Art from earliest periods down to the present day.

For detailed information as to the courses in Mathematics, Modern Languages, English and Natural Sciences see the College Catalogue of Alfred University.

Department of Investigation and Research

Clay Testing

Professor Binns

Mr. Cummings

The State School of Ceramics is fitted and the experts in charge are qualified, for the professional examination and testing of clays for economic purposes. Such clays may be classified under the following heads :

- (a) Kaolin, white burning residual clay.
- (b) Kaolin, white burning, washed for market, used in the manufacture of pottery, porcelain and paper.
- (c) Ball clay, white or cream burning, sedimentary clay of high plasticity, used in pottery manufacture.
- (d) Stone ware clay, gray or cream burning, more or less sandy in character, used in stone ware manufacture.
- (e) Fire clay, buff or white burning, refractory, used for manufacture of fire brick.
- (f) Brick clay, including colored clays and shales, used for the manufacture of brick and tile of various qualities and descriptions.

For each of the above classes special tests are necessary, and the charges made are proportionate to the work required.

A report upon each sample will be furnished and must be understood to refer only to the samples submitted unless the experts are instructed to examine the deposit and prepare their own samples, in which case special charges will be made. The report includes physical tests, and chemical analysis where necessary.

Advice as to washing or other preparation of the clay is also given, together with an opinion as to the industry to which the material may be applied.

Industrial Problems

Professor Binns

The problems incidental to the manufacture of clay wares are regularly investigated at the school. Manufacturers are invited to present questions for study. Persons resident within the state are entitled to reasonable services without charge.

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