ALFRED UNIVERSITY PUBLICATION

THE NEW YORK STATE COLLEGE OF CERAMICS

Catalogue Number for 1946-1947

Announcements for 1947-48

Vol. XXIII November, 1946 No. 9

ALFRED NEW YORK

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		1946
Registration	Monday–Wednesday	Sept. 30–Oct. 2
Freshman Days	Tuesday, Wednesday	Oct. 1, 2
Instruction begins	Thursday, 8 A. M.	Oct. 3
Thanksgiving Recess begins	Wednesday, 10 A. M.	Nov. 27
Instruction resumed	Monday, 8 A. M.	Dec. 2
Christmas Recess begins	Friday, 10:00 A. M	Dec. 20
		1947
Instruction resumed	Monday, 8 A. M.	Jan. 6
Review Days	Wednesday, Thursday	Jan. 29, 30
Mid-year Examinations begin	Friday	Jan. 31
Examinations end; Semester ends	Friday	Feb. 7

SECOND SEMESTER

Registration of New Students	Tuesday	Feb. 10
Instruction begins	Wednesday, 8 A. M.	Feb. 12
Spring Recess begins	Friday, 5:30 P. M.	April 2
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Final Examinations begin	Friday	June 6
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111th Anniversary Commencement	Monday	June 16

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Surveying Intersession

Term begins	Tuesday	June 17
Term ends	Friday	July 4

Regular Summer School

Term begins	Monday	July 7
Term ends	Friday	August 15

CALENDAR FOR 1947–48

FIRST SEMESTER

		1947
Registration	Monday, Thursday	Sept. 15–18
Freshmen Days	Tues., Thurs.	Sept. 16–18
Instruction begins	Friday, 8:00 A. M.	Sept. 19
Founders' Day	Thursday	Nov. 6
Mid-Semester Grades	Monday, 12:00 M.	Nov. 17
Thanksgiving recess begins	Wednesday, 10:00 A. M.	Nov. 26
Instruction resumed	Monday, 8:00 A. M.	Dec. 1
Christmas recess begins	Friday, 10:00 A. M.	Dec. 19
		1948
Instruction resumed	Monday, 8:00 A. M.	Jan. 5
Review days	Wednesday, Thursday	Jan. 21, 22
Mid-year examinations begin	Friday	Jan. 23
Examinations end: Semester ends	Friday	Jan. 30

SECOND SEMESTER

Registration of new students	Tuesday	Feb. 3
Instruction begins	Wednesday, 8:00 A. M.	Feb. 4
Mid-Semester Grades	Monday, 12:00 A. M.	Mar. 29
Spring recess begins	Friday, 10:00 A. M.	Apr. 2
Instruction resumed	Monday, 8:00 A. M.	Apr. 12
Review days	Wednesday, Thursday	May 26, 27
Final examinations begin	Friday	May 29
Examinations end: Semester ends	Friday	June 4
112th Anniversary Commencement	Monday	June 7

SUMMER SESSIONS, 1948

Surveying Intersession

Term begins	Tuesday	June 8
Term ends	Friday	June 25

Regular Summer School

Term begins	Monday	July 5
Term ends	Friday	Aug. 13

THE NEW YORK STATE COLLEGE OF CERAMICS

Administered by Alfred University

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CLARENCE W. MERRITT, B.S.	*Associate Professor of Ceramic Engineering*
WILLARD J. SUTTON, B.S., Ph.D.	*Associate Professor of Ceramic Engineering*
LEON B. BASSETT, B.S.	*Professor of Ceramic Engineering, Part-time*
(To be appointed)	*Assistant Professor of Ceramic Technology*
ALEXANDER P. SHEHEEN	*Graduate Assistant*
(To be appointed)	*Librarian*

DEPARTMENT OF GLASS TECHNOLOGY

HAROLD E. SIMPSON, B.S., M.S., Ph.D., Cer.Eng.	*Head of Department*
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CLARA K. NELSON — *Associate Professor of Drawing*
(grad., R.I. School of Design; Ernest Thurn; Hans Hofmann)

(To be appointed) — *Assistant Professor of Drawing*

LOYAL FRAZIER — *Graduate Assistant*
(Chicago School of Sculpture; Art Inst. of Chicago)

DEPARTMENT OF CERAMIC CHEMISTRY

MURRAY J. RICE, B.S., M.A., Ph.D.	*Head of Department*
MARION J. VOSS, B.S.	*Assistant Professor of Chemistry*
(To be appointed)	*Instructor*

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(on Sabbatical Leave)	
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DOMINIC LAURIE	*Research Associate, Part-time*
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RICHARD R. WEST, B.S.	*Research Associate*

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LELAND WILLIAMS, B.S., M.A.
JAMES F. WYGANT, B.S.

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(To be appointed)	*Storeroom*
WILLIAM SCHICKEL	*Art Stock Room*
CHARLES JACOBS	*Clay Preparation*
BILLIE DEYERLING	*Secretary to Research Staff*
EARL BAKER	*Janitor and Carpenter*
LAWRENCE STILLMAN	*Janitor and Machinist*

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Curriculum: R. M. CAMPBELL, M. J. RICE, W. J. SUTTON

Note: Individual members of the faculty serve on several committees of the University Faculty.

HISTORY, OBJECTIVES AND POLICY

History. With prophetic vision of the prominent position that ceramic education was destined to achieve in the professional and industrial life of the Nation, Boothe C. Davis and John J. Merrill established at Alfred University in 1900 the New York State School of Clay Working and Ceramics. Together with another ceramic school that was just getting under way at that time, it became the function of the institution to pioneer in the field of ceramic education, leading the way to what is now a nation-wide scope of university education in ceramics, firmly established as an essential part of higher education.

The growth and development of the school under the direction of Charles Fergus Binns exemplify the extent to which these functions were fulfilled. He served as its director from the time of its founding until 1931 when age necessitated his retirement. Year by year the enrollment increased from five in 1900 to one hundred sixty-nine in 1931. The development of the courses of instruction kept pace with the growth of the school so that the needs of the ceramic profession, as they developed from year to year, were served at all times.

During this period of the school's history the institution became a guiding beacon for ceramic education everywhere. The vision of its founders was fully realized. Emphasis was laid upon ceramic art and the school became distinguished particularly for training in the field of fine ceramics.

The year 1932, however, marked a transition. By legislative enactment, the school was raised to the rank of a College and was given its present name. Large increases in State appropriations provided a new building, more than doubling the available floor space, and furnished it with the most up-to-date equipment, at a total cost of more than $250,000.

The courses of instruction were developed to include all of the most modern phases of scientific instruction in ceramic technology and engineering. Special emphasis was applied to the field of general ceramic technology and engineering, but, in keeping with the pioneering faith of its founders, the first and only four-year university course of specialized instruction in glass technology was added to the other curricula of the College. These developments rounded out the facilities of the College for the education of students in the art, technology and engineering branches of the ceramic profession, but there remained the need of facilities for research and development work. This need was filled in 1936 by the establishment of a Department of Research or Ceramic Experiment Station, thereby making it possible to render a research service to the ceramic industries of the State as well as to educate students.

This program of expansion and development was carried out under the administration of the late M. E. Holmes, Dean of the College from 1932 until his death in May, 1946.

Keeping pace with these major developments were the improvements in library facilities, the expansion of non-curricular student activities, and the development of contact with the ceramic industries. The faculty was enlarged by the addition to it of distinguished specialists in their various fields. The administrative, teaching, and research staff, exclusive of part-time employees, now numbers twenty-eight. This development program yielded an immediate response in student enrollment, which increased nearly one hundred per cent in three years, and taxed the capacity of the enlargd plant to the limit, which is about 400 students.

Control. This College is one of several New York State Colleges, forming a part of the University of the State of New York. It is supported by appropriations by the legislature, based upon annual budgets approved by the Education Department, and its funds are handled by the State. Its internal affairs come under the general supervision of the trustees of Alfred University, who have delegated advisory powers to a Board of Managers. The President of Alfred University is also President of the College of Ceramics, and the other administrative officers of the University also act in their respective capacity for this College. The operation of the College is in the hands of the Dean and his Executive Committee.

Objectives. The objectives of the college were stated in the Legislative act which provided for its establishment. Chapter 383 of the Laws of New York of 1900 state that the purpose of the institution is "to give scientific, technical, art and practical training for the manufacture of all kinds of ceramic products and to conduct experiments in reference to the value for commercial purposes of clays and shales of New York State." When allowance is made for the fact that, in 1900, the authors of this law had nothing other than their vision of the future to guide them, it must be admitted that this is a satisfactory enough statement of the natural and logical functions of a college of this kind. The same thought can now quite adequately and more specifically be expressed by the statement that the purposes of the College are to give students a ceramic education and to do ceramic research and development work.

Policies. These objectives and ideals determine the administrative policies of the College. Experience has demonstrated that teaching of technical and engineering subjects is not adequately vitalized unless it is done in a research environment. Students must be brought into contact with experienced workers who are broadening the frontiers of knowledge. The Research Department of the College supplies that environment. Furthermore, it renders the more tangible service of contributing to the improvement of ceramic products and the cheapening of manufacturing operations. In this capacity it serves the public, the consumer, and the producer of ceramic products. Fundamental scientific research is done and contributions to the ceramic literature are constantly being made in the form of books, bulletins and articles, but it is the policy of the department to emphasize applied research in the interest of the industries.

In order to keep the work directed along the most effective and practical lines, the ceramic industries were organized into an association known as the Ceramic Association of New York. Through its Board of Directors, the Dean is kept advised of the best thoughts and suggestions of the leading ceramic industrialists of the State and the research work is directed accordingly.

However important may be its research and development work, the main function of the College must always be the education of young men and women for the ceramic professions. This is an age of specialization. Ceramics as a whole is a specialized branch of technology, but the ceramic profession requires specializations within its own field. Ceramic artists, ceramic technologists, and ceramic engineers are required. Furthermore, they must have a thorough and up-to-date training in their respective fields. The day is past when key positions are filled by faithful workers rising from the ranks. The ceramic industry is now one of high technical, art, and engineering status. A four-year university course of instruction of high order consisting of a thorough grounding in fundamentals, followed by specialized application of these fundamentals, is required adequately to prepare one for the responsible positions. This implies modern equipment, a competent staff and curricula that meet with general approval. It is the policy of the College to supply these essentials in a way that will fully meet the industrial requirements of the times.

Students come to this institution primarily to prepare themselves for a career in the ceramic profession. Therefore, the development of the highest possible degree of professional ability on the part of its graduates is the main duty of the institution. Ability to serve is the keynote of the training.

It is recognized, however, that something more than professional training is required to prepare one for the highest degree of professional service. Character and personality must be developed. Success in the ceramic profession implies good citizenship. It is fortunate that a technical education is in itself one of the most effective in developing character and the capacity for good citizenship. But professional training would not thrive in an environment which is exclusively professional in character. Non-curricular activities are provided, which occupy an important although secondary position in the educational policy.

Physical education and athletic sports supply the need for the development of health as well as the more intangible thing called college spirit. The cultural development that comes from the professional training itself is enhanced by the inclusion of certain liberal arts courses in the curricula and by lectures, plays and musical entertainment provided by the University Forum. Opportunities for the development of art appreciation are afforded by art exhibits, and by participation in the University musical organizations and dramatic societies. The social instincts are fostered by life in the dormitories, clubs, fraternities and sororities, as well as by the numerous private and all-college social functions. Journalistic activities in connection with the student publications is another divertisement. Special emphasis is placed upon the development of the ability

for team work and the maintenance of a high degree of student esprit de corps. This is done by organizations managed exclusively by the students. Most important of these are the Ceramic Guild for the art students and the Student Branch of the American Ceramic Society for the technology and engineering students.

Social activities reach their climax in the celebration of St. Patrick's Festival. The celebration of this birthday of the patron saint of engineers is accompanied by an open house, a formal ball and numerous other activities.

Rounding out all of these non-curricular activities which have to do with the development of personality and character is the religious life. Although absolutely non-sectarian in character, the institution emphasizes the importance of spiritual development and undertakes to inculcate in the student the desire for Christian living. Chapel and weekly church services provide facilities for this purpose.

Intimate and friendly contact between faculty and students is provided by a system of student counselling whereby the individual problems of each student receive the personal attention of a member of the faculty. All possible aid is given him in developing the traits of resourcefulness, originality, industriousness, reliability, honesty, judgment, and cooperativeness.

Although every form of effective help is offered the student in all of his curricular and non-curricular activities, he is never relieved of his own responsibilities. He solves his own problems but he does so with the aid and cooperation of the faculty. The more brilliant students are not neglected in order to favor the less brilliant ones, nor are the less brilliant students neglected in order to favor the more brilliant ones. Regimentation in all of its aspects is studiously avoided. The principle of equal rights and opportunities for all prevails. Each student knows that regardless of financial, social or intellectual status, he will get what he earns, but that, also, he must earn what he gets.

GENERAL INFORMATION

THE CERAMIC INDUSTRY AND PROFESSION

Etymologically, the word "ceramics" signifies non-metallic raw materials and firing operations. Ceramic products are those made of non-metallic raw materials by the manufacturing operation of firing. The ceramic industry is the industry engaged in the manufacture of these kinds of products. The ceramic profession consists of designers, technologists, and engineers engaged in work connected directly or indirectly with the operation of the ceramic industries.

A common building brick is made of the non-metallic material clay by subjecting it to a firing operation. It is a typical ceramic product and is representative of a wide variety of ceramic wares which come under the classification of clay products. Other ceramic products made wholly of clay are face brick, paving brick, stoneware, terra cotta, drain tile, sewer pipe, electrical conduits, wall tile, floor tile, roofing tile, hollow building blocks, and fire brick. Ceramic products made of clay in admixture with other ingredients include tableware of the semi-vitreous and vitreous classes, porcelain, electrical insulators, sanitary ware and art pottery. The broad scope of the clay products division of the ceramic industry is indicated by this list of products. Their manufacture varies in character all the way from the mass-scale production of common brick, which is primarily a ceramic engineering operation, to the production of fine tableware and pottery, which is primarily a ceramic art operation.

Ranking next in importance to the clay products industry is the glass industry. Glass is made by a firing operation using non-metallic raw materials of which the most important are silica, soda ash, and lime. The manufacture of glass is, therefore, wholly ceramic in character but differs from the manufacture of clay products in that ceramic science and technology rather than ceramic engineering receives the emphasis. Glassware covers a wide variety of products including containers, plate glass, window glass, tableware, glass wool, building blocks, illuminating ware, cooking ware, mirrors, lenses, and tubing.

Refractories, enamels, lime, gypsum, portland cement and raw materials, each with a wide variety of products within its own field, complete the list of ceramic products.

The ceramic profession is one of the oldest in point of time but one of the newest in point of development. Over six thousand years ago, ceramists were making brick and pottery, but it was not until 1900, just after the initiation of ceramic education and the establishment of the American Ceramic Society, that the profession started its development into its present high art, technical, and engineering status. Now, some six hundred students are preparing themselves in American ceramic schools for careers in the ceramic profession. Approximately eighteen hundred are practicing the profession. In normal times

they are being added to at the rate of about one hundred a year. About one-third of them are graduated by the New York State College of Ceramics. It is significant that only about one hundred ceramic technologists and engineers are graduated in this country each year and that they enter a highly technical industry, comprising thousands of plants, and turning out products valued in billions each year, to go into. Obviously, therefore, the opportunities for ceramic graduates are unexcelled.

Ceramists practice the professions of ceramic art, ceramic technology, and ceramic engineering. Although their duties are not definitely prescribed in detail, and each may perform functions more rigidly belonging to other branches of the profession, it will serve to differentiate them by stating that the artist is most concerned with the design of ceramic products, the technologist with scientific research and control work, and the engineer with the building, equipping and operation of ceramic plants. All may rise to executive positions, depending on their abilities and opportunities.

LOCATION

The New York State College of Ceramics is located at Alfred University, Alfred, N. Y. Alfred is in Allegany County, 74 miles south of Rochester, 12 miles southwest of Hornell, and 14 miles northeast of Wellsville. It is located on N. Y. highway No. 244 which, two miles away at Alfred Station, connects with N. Y. highway No. 36 and the main line of the Erie Railroad. Alfred is a village of 700 population situated at an elevation of 1800 feet. Detached from the distractions of large municipal centers and with an exceptionally fine climate, its location enhances the opportunities for a successful college career.

BUILDINGS AND EQUIPMENT

The Ceramic College is housed in two brick buildings. Binns Hall was erected in 1900, and the new Ceramic Building in 1932. The two buildings provide 100,000 sq.ft. of floor space for lecture rooms, laboratories, kiln rooms, libraries, and offices. Both are completely equipped for the study of all branches of ceramics. In addition to all the ordinary apparatus such as grinding and screening machinery, equipment for washing clay, forming machines, driers, kilns, etc., the College has recently installed such modern facilities as an X-ray laboratory, a petrographic laboratory, a spectrographic laboratory, humidity driers, glass-melting furnaces, electric furnaces, and a long list of such items of equipment as mobilometers, reflectometers, torsion machines, and the like. The equipment of the College is generally conceded to be outstanding, not only in quantity but also in quality.

This equipment is installed and operated in such a way as to eliminate all hazards not directly due to carelessness. No serious accident or impairment of health has ever occurred in the history of the College.

A new building will soon be started for the Ceramic College as a part of the New York State Post War Building Program. An appropriation of two hundred and ninety thousand dollars for the construction of this addition has been made and the plans have been drawn. It is probable that construction will start very soon. This building will be equipped in the most modern manner. When this expansion program is completed, this institution will have still more outstanding facilities for all kinds of ceramic work.

EDUCATION OF VETERANS

The New York State College of Ceramics is making special preparation to take care of the needs of men and women discharged from military service. Some will want to take up the regular courses and work for a degree; others will want accelerated refresher courses; others will probably want individual instruction of a tutorial nature. Perhaps others will want employment in the research work of the college.

The college is undertaking to provide facilities for all their needs. The benefits under the G. I. Bill of Rights are available to eligible veterans enrolled in the college.

STUDENT HOUSING

In normal times all freshmen, unless excused by the Dean of Men or the Dean of Women, live and take their meals in one of the University dormitories. These include Bartlett Memorial Dormitory, for men, and The Brick, for women. Each is in charge of a hostess, who is assisted by upperclass counselors. Most of the rooms in Bartlett are single, whereas all in The Brick are double. All bedding is furnished and laundered regularly, and daily maid service is provided.

After the freshman year, students who have joined fraternities or sororities live and board in those houses. Non-sorority women are normally accommodated in The Brick. Men who do not live in fraternity houses are lodged in private homes.

OTHER CAMPUS FACILITIES

Other buildings used by the ceramic students include the Gymnasium, the Clawson Infirmary, Susan Howell Social Hall, Alumni Hall, the Track and Field House, and the various academic buildings of Alfred University, all of which are described in detail in the catalogue of the College of Liberal Arts of Alfred University.

ORGANIZATION

The College is organized on the basis of six departments, which are: Ceramic Engineering, Glass Technology, General Ceramic Technology, Industrial Ceramic Design, Ceramic Chemistry, and Research.

The College of Ceramics is in complete cooperation with the College of Liberal Arts, where instruction is given in Mathematics, Physics, general Chemistry, and Humanistic-Social Studies to ceramic students. Liberal Arts students may also elect courses in Ceramics.

FRESHMEN ORIENTATION WEEK

The first week of the College year is devoted to orienting the freshmen into university life and into their scholastic work. Full attendance by all freshmen is required. Instructional programs are provided by upper classmen and members of the faculty. Intelligence and adaptation tests are given. Private conferences with individual members of the faculty are provided. These more formal parts of the week's program are supplemented by amusements and "get-acquainted" meetings. The result is that by the end of the week, the freshmen are informed on what the College has to offer, what is expected of them, and how to go about getting adjusted to their new environment and bridging the gap between high school and college.

STUDENT NON-CURRICULAR ACTIVITIES

To a large extent, student life on the campus is controlled by the students themselves. The Blue Key, Student Senate, Women's Student Government, and the Christian Associations assume responsibilities in varying degrees and kinds for initiating and managing general student activities. Fraternity and sorority life, social functions, receptions, sports, and amusements are, to a large extent, under the supervision of these student organizations, with power to act under the control of the Dean of Men and Dean of Women.

Of more specialized interest to the ceramic students of the University are the Student Branch of the American Ceramic Society, the Ceramic Guild, the Keramos Fraternity, and St. Patrick's Board. All technology and engineering students in the number of about 230 belong to the Student Branch of the American Ceramic Society. The students elect their officers, who manage the monthly program of lectures by outside speakers and other activities throughout the year. The students take an enthusiastic interest in the work of this society. The Ceramic Guild functions for the art students in much the same way. The Keramos Fraternity is a national honorary professional society. Admission to it is governed by vote of the members, who elect new members from the upper classmen of high scholastic standing. St. Patrick's Board is made up of senior technologists and engineers selected by the vote of the class. This Board manages the most important social event of the year, which is a celebration in honor of the birthday of the patron saint of the engineers, St. Patrick. It is a one-and-half day jubilee of fun and relaxation from the routine of scholastic work of the College, including a formal ball, an all-University assembly program, a tea dance, a parade of floats, and a Ceramic College open house in which all of the work of the College is depicted.

RELIGIOUS LIFE

A well-organized religious program under the direction of the University Chaplain is an integral part of life on the campus. Distinctly non-sectarian in character, it provides for a strong emphasis on spiritual development of the students. Through the cooperation of various religious denominations and the University administration, there is maintained a Director of Religious Activities whose full time is devoted to the engendering of a wholesome attitude toward things spiritual. The Director of Religious Activities and College Chaplain is also the pastor of the Union University Church, an interdenominational church attended and supported by faculty and students alike. For the Catholic students, Mass is held each Sunday morning, and for the Episcopal group, a Vesper Service is held. Seventh Day Baptists worship on Saturday. Chapel is voluntary and attended by members of all denominations.

SELF-HELP

No assurance can be offered that any student will find work to pay part of his expenses. However, the juniors and seniors do find employment in the dormitories, village shops, garages, and adjoining farms. Some handle laundry, others sell books, and others engage in miscellaneous ventures. A considerable number secure student assistantships in the College. Most of these openings are available only to upper class students.

There have recently been established three graduate instructorships in glass technology, ceramic engineering and industrial ceramic design. These instructorships pay $750.00 for 10 months for half-time work. The incumbent can, therefore, put in one-half of his time studying for an advanced degree. Five other student assistantships are maintained for undergraduate students. In addition there are industrial fellowships, which are described elsewhere in this catalogue, operating in varying numbers from year to year.

Students, as they enter the College, should be able to finance their first two years, at least. In one way and another, many students find ways and means of earning considerable portions of the funds required for their college expenses. Generally, the best means for an enterprising student to augment his resources substantially is to find employment during the summer vacations. The administration frequently is able to suggest opportunities for this type of work.

INDUSTRIAL EXPERIENCE

Students are urged to secure temporary employment in ceramic plants during the summer vacations. A few months' work under industrial conditions aids very much in rounding out their training. Every possible aid is given students in securing these summer jobs and in years of good business activity, all should be able to find employment of this kind.

Closely related to industrial experience are the plant inspection trips which are taken by upper classmen, and also attendance at the Annual Meeting of the American Ceramic Society.

HONORS, PRIZES AND AWARDS

Members of the freshmen, sophomore, and junior classes, who have a cumulative grade-point index of 2.0 or more, are eligible for a certificate of merit.

Members of the senior class may receive honors as follows:

a. *Summa cum laude,* or highest scholastic honors, to those having a cumulative index of 2.9 or more, with no grade below B.

b. *Magna cum laude,* or high honors, to those having a cumulative index between 2.6 and 2.9, with no grade below C.

c. *Cum laude,* or honors, to those having a cumulative index between 2.2 and 2.6.

d. Departmental honors to those who are recommended by the heads of the various departments as having done superior work and who have a cumulative index of 2.2 or more.

The Major Edward Holmes Thesis Prize of $25 is awarded to the senior in either of the Technology or Engineering Departments who submits the best research thesis. The award is decided by a committee of industrial executives, representing the Ceramic Association of New York, the founder and donor of the prize.

The Charles Fergus Binns medal is awarded each year to the ceramic artist who has made the most outstanding contribution to ceramic art during the year and who has not previously received the medal.

The award of research fellowships is discussed in another section of this catalogue.

GRADUATE WORK

The College is primarily an undergraduate institution. However, a limited number of candidates for the master's degree are accepted each year. The candidate must have a bachlor's degree, or its equivalent. Thirty-six hours of advanced work consisting of eighteen hours of research work and eighteen hours of lecture and laboratory courses selected by the Executive Committee are required. Graduate students registered in senior undergraduate courses are required to complete work in addition to that required of the undergraduate students. These additional requirements may consist of submitting special reports, performing additional experiments, or other additional work specified

by the instructor, and the number of such courses that may be taken is limited. The candidate must pass a three-hour oral examination on his major and minor subjects and the thesis must be of high enough quality to be accepted for publication by a leading ceramic journal. Two copies of the thesis, appropriately typed and bound, must be submitted two weeks before Commencement.

The awarding of all degrees is under the immediate supervision of the Board of Trustees of Alfred University and is based upon the recommendation of the duly constituted agencies.

INDUSTRIAL FELLOWSHIPS

Ceramic industries and groups of industries usually have a limited number of research fellowships in operation at the College. Students are assigned to these fellowships, which enable them to earn between $300 and $750 per year for part-time employment, or as much as $3,600.00 for full-time employment. When the research fellow is employed only part time, he is enabled to pursue his studies during the other part of his time and to obtain his degree after a more or less prolonged period of residence. Most of these fellowships are assigned to graduate students, but some are assigned to undergraduates. The main advantages of holding them are the educational benefit derived from the work, the development of research ability, and the contact that is made with the industry which finances the fellowship. Therefore, these fellowships are looked upon as being prizes that go to outstanding students. At the time of this writing, nine such fellowships are in operation, in addition to research programs for the Army and Navy.

EMPLOYMENT

The College does not guarantee employment of its graduates. Neither does it "place" graduates. But the entire faculty accepts the duty of helping each student find the kind of employment for which he is best fitted. The College is operated in its entirety with this objective in mind. Nation-wide contact in one way and another between the ceramic industries and the College makes it possible to bring industrial openings to the attention of graduates as they develop. After an investigation of the requirements of the position, the best qualified of the Ceramic College graduates are recommended and presented for consideration.

The College caters to a very much higher type of employment than do trade and vocational schools. Most of the positions have to do with industrial ceramic design, sales-engineering work, scientific laboratory research work, or plant production work. There are, of course, many other openings of a miscellaneous character. All students are advised to try to find the field of work for which they are best fitted and to develop themselves primarily along those lines.

The starting salary is on a par with that of graduates in other lines of technology and engineering but varies with the individual and the position. Advancement depends primarily upon the ability to produce results. In years of normal business activity, the demand for ceramic technologists and engineers cannot be supplied.

ALFRED UNIVERSITY SUMMER SESSION

A six-week summer session is offered by the Liberal Arts College of Alfred University. Liberal Arts courses constitute most of the work given in this session, but courses in pottery production, drawing and modeling may be included. For further information regarding this six-week course address Director M. Ellis Drake, Alfred, N. Y.

ADMISSION

The College has had to reject many applications in order to limit enrollment to the capacity of the institution. Applications for admission will be acted upon on April 15th and July 15th.

GENERAL REQUIREMENTS

The basic requirement for admission to the College is graduation from an accredited four-year secondary school. Beyond this, and the special requirements stated on succeeding pages, the candidate must present the specific credits itemized below.

For purposes of secondary-school accrediting, the College relies upon the evaluations of the New York State Board of Regents or the various regional associations of colleges and secondary schools. Detailed statements by principals of such schools are regarded as sufficient evidence, not only of graduation but of the units completed and achievement in them, although candidates from New York State schools are expected to present Regents credit.

In general, full compliance with the unit requirements is necessary, but in exceptional cases applicants may be given the opportunity to make up certain deficiencies in summer sessions or by taking entrance examinations. Application for such an examination, which is given only during the first week of the fall semester, must be made not later than July 1.

The following table gives the specific subjects and the number of units required for admittance to the Departments of General Ceramic Engineering Glass Technology, and General Ceramic Technology.

English	4	units
Mathematics	2½	units
Science	2	units
*Foreign Language	2	units
Electives	5½	units
	16	units

*** In certain cases, substitutions may be made for the foreign language requirements.**

Admission to the Department of Industrial Ceramic Design is governed by substantially the same requirements as those for Technology and Engineering, but high school art work, if of superior quality, may be substituted to a limited extent for some of the requirements listed above.

The unit represents a course of five recitations per week throughout the school year. Since, in the total of 16 units, four years of English are counted as four units, a total of 15 units will be accepted from states in which four years of English are counted as only three units.

Additional information regarding these requirements is given in the following paragraphs.

ENGLISH—4 units.

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.

FOREIGN LANGUAGE—2 units.

Latin, German, French, or Spanish is acceptable for the foreign language requirements. In certain cases, substitutions of other courses for foreign language may be made, or the fulfilling of the foreign language requirements may be deferred until the summer following the freshman year.

MATHEMATICS—2½ units.

Elementary and intermediate algebra, including fundamental operations, factoring, fractions, ratio, proportion, radicals, quadratics; plane geometry, including the straight line, angle, circle, proportion, similarity, and areas.

SCIENCE—2 units.

Biology, general science, physical geography, physics or chemistry. Any two subjects may be offered.

ELECTIVES—5½ units.

Electives may be chosen from any of the regular high school subjects such as foreign languages, social sciences, mathematics or natural sciences. One or two units may also be chosen from each of the following, but not more than four units may be chosen from these subjects altogether: agriculture, domestic science, commercial subjects, drawing and design, industrial arts, music, public speaking, and dramatics.

SPECIAL REQUIREMENTS

After applicants are found to meet the general requirements stated above, the Admissions Committee proceeds to consider them as potential candidates for the next entering class. These deliberations are made on an individual basis with careful attention to the following considerations.

1. Scholarship. Experience has shown that high school students who rank low scholastically rarely make a success of their ceramic education. It is the policy of the institution, therefore, to reject the applications of all students who do not have a good high school scholastic record.

2. Adaptability. In addition to general scholastic ability, adaptability to the special requirements of a ceramic education are required. Applicants for admission to the Ceramic Art Department should, by a personal interview or by submitting exhibits of their high school art work, show satisfactory evidence of adaptation to art work. This may be done either before or after they make formal application for admittance.

3. Interest. Evidence of special interest in gaining a ceramic education of the kind offered by the New York State College of Ceramics, and absence of too absorbing an interest in other fields of education, will influence the committee in making its decisions.

4. Personal qualities. Personal traits of character, such as initiative, industry, appearance, honesty, originality, and resourcefulness are given consideration, but they are not determining considerations. It is recognized that these traits can be developed in college, and this is one of the main objectives of the College education.

5. Likelihood of continuing through the four-year course. It is necessary to refuse admittance to applicants who want to enroll in the College and transfer to another institution before completing the course. Admittance may also be refused in cases where the applicant cannot make satisfactory financial arrangements.

6. Age, character, and health. Applicants must be at least sixteen years of age, of good moral character, and possessed of health which permits them to do satisfactory work. All entering students must have a physical examination.

7. Date of application. The choice between applicants who equally meet the foregoing requirements will be determined by the date of application.

8. Interviews. It is highly desirable for each candidate to present himself at the College for an interview with the Dean, and, if possible, with other members of the Admissions Committee. Interviews will be much more profitable if, at least several days before them, the applicant's credentials, particularly the certificate of recommendation conveying the high-school record, have been received by the College officers. Appointments for interviews should be made several days in advance by writing to the Dean. Applicants who wish on the same visit to look over the campus or investigate rooming and boarding arrangements should make an appointment with the Counselor to Prospective Students.

CORRESPONDENCE

Requests by prospective students for literature, general information and admission blanks should be addressed to the Counselor to Prospective Students. Special queries relating to the nature of the courses should be addressed to the Dean of the College of Ceramics. After the application is submitted, correspondence and consultations regarding admission should be carried on with the Dean of the College of Ceramics. If applicants are accepted for admission, they should make arrangements for living accommodations and employment, if necessary, with the Counselor to Prospective Students.

PROCEDURE AND NOTIFICATIONS

The admission blanks that are to be obtained from the Counselor include three separate documents. The Certificate of Recommendation is to be filled out by the secondary-school principal and mailed directly to the Counselor. The Health Certificate is to be handled similarly by the family physician. The Application for Admission is to be completed by the candidate and mailed to the Counselor together with the application fee of $5.00. This should be in the form of a check or money order payable to Alfred University. After these three credentials and the fee have been received, they are assembled by the Counselor and presented to the Admission Committee. The Committee meets at least once a month and notifies applicants of its action shortly after each meeting. Ordinarily, the candidate is definitely accepted or rejected, but in border-line cases decision may be deferred until nearer the time of College opening.

ADMISSION TO ADVANCED STANDING

Students in other approved institutions may transfer to the College. Their admittance is subject to the following regulations:

1. They must supply a statement of their entrance units and date of graduation from high school, a transcript of their college credentials, a letter of honorable dismissal by the proper official, and a statement that they are eligible to return to the institution which they are leaving.

2. Credit will be granted for equivalent courses in which the grades are C or higher. No credit is given for grades of D or lower.

3. Transfer students are subject to the same standards of selection as entering freshmen.

SPECIAL STUDENTS

It is not the policy of the institution to encourage the enrollment of special students who are not candidates for a degree. Disappointment, both to the institution and the student, usually results from this arrangement. However, in special cases where the applicant is of mature age, and of extraordinary ability, arrangements may be made for admittance as a special student. In all cases, he must be a graduate of some approved institution.

SCHOLASTIC REGULATIONS

REGISTRATION

All students are expected to register on the days designated for that purpose in the College calendar. Any student not registering on the days set therefor will be charged a fee of five dollars for late registration.

Each student in the Technology and Engineering Departments is expected to register for at least sixteen hours of work. Each student in the Art Department is expected to register for at least fifteen hours of work.

The conditions under which students may register for more than the number of hours specified in the curriculum are the following: (1) physical training and assembly may be taken in addition to the regular schedule; (2) if a student had an average grade of B or higher in the preceding semester, he may register for additional work with approval of the Dean of the College.

With the exception of the electives, all courses are definitely prescribed, and no change can be made in the schedule. Electives may be chosen by the student from the permissible list, but in making his selcetion he should be governed by the advice of the faculty.

CREDIT, ATTENDANCE, EXAMINATIONS

One class period per week for one semester lecture or laboratory, constitutes one unit of credit. The number of these credits required for graduation varies between the three departments as indicated in the curricula.

The class period is fifty minutes. The laboratory periods vary from two to four hours in length. Regular attendance without tardiness is required of all the students. Penalties are imposed upon all students who absent themselves unduly. Absence on the day preceding or the day following a vacation period during the College year draws an extra heavy penalty.

In addition to the routine quizzes that are given periodically throughout the semester, final comprehensive examinations are given in each course at the end of the semester covering the entire semester's work. This examination is the main factor in determining the scholastic standing of the student. A "block week" period of several days immediately preceding these examinations is provided, with no classes in operation, so as to afford ample opportunity for the student to review the semester's work and correlate all parts of it. The full time of the faculty is available for private consultation during this period.

ADMINISTRATION OF SCHOLASTIC STANDARDS

Owing to the exacting demands of the ceramic profession, relatively high standards of scholarship must be maintained. Students unable to meet these standards are dropped from the College. However, every possible effort is made

by the faculty to assist every student to meet these standards. Every instructor is available for private consultation and help, and the instructional work itself is supplemented by a system of faculty advising intended to help the student with all of his problems.

The Scholarship Committee of the College of Ceramics has charge of the application of all scholastic regulations. Students have the privilege of meeting with the committee for the purpose of presenting any information they wish to have the committee consider in connection with their scholastic difficulties, but in no case are the regulations voidable by any excuse.

Students who fail to meet the scholastic requirements of the college are placed on probation for one semester. If, at the end of the probation semester, the student has failed to raise his scholastic index to the required figure, he is dropped from college. In this case he is not eligible to apply for readmission until one semester has intervened. For this purpose a six-week summer session does not constitute an intervening semester.

GRADES AND INDICES

The grades used by the instructors in reporting the scholastic status of the students and the points corresponding with the grades are given in the following table:

Grade	*Quality of Work*	*Points per credit hour*
A	Excellent	3
B	Good	2
C	Fair	1
D	Poor	0
E	Conditioned failure	—1
F	Failure	—1
I	Incomplete	—1
W	Withdrawn	—1

The grade point index is obtained by dividing the total number of points by the total number of credit hours. In determining the semester grade point index only the grades and points for the semester are included. In determining the cumulative grade point index all of the work for which the student has credit is included.

In order that students may have acceptable scholastic standing, the quality of their work in all their courses must be such as to yield the following cumulative grade-point indices:

Year	*Required Cumulative Grade Point Index*
Freshman	0.50
Sophomore	0.75
Junior — First semester	.85
Junior — Second semester	1.00
Senior	1.00

These requirements apply to either semester of the College year. A student who for the first time fails to meet these requirements but whose cumulative grade point index is within 0.5 of the specified figure, will not be dropped from College immediately but will be given one semester of scholastic probation to bring his index up to the required standard. If at the end of the probationary semester he fails to raise the index to the required standard, he becomes ineligible to continue in College. A student who is not on probation but whose cumulative grade point index is more than 0.5 below the required index, immediately becomes ineligible to continue in College.

REQUIREMENTS FOR GRADUATION

Graduation depends upon successfully completing the prescribed courses of study with a grade-point index of 1.00 or more. No substitutions for the prescribed courses are permitted, but by means of the elective courses, some degree of variation in the curriculum to meet the individual wishes of the student is possible. The College reserves the right to withhold a diploma for poor scholarship or other reasons.

DEGREES

Degrees in Course

The degree of Bachelor of Science (B.S.) is awarded to those students of the Department of Ceramic Engineering, the Department of Glass Technology and the Department of General Ceramic Technology, who successfully complete the prescribed courses of study in these departments with scholastic cumulative grade-point indices of 1.00. The department in which the student majored is stated in the diploma.

The degree of Bachelor of Fine Arts (B.F.A.) is awarded to those students who successfully complete the prescribed courses of study in the department of Industrial Ceramic Design with a scholastic cumulative grade-point index of 1.00.

The degree of Master of Science (M.S.) is awarded to graduate students who successfully complete the thirty-six hours of prescribed graduate studies and submit an approved research thesis.

The degree of Master of Fine Arts is awarded to graduate students who successfully complete the thirty-four hours of prescribed graduate studies and submit an approved thesis.

A minimum of one year's residence is required for all degrees in course.

Professional Degree

The professional degree of Ceramic Engineer (Cer.E.) may be conferred upon candidates who hold a degree in some branch of engineering or science

and who, after at least four years of industrial ceramic experience, are adequately recommended as having demonstrated superior ability in industrial engineering work. A full statement of his training and experience and an acceptable thesis on some of his engineering achievements must be submitted at least two weeks before Commencement. A graduation fee of $10 is charged, and the candidate must present himself in person to receive the degree.

EXPENSES

ESTIMATED TOTAL ANNUAL EXPENSES

For students who are legal residents of the State of New York, total expenses for the two semesters of the college year, exclusive of personal expenditures, such as transportation, clothing, recreation, etc., may be estimated as follows:

	In University Dormitories		*With Private Families or in Clubs*	
Board	$300	$300	$240	$300
Room	110	150	100	140
Inclusive College Fee	100	100	100	100
Deposits	17	25	17	25
Books, etc.	30	40	30	40
	$557	$615	$487	$605

Out-of-state students can compute comparable budgets by adding to each of the columns $300 for tuition.

Freshmen are required to live in the dormitories, unless excused for a compelling reason. By doing so, they have the services of upperclass counselors and the advantage of living with one another. Most upperclass students live in private homes, clubs, fraternities or sororities.

All freshmen in the Engineering and Technology courses are required to take Mathematics 21S, Plane Surveying, which is given during the three weeks immediately following Commencement. Students who take this course make their own arrangements for board and room during that period.

TUITION

Legal residents of the State of New York pay no tuition. All students who are not legal residents of the State pay tuition at $150 per semester, in addition to all other fees and expenses.

No person is considered eligible to register as a resident of the State of New York unless he has been a *bona fide* resident in New York for the six consecutive months next preceding the date of his enrollment. No person shall be considered to have gained or lost his residential status in this State for the purpose of registering by any conduct of his own while he is a student in the College, unless, after attendance at the College for one year, it can be clearly established by the student that his previous legal residence has been abandoned and a new one established in New York for purposes other than merely attending the College.

The residence of a minor follows that of parents or legal guardian, regardless of emancipation. The residence of a wife follows that of her husband.

Any student whose residence thus follows that of another person, and who has not been a resident for the six months immediately preceding marriage or assignment to a guardian, cannot be considered to have gained residence until the full six-month period has elapsed.

FEES AND DEPOSITS

The College reserves the right to change fees and deposits without notice.

GENERAL FEES

Departments of Engineering and Technology	$100.00 per year
Department of Industrial Ceramic Design	100.00 per year

The general fees cover expenses for which students are obligated for laboratory courses, medical and infirmary service, athletics, library, campus tax, student year book, Student Branch of the American Ceramic Society, the college paper, the University Forum and the senior plant inspection trips.

SPECIAL FEES

Application (to accompany application for admission)	$5.00
Graduation	10.00
Summer Surveying (freshmen) Mathematics 215	5.00
Special Tests	1.00
Special Examinations	5.00
Late Registration	5.00

DEPOSITS

Chemistry Breakage:	Chemistry 1	10.00
	Chemistry 5	10.00
Other courses in Chemistry		15.00
Art Supplies (Art Students only)		30.00

DORMITORY EXPENSES

Dormitory Room Deposit, each year $10.00

The room deposits must be paid in advance at the time the room is reserved. This is not a part of the room rental. In case a student fails to occupy a room so reserved, the deposit is forfeited. Upon surrender of the room in good condition at the close of the school year, the deposit will be refunded to the student.

Dormitory Room Rentals, Per Semester:

In The Brick or Bartlett Dormitory	$55.00 to $75.00
In Burdick Hall, for upperclassmen	40.00 to 50.00

The prices vary according to size and location of room. Prices in all cases are per person. All rooms are completely furnished. Students are to supply their own towels. Maid service is furnished daily.

Board in Dormitory Dining Halls, Per Semester:

In The Brick or Bartlett Dormitory.....$150.00

Residents of these two dormitories are required to board in the dining halls connected therewith. No credits or rebates for absences are allowed on board bills. The charges for board and room in dormitories will be in effect unless cost of food and labor or new forms of taxation make it necessary for the University to increase them. If and when such increases are made, they will become effective at the beginning of the following semester.

TERMS OF PAYMENT

Tuition and other regular charges are billed at the beginning of each semester, during the process of registration. These bills cover the semester charges for tuition, laboratory and other fees, also room rental and board if the student rooms in a University dormitory.

All deposits are on a yearly basis and, in most cases, appear on the first semester bill. The breakage deposits provide for replacement of equipment broken or damaged and material wasted by students. The art-supplies deposit covers the cost of supplies used by the student in the Industrial Ceramic Design Department. Unused portions of these deposits will be returned to the students.

Semester bills are due when issued and must be paid, or definite and satisfactory arrangements made at the Treasurer's Office for payment, before the student is eligible to attend classes. If extension of time for payment is granted, a service charge is added to the bill in accordance with the time allowed. No regular extensions for a period longer than to December 1 for the first semester, and to April 1 for the second semester will be granted. No extension will be allowed on more than one-half of the general and special fees and deposits.

REBATES

No rebates on account of tuition and fees will be allowed if the student withdraws after the middle of the semester.

A student withdrawing before the middle of the semester because of serious illness or other good and sufficient reason, may be granted a rebate by the Treasurer of the University, the amount of such rebate, if any, to be determined after full investigation of the circumstances. Board and room charges will be rebated on a pro-rata basis.

DEPARTMENTS OF INSTRUCTION

The courses of instruction are patterned after the essential needs of the ceramic industries. These needs can be illustrated by considering the production of any typical ceramic product, such as a dinner plate. The first thing to do is to design the plate. Its shape, form, color, and decoration must be developed by means of drawings. That is ceramic design. After the plate is designed, it is necessary to assemble the technical information regarding the ingredients to be used, their properties, and their behavior under fire. These data are representative of ceramic technology. Finally, the plate must be made. Doing so involves choosing and operating the proper machinery, kilns, and other manufacturing facilities. This operation represents ceramic engineering.

Corresponding with these industrial needs are the three departments: Ceramic Engineering, Glass Technology, and Industrial Ceramic Design. Students may take all three courses, but to do so would require at least seven years' work. If a student expects to graduate in four years he must choose one of these departments in which to specialize. The choice must be made when he enters college, in the case of industrial design. The choice between technology and ceramic engineering may be delayed until the end of the freshman year, as the work of the first year is the same for both departments. The work of the three departments is described in more detail in the sections that follow.

A. DEPARTMENT OF CERAMIC ENGINEERING

A ceramic product is one made out of non-metallic, earthy, raw materials by a firing operation. With the exception of the glass industry, ceramic products are fundamentally similar. It is possible, therefore, to give students a broad fundamental training in ceramics that fits them for usefulness in all of the divisions of the industry. His career in the industry will be determined by his development along the lines of laboratory research and development work, plant production work, or sales engineering work. The college training is designed to give him the background on which to build.

In addition to a general cultural development, the department provides first of all for a thorough grounding in the fundamental sciences of mathematics, chemistry, and physics. Most of the first two years' work is devoted to these subjects. The last two years of the course are devoted primarily to the application of these fundamental sciences to the technical and engineering problems of the ceramic industries.

The work of the ceramic engineer is usually the manufacture of ceramic ware. He is therefore, primarily a production man, although he may engage in research or sales work. For this reason, the subjects of mathematics, mechanics, strength of materials and equipment design and plant layout are emphasized.

This department is fully accredited by the Engineers Council for Professional Development and it is the only department in the College that is so

accredited. For this reason the graduates are eligible for licensing as professional engineers after they have had the necessary industrial experience.

This program leads to the degree of Bachelor of Science.

CERAMIC ENGINEERING CURRICULUM

First Year

First Semester	Hours	Second Semester	Hours
Mathematics 5	5	Mathematics 6	5
Chemistry 5	5	Chemistry 6	5
Industrial Mechanics 1	3	Industrial Mechanics 2	3
English 1	3	English 2	3
Ceramics 101 or 151	1	Ceramics 102 or 152	1
Physical Education	1	Physical Education	1
Assembly	0	Assembly	0
	18		18

Summer Term of three weeks following close of second semester:
Mathematics 21s, Plane Surveying.....3 credit hours

Second Year

Mathematics 15	4	Mathematics 16	4
Chemistry 13	3	Chemistry 14	3
Physics 11	4	Physics 12	4
Ceramics 103	4	Ceramics 104	4
Non-technical Elective 1	3	Non-technical Elective 2	3
Physical Education	1	Physical Education	1
Assembly	0	Assembly	0
	19		19

Third Year

Physics 37	4	Physics 38	4
Chemistry 15	5	Mineralogy	2
Chemistry 43	3	Geology	3
Ceramics 105	4	Chemistry 44	3
Non-technical Elective 3	3	Ceramics 106	4
		Non-technical Elective 4	3
	19		19

Fourth Year

Physics 31	3	Physics 34	3
Ceramics 121	2	Ceramics 122	2
Ceramics 161	2	Ceramics 162	2
Petrography 1	3	Ceramics 172	3
English 35	2	Plant Inspection	1
Economics 3	3	Economics	3
Ceramic Elective	3	Ceramics 108	2
		Ceramic Elective	3
	18		19

B. DEPARTMENT OF GLASS TECHNOLOGY

Glass differs from other ceramic products in two essentials: the firing operation is carried to complete fusion; the forming process follows the furnace treatment instead of preceding it. Glass is related to other ceramic bodies, because all are made up of oxides, among which silica predominates. The glazes and enamels are glasses formed in place on the surfaces which they protect and ornament. Ceramic bodies such as pottery or porcelain owe their strength to a glassy bond which holds their crystallized minerals together.

The purpose of the curriculum in glass technology is to prepare the graduate for usefulness in the glass industry or in related fields. The student necessarily spends most of his time upon fundamental sciences, mathematics, physics, and chemistry. The application of these sciences to an industry constitutes technology.

In his specialization, the student deals with the raw materials for glass, and the behavior of its constituent oxides, particularly their high-temperature chemistry; he learns how to analyze glasses, and how to design and calculate compositions for various purposes; he studies fuels and furnaces, and acquires experience in glass-melting on a laboratory scale; he does not become a glassworker, but he learns the principles of the art; he finds out how glassware is annealed and gives a great deal of his time to the classroom and laboratory study of its physical properties; he becomes acquainted with the fascinating subject of colored glasses, in theory and practice.

Because clay is important in building the furnaces and containers in which glass is melted, certain courses in ceramic technology are included in this curriculum.

The department offers an opportunity for research in glass to those who are adequately prepared by college or plant experience. Glass manufacturers are invited to send their employees for further training, and to establish fellowships for the study of special problems.

The first year is uniform for all students in technology and engineering. Not only are the required subjects fundamental and necessary to all these curricula, but the uniformity of freshman year permits the student to postpone selection of his field of specialization until he is a sophomore and has become more acquainted with what the College offers.

Students who exhibit unusual promise as they reach junior year will be given opportunity to prepare for graduate study by acquiring reading knowledge of foreign language. Certain deviations from the prescribed courses will be allowed to suit the preference of upper-classmen who may wish to emphasize particular phases of their training.

This program leads to the degree of Bachelor of Science (B.S.).

GLASS TECHNOLOGY CURRICULUM

First Year

First Semester	Hours	Second Semester	Hours
Mathematics 5	5	Mathematics 6	5
Chemistry 5	5	Chemistry 6	5
Industrial Mechanics 1	3	Industrial Mechanics 2	3
English 1	3	English 2	3
Ceramics 101 or 151	1	Ceramics 102 or 152	1
Physical Education	1	Physical Education	1
Assembly	0	Assembly	0
	18		18

Summer Term of three weeks following close of second semester:

Mathematics 21s, Plane Surveying ..... 3 credit hours

Second Year

Mathematics 15	4	Mathematics 16	4
Chemistry 13	3	Chemistry 14	3
Physics 11	4	Physics 12	4
Ceramics 103	4	Ceramics 200	4
Non-technical Elective 1	3	Non-technical Elective 2	3
Physical Education	1	Physical Education	1
Assembly	0	Assembly	0
	19		19

Third Year

Physics 37	4	Physics 38	4
Chemistry 15	5	Mineralogy	2
Ceramics 201	5	Geology	3
Ceramics 251	2	Ceramics 202	5
Non-technical Elective 3	3	Ceramics 252	2
	19	Non-technical Elective 4	3
			19

Fourth Year

Physics 31	3	Physics 32	3
Differential Equations	2	Differential Equations and Statistics	2
Ceramics 261	2	Ceramics 262	2
Petrography 1	3	Plant Inspection	1
Economics	3	Economics	3
English 35	2	Elective	7
Elective	4		18
	19		

C. DEPARTMENT OF GENERAL CERAMIC TECHNOLOGY

The courses in the Departmental of General Ceramic Technology differ from the courses in the Department of Ceramic Engineering in but one respect. In the Department of General Ceramic Technology, subjects generally accepted as technological in character have been substituted for the engineering subjects in the engineering curriculum. There is an active demand by the ceramic indus-

tries for graduates to serve as scientists and technologists in addition to the demand for engineers. This department provides for the education of students as scientists and technologists. Their education prepares them for careers in any or all the ceramic industries except the glass industry.

As in the Ceramic Engineering course, a thorough grounding in mathematics, chemistry, and physics is given. This is followed by increased emphasis on both scientific subjects and specialized ceramic courses stressing the application of the fundamental sciences to the technical problems of the ceramic industries.

The course is identical with Ceramic Engineering for the first two years. Thereafter, certain courses regarded as fundamental are required, but certain options will be allowed. Students whose scholastic records indicate that they would succeed in graduate study may take one or two foreign languages, additional chemistry, and more mathematics. Those who show a decided preference for particular branches of ceramics will be allowed more intensive specialization in those subjects.

Be sure to read the outline as given under the heading "A—Department of Ceramic Engineering" for a description of a ceramic product and for a statement regarding a career in the ceramic profession.

This program leads to the degree of Bachelor of Science (B.S.).

GENERAL CERAMIC TECHNOLOGY CURRICULUM

Third Year

First Semester	Hours	Second Semester	Hours
Chemistry 15	5	Chemistry 44	3
Chemistry 43	3	Ceramics 106	4
Ceramics 105	4	Mineralogy	2
Technical Elective	4	Geology	3
Non-technical Elective	3	Technical Elective	4
	19	Non-technical Elective	3
			19

Fourth Year

Physics 31	3	Physics 34	3
Petrography 1	3	Ceramics 108	2
English 35	2	Plant Inspection	1
Economics	3	Economics	3
Ceramics 161	2	Ceramics 162	2
Elective	5	Elective	8
	18		19

D. DEPARTMENT OF INDUSTRIAL CERAMIC DESIGN

The department provides specialized professional training in the design of ceramic products. The basis of the curriculum is the broad study of creative design, expressed in three-dimensional materials and in graphic media. A

parallel study of technical subjects and practical experience with methods of production provide a means of relating creative ideas to modern demands. Studies in the humanities and in the history and philosophy of design supply a necessary part of the student's educational background.

For the first two years, the student concentrates on the fundamentals of three-dimensional and graphic design; color; free hand and instrumental drawing; and on courses in modeling. Many materials and modes of expression are employed in solving creative problems in form and space.

In his junior year, the student enters the shops and laboratories where his study of design expands to include problems of function, and the physical structure and behavior of materials. He experiments with many processes and their adaptation to creative problems. Experience with a wide variety of ceramic colors, textures, and compositions of clays and glasses increases his range of expression. The equipment of a modern pottery is placed at his disposal so that he may test the value of his designs by expressing them in a finished product. Contacts with manufacturing and retail outlets provide talented students with an opportunity further to check the practicability of their ideas in actual production and sales.

Because of present limitation of facilities, enrollment of freshman students is limited to twenty-five. Those who wish to apply for admission should submit samples of drawing, design, or other evidence of adaptability to this type of work.

Students who receive failing marks in Liberal Arts courses, chemistry, or drafting, must satisfactorily complete such work before entering school the following year. Sophomore students must acquire a cumulative index of 1.00 in drawing, design, and modeling courses, in order to be eligible for entrance in the Junior year.

The College reserves the right to retain ware, drawings, and designs, made by students.

Graduates receive the degree of Bachelor of Fine Arts (B.F.A.).

INDUSTRIAL CERAMIC DESIGN CURRICULUM

First Year

First Semester	*Hours*	*Second Semester*	*Hours*
Ceramics 321 (Drawing-Design)	3	Ceramics 322 (Drawing-Design)	3
Ceramics 323A (Lettering)	1	Ceramics 324A (Lettering)	1
Ceramics 323 (Design)	5	Ceramics 324 (Design)	5
Ceramics 301 (History of Art)	2	Ceramics 302 (History of Art)	2
Ceramics 325 (Sculpture)	2	Ceramics 326 (Sculpture)	2
Mechanical Drawing 3	2	Mechanical Drawing 4	2
English 1	3	English 2	3
Physical Education	1	Physical Educatio...n	1
Assembly	0	Assembly	0
	19		19

Second Year

First Semester		*Second Semester*	
Ceramics 327 (Design-Drawing)	4	Ceramics 328 (Design-Drawing)	4
Ceramics 329 (Design)	5	Ceramics 330 (Design)	5
Ceramics 331 (Sculpture)	2	Ceramics 332 (Sculpture)	2
Chemistry 1	3	Chemistry 2	3
English 21	3	English 22	3
Physical Education 11	1	Physical Education 12	1
Assembly	0	Assembly	0
	18		18

Third Year

Ceramics 335 (Ind. Design)	2	Ceramics 336 (Ind. Oesign)	2
Ceramics 333 (Drawing-Design)	3	Ceramics 334 (Drawing-Design)	3
Ceramics 337 (Sculpture)	4	Ceramics 338 (Sculpture)	4
Ceramics 337A (Production)	4	Ceramics 338A (Production)	4
Ceramics 303 (Raw Materials)	3	Ceramics 304 (Raw Materials)	3
Mechanical Drawing 31	2	Mechanical Drawing 32	2
	18		18

Fourth Year

Ceramics 341 (Ind. Design)	2	Ceramics 342 (Ind. Design)	2
Ceramics 339 (Drawing-Design)	4	Ceramics 340 (Drawing-Design)	4
Ceramics 343 (Production)	4	Ceramics 344 (Production)	4
Ceramics 345 (Equipment)	2	Ceramics 346 (Thesis)	2
Ceramics 343A (Sculpture)	4	Ceramics 344A (Sculpture)	4
Elective	2	Elective	2
	18		18

Electives may be chosen with the consent of the Dean from the following courses: Fundamentals of Speech, 1 and 2, two hours each; Comparative Religion, three hours; Psychology, 11 and 12, two hours each; Contemporary Society, 3 and 4, three hours each; Public Speaking, 11, three hours; Economics, 13 and 14, two hours each; Ancient History, 69 and 70, two hours each; Special electives in Ceramic Art, four hours; Marketing, 2 hours.

E. DEPARTMENT OF RESEARCH

The Department of Research, also known as the Ceramic Experiment Station, is the agency by which the New York State College of Ceramics renders service to the producers and users of ceramic products in the State of New York. It serves the ceramic interests of the State as the agricultural schools serve the agricultural interests. It promotes a greater use of New York raw materials. Improved ceramic processes and products are developed. New fundamental knowledge of ceramic processes is discovered. The research very often produces new combinations of old and new ceramic raw materials more useful to man; hence, the public benefits by better and more serviceable products; the manufacturer gets the benefit of new products, new markets, and more efficient operations; and labor benefits by more employment and better salaries.

During the war the ceramic industry had to develop substitutes for materials formerly imported. In many cases this involved new methods of refining

of domestic materials. New and better electrical insulators had to be developed for aircraft spark plugs for radio and radar. Non-magnetic mines, better refractories for aluminum and magnesium alloys and hundreds of other developments were necessary. In the ceramic industries non-essential for war, methods had to be developed to economize on labor or to permit the use of unskilled labor. The Experiment Station carried its share of this work and also continued to develop new information that is now proving helpful in the reconversion period. Much that was developed for war, will result in new or better products for peacetime economy.

In this post-war period the demand for ceramic research is even greater than during the active fighting. The Armed Forces, the Federal Government, the State Government, and private industry have been convinced by the achievements during the war that research pays great dividends in the form of better products, new products and ultimately in more employment. Time is a prime requisite for converting the results of research to useable articles. Most of the war-time developments were the result of application of fundamental information discovered in prewar years. The many new facts discovered in this decade must now be studied more thoroughly and applied to new and better products and new fundamental research must pave the way for the developments of future years.

The Research Department is now engaged in programs of research for the Army Air Force and for the Office of Naval Research. These programs are aimed at the improvement of jet engines and rockets by developing ceramic parts capable of withstanding higher temperatures than the alloy metals now used. As this is written, the programs are being prepared for research financed by the Office of Technical Services of the United States Department of Commerce, the object of which is to create new industry and increased employment. A study of the natural ceramic resources of New York State in cooperation with the Science Service Division of the New York State Museum and the New York State Department of Commerce is now in progress. This will make available to old and new industries information on the properties of ceramic materials available in the State.

More and more fundamental and industrial research is being conducted in university laboratories like the Experiment Station. There is always some risk to industries in investing large sums for equipment to investigate specific problems. The way out of this dilemma often will be found in cooperative research between the industries and the Ceramic Experiment Station. Several of the industries are maintaining Fellowships in the Research Department to conduct research on problems peculiar to their industries. The financial support and work of Fellowships sponsored by industries in the Ceramic Experiment Station is almost equal to that sponsored by the State at the present time. In some cases the Fellowships are maintained by an association of manufacturers, thereby rendering service to a whole group instead of to an individual. Duplication of

research is thereby avoided. It is difficult to conceive a more economical way to investigate such problems than to arrange for this study through a cooperative fellowship such as those of the Experiment Station.

A request for a new building and additional facilities to make possible increased fundamental and applied research as well as pilot-plant testing of developments is now under consideration by the State.

The scope of the work of the department covers the entire field of ceramics, including heavy clay products, refractories, enamel ware, glass, whiteware, abrasives, gypsum, lime and cement. Although it is impossible to do research on all of the commodities at one time, the work is so planned that research will be done on all of them over a period of years.

While space does not permit a complete picture of current activities, mention of some of the more recent studies may give a clearer conception of the work of the Station: (1) Jet-engine refractories; (2) the mineral composition and properties of New York clays and shales; (3) the improvement of whiteware bodies, through the use of trace elements; (4) improved design for glass and clay cooking ware; (5) vitreous enamels for aluminum; (6) improved compositions and processes for refractories and abrasives; (7) the manufacture of light-weight aggregate from New York State slates and clays; (8) new methods of manufacture of building brick; (9) the uses of trap rock for grinding wheel bonds, glazes and brick; (10) the development of tests for efflorescence of mortars, cements and bricks.

These results are achieved by an intensive research program carried out by a staff of research experts. Preliminary tests are carried out in the laboratory; if these are promising, service tests are conducted to determine the practical value of the development. Through the cooperation of the Ceramic Association of New York, whose Board of Directors acts as an advisory committee, the Experiment Station gets the advice of the leading ceramic industrialists of the State and the active cooperation of their companies.

DESCRIPTIONS OF COURSES

CERAMIC ENGINEERING AND TECHNOLOGY

Ceramics 101. A brief history of the ceramic industries. One lecture per week, first semester.
One credit hour.

Ceramics 102. Repetition of Ceramics 101. Given in the second semester to a second section of the freshman class.

Ceramics 103. Unit Operations. The engineering aspects of typical and fundamental operations in each of the ceramic industries.
Three lectures and one laboratory period per week, first semester.
Four credit hours.

Ceramics 104. Raw Materials. The raw materials for all ceramic industries are considered: winning, refining, processing; properties, including behavior in firing and use in manufacturing; calculations.
Three lectures and one laboratory period per week, second semester.
Four credit hours.

Ceramics 105. Unit Processes. The basic and fundamental consideration of plastic, slip-casting, and dry-pressing processes; drying and firing; effects of grain size and particle distribution; application to unit operations.
Three lectures and one laboratory period per week, first semester.
Four credit hours.

Ceramics 106. Glazes, Glasses, and Enamels. Fundamental studies of the glassy state, followed by applications to the industries producing glazed ceramic ware, glassware, and enameled ware. Colors; compositions; methods of calculation.
Three lectures and one laboratory period per week, second semester.
Four credit hours.

Ceramics 108. Testing Ceramic Products. Lectures, laboratory work, and demonstrations on instruments and methods, and practice in testing commercial ceramic products of all sorts. Second semester.
Two credit hours.

***Ceramics 109. Whitewares.** A study of bodies, glazes and colors. A specialized course in the technology and engineering aspects of the industry in which complex whiteware mixtures and glazes are employed.
Three lectures per week, second semester.
Three credit hours. Prerequisite, Ceramics 106.

* For Electives or Graduate Study.

Ceramics 112. Furnaces and Kilns. Specialized study of the design and operation of ceramic furnaces and kilns; supplementing Ceramics 114.
One lecture per week, second semester.
One credit hour.

*** Ceramics 114. Refractories.** A study of the fundamental technology of all kinds of refractories and the engineering aspects of their production and use.
Three lectures per week, first semester.
Three credit hours. Prerequisite, Ceramics 104.

*** Ceramics 115. Lime, Gypsum and Cement.** The properties, manufacture, testing, and uses of cementing materials.
Three lectures per week, first semester.
Three credit hours. Prerequisite, Ceramics 104.

*** Ceramics 118. Enamels.** The technology of the application of vitreous or porcelain enamels to metals.
Three lectures per week, second semester.
Three credit hours. Prerequisite, Ceramics 104.

Ceramics 121. Equipment, Design and Plant Layout. The engineering features of structural planning and design, plant layout and ceramic plant design.
Two lectures per week, first semester.
Two credit hours. Prerequisite, Ceramics 106 and Math. 37 and 38.

Ceramics 122. Equipment, Design and Plant Layout. The engineering features of structures and of ceramic equipment design, particularly as applied to drying and firing of ceramic ware.
Two lectures per week, second semester.

***Ceramics 123–124. Advanced Ceramic Technology.** The study of solid-state reacreactions, iron exchange, unequilibrium crystallizations, etc., and their ceramic implications.
Two lectures per week, each semester.
Two credit hours each semester.

***Ceramics 125. Advanced Phase-Equilibrium Studies.** Methods of establishment of diagrams; calculations.
One lecture per week, first semester.
One credit hour.

***Ceramics 126. Advanced Ceramic Engineering .** A study of the recent developments in furnaces, kilns, and equipment for ceramic plants.
Two lectures per week, second semester.
Two credit hours.

* For Electives or Graduate Study.

Ceramics 151. A Brief Introduction to the Methods for Producing Clayware. Particular attention is given to the use of pottery plaster, the steps in mold making, and the jiggering and casting processes. Use of equipment for common ceramic processes is demonstrated.
One laboratory period each two weeks, first semester.
One credit hour.

Ceramics 152. Repetition of Course 151. For a second section of the freshman class. One laboratory period each two weeks, second semester.
One credit hour.

***Ceramics 159. Laboratory Practice in Whiteware Technology.** Laboratory studies to demonstrate the properties of whiteware raw materials, the preparation and testing of typical whiteware bodies, glazes and colors. Three laboratory periods per week, second semester. Associated with Ceramics 109.

Ceramics 161. Thesis. Original research on some problem decided upon in conference with the instructor.
Two laboratory periods per week; first semester.
Two credit hours.

Ceramics 162. Thesis. Continuation of Ceramics 161.
Two laboratory periods per week, second semester.
Two credit hours.

***Ceramics 168. Laboratory Practices in Enamels.** Two laboratory periods per week, second semester. To be taken with Ceramics 118.

Ceramics 172. Equipment, Design and Plant Layout. Laboratory practice in which the structural engineering details of plant design, plant layout and plant equipment, including kilns and driers, is carried out.
Three laboratory periods per week, second semester. Associated with Ceramics 122.

***Ceramics 119-120.** Seminar in Ceramic Engineering or Technology, for graduates. Hours to be arranged.

GLASS TECHNOLOGY

Ceramics 200. Raw Materials for Glass. The chemistry of the glass-forming oxides. A study of the methods of production of the minerals and chemicals used in glassmaking and of the chemical reactions and properties; methods of testing purity, chemical composition, and functions in glassmelting.
Three credit hours.

* For Electives or Graduate Study.

Ceramics 201–251. Glass Furnaces, Glassmelting, and Glassworking. Simple glasses are melted, and the melting process is studied in relation to refractories, containers, temperatures, batch compositions, and fining agents. Text and references to the literature of glass covering glass composition, furnace design, and operation, tank blocks and parts, and fundamental chemistry of glassmaking and calculations, working processes, annealing, finishing, defects and testing of commercial glassware.
Five lectures and two laboratory periods per week, first semester.
Seven credit hours. Prerequisite—two years college work in science or equivalent experience.

Ceramics 202–252. The Physics of Glass. The effects of common and unusual colorants, the influence of batch and glass compositions, the study of temperatures and furnace atmospheres in relation to colors, the mathematics of transmission of light through glass, the specific physical and optical properties of glass, constitution theory, and historical development.
Five lectures and two laboratory periods per week, second semester.
Seven credit hours.

Ceramics 203. Properties of Glass. Elective. Primarily for graduate students.
Three lectures per week, first semester.
Three credit hours.

Ceramics 204. Glassmelting Units. Elective. Primarily for graduate students. Studies on the design, construction, and operation of glass furnaces.
Three lectures per week, second semester.
Three credit hours.

Ceramics 205. Survey of Glass Technology. A lecture course offered for the benefit of students in General Ceramics or other departments, covering the subject in a summary manner.
Two lectures per week, first semester.
Three credit hours.

Ceramics 261. Glass Thesis. Laboratory study of a problem selected in conference with the department head.
Two laboratory periods, first semester.
Two credit hours.

Ceramics 262. Glass Thesis. Continuation of Ceramics 261.
Two laboratory periods, second semester.
Two credit hours.

INDUSTRIAL CERAMIC DESIGN

Ceramics 303–304. Materials. Lecture and Laboratory.

1. Lecture: A study of the formation, occurrence, properties, and composition of the principal ceramic raw materials, bodies, glazes and colors. Molecular weights of raw materials; glaze calculation.

2. Laboratory: Exploratory problems in the nature of ceramic raw materials. Problems in the properties of clays and glazes. Industrial bodies and glazes. Ceramic colors and textures.
Two lecture periods and one laboratory period per week.
Three credit hours each semester.

Ceramics 321–322. Drawing. Free-hand drawing and creative design in charcoal and color from still life, landscape, the figure, and memory.
Three periods per week.
Three credit hours each semester.

Ceramics 323–324. Introductory Course—Design. Graphic and material interpretation employing the language of lines, planes, values, color, and texture, and their specific uses in relation to functional space problems.
Seven periods per week.
Five credit hours each semester.

Ceramics 323A–324A. Lettering. Fundamentals of letter construction and composition.
One period per week.
One credit hour each semester.

Ceramics 325–326. Sculpture. Elements of three-dimensional composition using clay as the medium. Organization of form and space as the basis of creative sculpture. Natural and geometric forms used as source material for progressive exercises.
Two periods per week.
Two credit hours each semester.

Ceramics 327–328. Drawing-Painting. Plastic drawing, spatial organization from life, still life, and landscape. Various media used.
Four periods per week.
Four credit hours each semester.

Ceramics 329–330. Three-Dimensional Design. The development of special knowledge and skills necessary to the solution of design problems. Creative articulation of varied materials in space. The study of sections, profiles, and models in their roles as tools of design expression.
Five periods per week.
Five credit hours each semester.

Ceramics 331–332. Sculpture. Further study of three-dimensional forms; tactile quality; positive and negative volumes as elements of creative composition.
Two periods per week.
Two credit hours each semester.

Ceramics 333–334. Design. Creative exercises in pattern, form, color, and texture in relation to ceramic problems and processes.
Four periods per week.
Four credit hours each semester.

Ceramics 335–336. Industrial Design. Basic problems in industrial design. Influence of function, materials, and production. Selected problems are carried into experimental production in allied shop and laboratory courses.
Two periods per week.
Two credit hours each semester.

Ceramics 337–338. Sculpture. Elements of sculpture as applied to creative problems in ceramic design. Exercises in wheel-made and sculptured forms. Work in this course is correlated with that given in 337A–338A.
Four periods per week.
Four credit hours each semester.

Ceramics 337A–338A. Production and Materials. Lecture and laboratory. Shop practice in methods of production. Forming ceramic ware. Methods of using plaster. Model and mold making for wheel-formed and sculptured models in clay and plaster. Preparation and use of clays and glazes. Laboratory problems in creative use and development of ceramic colors and textures and processes. Kiln operation. Working time and course content in this course is closely integrated with that of 337–338.
Four periods per week.
Four credit hours each semester.

Ceramics 339–340. Design. Continuation of courses 333-334.
Four periods per week.
Four credit hours each semester.

Ceramics 341–342. Industrial Design. Pre-professional course in design; ceramic products considered in relation to other materials in household and institutional use and environment. Methods of graphic and three-dimensional presentation. Influence of economic factors in design.
Two periods per week.
Two credit hours each semester.

Ceramics 343–344. **Production.** Pre-professional course in methods and materials and their influence upon the practical solution of design problems. Individual problems, from drawing to final product, and planned for various uses; methods of making and types of market are designed and produced by each student in this and related courses 343A-344A and 341-342.
Four periods per week.
Four credit hours each semester.

Ceramics 343A–344A. **Sculpture.** Pre-professional course applying sculpture principles to problems of product design. Function, influence of materials, and methods of production. Correlated with course 343-344.
Six periods per week.
Four credit hours each semester.

Ceramics 345–346. **Equipment and Materials.**

345: A survey of refractory and insulating materials with reference to their uses in the firing of ceramic wares. Problems in kiln construction, firing reactions, temperature measurement and control.

346: Individual problems in the laboratory development of ceramic materials.

Two periods per week.
Two credit hours each semester.

PETROGRAPHY AND X-RAY ANALYSIS

Petrography 1—The theory and practice of the identification of natural and artificial minerals by means of the petrographic microscope.
Two lectures and one laboratory period per week, first semester.
Three credit hours. Prerequisite, Mineralogy.

Petrography 2—Advanced work in the use of the petrographic microscope and accessories in the examination and photography of ceramic raw materials and products.
Two lecture periods per week, second semester.
Two credit hours. Prerequisite, Petrography 1.

Applied X-rays—The study of X-ray diffraction and its application to ceramic materials.
Two lecture periods per week, first semester.
Two credit hours.

Applied X-Rays Laboratory
One laboratory period per week, first semester.
One credit hour.

ECONOMICS

Economics 11–12. **Principles and Problems.** A study of modern economic society and the functioning of the price-system. The technique of economic analysis. The application of economic principles and methods of analysis to present-day economic problems. Prerequisite for all advanced courses in the department. Three lectures per week.
Three credit hours each semester.

Economics 13–14. **Principles and Problems.** A similar but more summary study than Economics 11–12.
Two lectures per week.
Two credit hours each semester.

ENGLISH

English 1–2. **English Composition.** The use of written and oral language.
Three lectures and discussions per week.
Three credit hours each semester.

English 21–22. **Introduction to English Literature.** A survey of the development of English literature from its beginning to the close of the Nineteenth Century, with emphasis on the most significant writings of the representative authors in each period. Three lectures per week.
Three credit hours each semester.

English 35. **Professional English.** Study and practice in business writing and speaking, with particular attention to the most frequently used types of letters, written and oral reports, and interviews.
Two lectures and discussions per week, second semester.
Two credit hours.

CHEMISTRY

Chemistry 1–2: **Elementary Inorganic Chemistry.** An Elementary course in inorganic chemistry to be taken by Ceramic College students only if they are majoring in Industrial Ceramic Design. Two lectures, one recitation, one laboratory period per week.
Three Credit Hours each semester.

Chemistry 5–6. **General Inorganic Chemistry.** A systematic study of fundamental principles, theories, and calculations. High-school chemistry is a desirable foundation for taking this course. Two lectures, one recitation and two laboratory periods per week.
Five Credit Hours each semester.

Qualitative Analysis: Qualitative analysis of metals and inorganic compounds and the chemical principles involved. A brief, intensive course presented as the latter portion of Chemistry 6.

Chemistry 13: **Quantitative Analysis.** Volumetric and gravimetric analysis. One lecture, one quiz, two laboratory periods per week, first semester. Three credit hours. Prerequisite, Chemistry 6.

Chemistry 14: **States of Matter.** An introduction to the principles of physical chemistry most useful in ceramics. Studies on gases, liquids, and solids; vitreous and crystalline conditions; the phase rule, thermochemistry; plasticity, viscosity, and other properties of matter.
Three lectures per week, second semester.
Three Credit Hours. Prerequisite, Chemistry 6.

Chemistry 15: **Physical Chemistry.** A continuation of Chemistry 14. Theoretical chemistry.
Five class periods per week, first semester.
Five Credit Hours.

Chemistry 43: **Silicate Analysis.** The analysis of silicate rocks, clays and ceramic materials. One lecture and two laboratory periods per week, first semester.
Three Credit Hours. Prerequisite, Chemistry 13.

Chemistry 44. **Fuels and Combustion.** Fuels, principles of combustion, and heat balance. Lecture and laboratory, second semester.
Three credit hours. Prerequisite, Chemistry 14.

Chemistry 77. **Elementary Spectroscopy.** Emission and absorption spectroscopy in chemical analysis. Construction and use of spectrographic equipment. Spectrum and analysis by arc or spark methods of excitation. Qualitative and quantitative analysis.
One lecture per week, first semester
One credit hour.
Admission by special permission.

Chemistry 78A. **Spectroscopy laboratory.** Analysis of inorganic salts and ceramic materials.
One 3-hour laboratory period per week, second semester.
Prerequisite, Chemistry 77.
One credit hour.

Chemistry 78B. **Spectroscopy laboratory.** Quantitative analysis of ceramic materials. Absorption spectroscopy.
One 3-hour laboratory period per week.
Prerequisite, Chemistry 77.

Chemistry 79. Advanced Spectrochemistry. Research applications. Analytical interpretation. Control and Experimental.
One hour lecture and 6 hours laboratory per week.
Three credit hours.
For graduate students, by special permission.

INDUSTRIAL MECHANICS

Industrial Mechanics 1–2. Engineering Drawing. The fundamental principles of drafting and descriptive geometry.
Three credit hours each semester.

Industrial Mechanics 3–4. Mechanical Drawing. A fundamental drafting course to acquaint the beginning art student with the graphical language used by engineers.
Two credit hours each semester.

Industrial Mechanics 31–32. Advanced Mechanical Drawing. Mechanical drawing which parallels the commercial design course for junior art students, to give them as much practical industrial training as possible.
Two credit hours each semester.

MATHEMATICS

Mathematics 5–6. College Algebra. A study of progressions, variation coordinates and graphs, simultaneous equations and determinants, exponents and radicals, the binomial theorem, complex numbers, partial fractions, and theory of equations. Much emphasis is given those algebraic manipulations which are important to the further study of mathematics.

Trigonometry. A study of the trigonometric functions and their applications.

Analytic Geometry. An application of algebra and coordinate systems to the study of geometry, including an analysis of general loci and a detailed study of the straight line, the circle and the conic sections.
Five hours each semester.

Mathematics 15–16. Calculus. The processes of differentiation and integration and their applications. Course 15 is offered each semester.
Four hours each semester. Prerequisites, Mathematics 5–6 or equivalents.

Mathematics 77. Statistics. A study of the more elementary measures most commonly used in statistical investigations. The topics treated include: meaning and scope of statistics, interpretation of graphs, averages, measures of dispersion, and correlation.
Two hours credit. Second semester. Prerequisite, Mathematics 15–16.

Differential Equations. The object of this course is to acquaint students in pure and applied mathematics with useful methods of solving problems by means of ordinary differential equations.
Four hours credit. Two hours credit each semester. Prerequisite, Mathematics 15–16.

PHYSICS

Physics 11–12. General Physics. Lectures illustrated by demonstrations. Special emphasis placed on application of principles studied to natural phenomena and common occurrences of daily life. Laboratory experiments designed to supplement the theory.
Three lectures and one four-hour laboratory period, each semester.
Four hours. Prerequisites, Mathematics 5–6.

Physics 31. Heat. An advanced study of temperature, expansion, specific heat, heats of fusion and vaporization, change of state, transfer of heat, the laws of thermodynamics, kinetic theory of gases, isothermals, adiabatics, and the carnot cycle. Special emphasis placed on methods of measuring coefficients of expansion, specific heats, thermal conductivities, and other important constants.
Two lectures and one laboratory period, first semester.
Three hours. Prerequisites, Physics 11–12 and Mathematics 15–16.

Physics 32. Light. An advanced study of photometers, mirrors, lenses, interference, polarization and the visible spectrum.
Two lectures and one laboratory period per week, second semester.
Three hours credit. Prerequisites, Physics 11–12, Mathematics 15–16.

Physics 34. Magnetism and Electricity. An advanced study of theory and application of magnetism and electricity. Special emphasis placed on alternating current phenomena.
Three lectures per week, second semester.
Three hours credit. Prerequisites, Physics 11–12, Mathematics 15–16.

Electrical Measurements. Two lectures and one three hour laboratory period.
Prerequisites, physics 11–12, Mathematics 15–16.
Three hours second semester.
Laboratory fee, $5.00.

PHYSICAL EDUCATION

Physical Education 1–2. Instruction is given in all the following activities: in the fall—football, cross-country, touch football, soccer, and tennis; in the winter—basketball, volley ball, wrestling, boxing, fencing, badminton, tumbling, games, contests and relays; in the spring—track, baseball, tennis and softball. Required of freshmen.
Two hours practice.
One credit hour each semester.

Physical Education 11–12. A continuation of 1–2 with more advanced instruction in skills of the various activities. Required of sophomores.
Two hours practice.
One credit hour each semester.

GEOLOGY AND MINERALOGY

Mineralogy 1. This course includes an introduction to crystallography and a study of minerals and their identification by chemical and physical tests. One lecture and one laboratory period per week, second semester.
Two credit hours.

Geology 4. This is a course in general geology with special reference to the materials of ceramic importance.
Three lectures per week, second semester.
Three credit hours.

STUDENT ENROLLMENTS

1946–1947

FRESHMEN

Name	Residence	Course
Allis, Deo Grant, Jr.	Hornell	Glass Tech.
Anderson, Ingrid Helena	Wyandanch	Design
Antoun, Paul Richard	Meadville, Pa.	Engineering
Babcock, Richard Rogers	Belmont	Glass Tech.
Barron, Albert Roy	Canisteo	Engineering
Battista, William Francis	Hempstead	Design
Beckhorn, Lois Mae	Alfred Station	Design
Best, Edison Frederick	Corning	Engineering
Bilinski, Zygmunt Joseph	Natrona, Pa.	Engineering
Bowden, Joseph Pickford	Pittsburgh, Pa.	Design
Brooks, Robert Howard	Jamestown	Engineering
Brown, Dwight Rutherford	Walton	Engineering
Buday, Victor Louis	Bronx	Engineering
Busteed, Donald Joseph	Hornell	Engineering
Cantwell, Thomas Michael, Jr.	Hartsdale	Engineering
Cappuccio, Paul Raymond	New York City	Design
Carlson, William George	Center Moriches	Engineering
Chatfield, Arthur Ives	Painted Post	Engineering
Chiari, Bruno Vincent	Flushing	Engineering
Coffin, William E.	Bolivar	Engineering
Conklin, Laverne Jay	Avoca	Engineering
Corbett, Burton Asa	Hornell	Engineering
Cotton, Robert Arnold	Canisteo	Technology
Crandall, Neil Charles	Hornell	Engineering
Crispino, Joseph Charles	Painted Post	Glass Tech.
DeProsse, Victor Amadeus	Hastings-on-Hudson	Engineering
Dick, Edward Francis	Garden City	Glass Tech.
Dimon, Edna Mallery	Southampton	Design
Eiwen, George Ernest	New York City	Engineering
Farley, John B.	Frankfort	Engineering
Farnham, Roberta Doris	Herkimer	Design
Feucht, Jean Anne	Buffalo	Design
Frantz, Thomas Orange	Hornell	Engineering
Garr, Stanton Ross	Flushing, Mich.	Engineering
Garrison, Donald Leon	Addison	Engineering
Gentsch, Roger William	Oakfield	Engineering
Gilkes, John James	Oceanside	Design
Goodwin, Jack Lester	Hornell	Engineering
Greenblatt, Dolores	Brooklyn	Design
Griffith, Lawrence Olinger, Jr.	Port Allegany, Pa.	Engineering
Hall, James Augustus, Jr.	New York City	Design
Hallberg, Richard Clair	Bemus Point	Engineering
Hansen, John Anable	Oakfield	Engineering
Harris, George Mark	Bergenfield, N. J.	Engineering
Havens, Irvin Fenley	Belfast	Engineering
Hawkins, Robert Joseph	Kenmore	Engineering
Herrold, Lear Charles	Williamsport, Pa.	Engineering
Hildebrand, David	Alfred	Engineering
Hinds, Howard Clark	Williamsport, Pa.	Engineering
Holstrom, Joseph Harold, Jr.	Bensenville, Ill.	Engineering
Johnson, Alton Edwin	Ashville	Engineering
Johnston, Irene Akhurst	Rye	Design
Jova, Juan Auguste	Newburgh	Engineering

Name	Residence	Course
Kelly, Nancy Lou	Olean	Design
Kennedy, Patricia Joan	Canisteo	Design
Kilbane, Paul Edward	Andover	Engineering
Klusky, Richard Valentine	Utica	Engineering
Knapp, Robert Carl	Hornell	Engineering
Knowlton, Donald Eugene	Rochester	Engineering
Knudsen, Friedrich Paul	New York City	Engineering
Kopell, Lawrence	Brooklyn	Engineering
Kraushaar, Deborah	Lawrence	Design
Lacy, Laurena Ann	Niagara Falls	Design
Leff, Jerome	Brooklyn	Engineering
Lindenthal, John Walter	Freeport	Engineering
Longfritz, Robert Kirby	Mt. Morris	Engineering
Losch, Lucille Lorraine	Niagara Falls	Engineering
Lowe, Earl Charles	Whitewater, Wis.	Engineering
McAllister, Christopher Paul	Avoca	Engineering
Maloney, William Francis	Hornell	Engineering
Marshall, Darwin	Buffalo	Engineering
Michon, Mary Carolyn	Summit, N. J.	Design
Miller, Eldon Davidson, Jr.	Buffalo	Engineering
Morse, Lynn Joseph	Painted Post	Engineering
Myers, Frederick Clarence	Saugerties	Engineering
Neville, Marilyn Louise	Niagara Falls	Design
Nobles, Eugene Louis	South Dayton	Engineering
Nolan, James Joseph	Port Washington	Engineering
Orton, James Douglas	Summit, N. J.	Engineering
Ostrander, Donald William	Wappingers Falls	Engineering
Palamara, Louis Mark	Brooklyn	Engineering
Parson, James Albert	Angelica	Engineering
Pausewang, Margaret Jean	Huntington	Engineering
Pixley, George Whiting	New Hartford	Engineering
Potter, Francis M.	Port Washington	Engineering
Prokopec, Robert	Elmira Heights	Engineering
Quartz, Joseph Gerard	Hornell	Engineering
Quirk, John Maurice	Watkins Glen	Engineering
Rase, Daniel Edward	Cleveland, Ohio	Glass Tech.
Reed, Louemma	Penn Yan	Design
Rokenbrod, Dayton Ellsworth	Hornell	Engineering
Root, Herbert Dean	Asheville, N. C.	Engineering
Rowe, James Edward	Wyoming	Engineering
Rumsey, Florence	Friendship	Design
Saltman, Donald	New York City	Engineering
Sanford, Allan Holmes	Swain	Engineering
Saunders, John William	Andover	Engineering
Schane, Charles Walter, Jr.	Hornell	Glass Tech.
Schmidt, William George	Flushing	Engineering
Schwendler, Leah Marie	Dansville	Technology
Selewach	Elmira	Engineering
Sherk, Donald	Stevensville, Ontario, Can.	Engineering
Siebert, Harvey Edward, Jr.	Lancaster	Engineering
Smith, Donald	Westbury	Engineering
Smith, Joseph Henry	Painted Post	Engineering
Smith, Kay Jeanne	Freeport	Design
Spring, Kenneth Louis	Spring Valley	Engineering
Stern, Jerome	Brooklyn	Technology
Strang, William Charles	Youngstown, Ohio	Engineering
Strong, Robert Orrin	Buffalo	Engineering
Tappan, George Hodsdon	Rutland, Vt.	Engineering
Traquino, Bruce Leo	Lackawanna	Engineering
Taylor, Howard Louis	Westbury	Engineering

Name	Residence	Course
Taylor, Howard U.	Degolia, Pa.	Engineering
Terry, Jacqueline Lois	Hornell	Design
Theurer, Barbara Jean	Johnstown	Design
Tiers, Betty	Fort Plain	Design
Tournaud, John deMontigny	Manchester, Conn.	Engineering
Trax, Alan Martin	Hornell	Engineering
Trompeter, Bernard James	Rochester	Engineering
Trost, Frank William	Bellerose	Engineering
VanAlsten, Roy Leonard	Canisteo	Engineering
Wallace, James Lewis	Sherrill	Engineering
Wands, Constance Nadine	Meridian	Design
Wighton, Roger John	Mt. Vernon	Engineering
Williams, Gordon Robert	New York City	Engineering
Williams, Robert Mantell	Brooklyn	Engineering
Windus, Ralph Wilbur	Shinglehouse, Pa.	Engineering
Woodward, James Frederick	Savona	Engineering
Woodworth, Graydon Read	Delevan	Engineering
Yazak, Howard Edward	Salamanca	Engineering

SOPHOMORES

Adamo, Ralph Joseph	Waterloo	Glass Tech.
Anderson, Duane Juel	Wellsville	Design
Anderson, Herbert Harold	Port Allegany, Pa.	Glass Tech.
Arnold, Barbara Jean	Hornell	Engineering
Baker, Ira Martin	Batavia	Engineering
Baran, Frank Fredrick Jr.	Lynbrook	Glass Tech.
Beazell, William Henry, Jr.	Bradford, Pa.	Glass Tech.
Bemis, Donald Melvin	Silver Creek	Engineering
Benson, Edward	New York City	Engineering
Blum, Seymour	Brooklyn	Engineering
Breitsman, Willis John, Jr.	Medina	Engineering
Brown, Colin Campbell	Hornell	Engineering
Cepuran, Rosemary Sharp (Mrs.)	Rochester	Design
Collins, Madeline Martha	Saugerties	Engineering
Cottrell, Henry Loomis	Brooklyn	Engineering
Dahl, Barbara Marjorie	Brooklyn	Design
Davison, Martha Ann	Youngstown	Design
Deutsch, Hermine	New York City	Design
Deutscher, Jerome Stanley	Lynbrook	Engineering
Diefendorf, Charles O.	Pittsburgh, Pa.	Engineering
Dixon, Neysa Jean	Niagara Falls	Design
Dreyer, Donald Henry	Mt. Kisco	Glass Tech.
Foote, Audrey Lois	Niagara Falls	Design
Fuszara, Lester Thaddeus	Perry	Engineering
Gardner, John Fredrick	Wellsville	Engineering
Green, Marian Dorothea	Byron	Design
Hanright, Robert Allen	Rochester	Engineering
Harrington, Gerald Alfred	Coudersport, Pa.	Engineering
Harris, Robert Cleveland	Unadilla	Engineering
Harvey, Joseph Sherman, Jr.	Canisteo	Glass Tech.
Helmer, Gilbert Wayne	Wellsville	Engineering
Holman, Eugene William	Ransomville	Glass Tech.
Holton, Jane	Webster	Design
Humenik, Michael, Jr.	Garfield, N. J.	Glass Tech.
James, George Theodore	New York City	Design
Kane, Daniel Francis, Jr.	Dunkirk	Engineering
Kane, John Leo	Dunkirk	Engineering
Killian, Regina Joyce	Roosevelt	Engineering
Krainis, Esta	Bronx	Design

Name	Residence	Course
Lack, Joseph	Brooklyn	Engineering
Lange, James Magnus	Lynbrook	Engineering
Lee, Mary Elizabeth	Norwich	Design
LeSuer, Gretchen Elaine	Friendship	Design
Levine, Risha Loah	Rochester	Design
Lewis, Mary Jane	Kingston	Design
Lorey, George Edwin	Freeport	Glass Tech.
Lyons, Jerome Allen	New York City	Design
Lytle, Barbara Jane	Salem	Design
MacIntyre, Donald John	Yonkers	Glass Tech.
McFall, Robert Keane	Corning	Glass Tech.
Meissner, Paul E.	Wellsville	Engineering
Milligan, Harry Drown	Alfred Station	Engineering
Murrett, John Raymond	Silver Creek	Design
Naum, William Eugene	Kendall	Engineering
Nelson, Robert Edward	Westbury	Engineering
Nixen, David	New York City	Engineering
Olmstead, Claire	Smethport, Pa.	Design
Orzano, Michael John	Rockville Centre	Engineering
Pangborn, William Lewis	Spencerport	Engineering
Pedu, Richard Kingsley	Garden City	Engineering
Pendleton, Elizabeth	Hamburg	Design
Picarazzi, Frank Joseph	Corning	Glass Tech.
Posluszny, Raymond Frederick	Greenwich, Conn.	Engineering
Powell, David Ralph	Jamestown	Engineering
Rasch, Anthony Algerd	Ansonia, Conn.	Engineering
Ratner, Naomi Sue	Brooklyn	Design
Ratschkowsky, Artrude Dorothy	Webster	Design
Reuning, George William, Jr.	Wellsville	Engineering
Riley, Paul Erving	Sennett	Design
Robillard, Harvey Joseph, Jr.	Troy	Engineering
Ruff, Barbara Ann	Lynbrook	Engineering
Schane, Edward William	Hornell	Engineering
Scholts, Raymond Cornelius	Rochester	Engineering
Schwartz, Bernard	Yonkers	Engineering
Secrest, James Dwite	Rochester	Design
Shapiro, Jesse Bernard	Brooklyn	Engineering
Sica, Marie Louise	Floral Park	Design
Skinner, Roger DeForest	Hornell	Glass Tech.
Slusarski, Peter Adam	Syracuse	Design
Smith, Richard Earl	Auburn	Engineering
Snow, Lloyd James	Whitesville	Engineering
Stetson, William Clarence	Kenmore	Engineering
Thomas, Carolyn Frances	Springville	Design
Tracy, Richard Krause	Falconer	Design
Turner, Robert Charles	Bellmore	Engineering
Wallace, Arthur Bruce	New York City	Engineering
Walmsley, William L.	Niagara Falls	Engineering
Watkins, Donald Bert	Painted Post	Glass Tech.
Watkins, Richard Albert	Painted Post	Glass Tech.
Wattengel, Donna Howard	Niagara Falls	Design
Weaver, Leroy Richard	Elmira	Engineering
Whitford, Robert Frederick	Little Genesee	Engineering
Wiegand, Normalee	Poughkeepsie	Design
Wilson, Brenda Marjorie	Floral Park	Design
Winegard, Betsy Ross	Penn Yan	Design
Zegler, Richard Eugene	Buffalo	Design

JUNIORS

Name	Residence	Course
Albert, Millicent Dorothy	Flushing	Design
Baker, Margaret Jean	Yonkers	Design
Baker, Robert Lee, Jr.	Wellsville	Glass Tech.
Bayko, Helena Marie	East Rochester	Design
Beach, Roland Rockwell	Brooklyn	Design
Blair, Gerald Elroy	Nunda	Glass Tech.
Brady, Charles Peter	Bellerose	Engineering
Brant, Robert Martin	Little Valley	Engineering
Clark, Thaddeus Edward	Buffalo	Engineering
Cooper, Alfred Robert, Jr.	White Plains	Glass Tech.
Davidson, Martin Jay	Brooklyn	Glass Tech.
Dorsey, John Joseph	Wellsville	Engineering
Drozdowski, Eugene	New York City	Glass Tech.
Dwinelle, James Dana	Syracuse	Engineering
Elston, Howard Keith	Albany	Engineering
Farr, Archie Ervin	Painted Post	Engineering
Fistick, Stanley	Mohawk	Design
Fordham, Elmo Arthur	Watkins Glen	Engineering
Fuller, Marie June	Batavia	Glass Tech.
Gaffney, Joan Frances	Floral Park	Design
Gallen, Gerald	Brooklyn	Design
Garvey, Lawrence Peter	Long Island City	Engineering
Goldfarb, David	New York City	Design
Guillaume, David Flierl	Williamsville	Design
Hagberg, Carl Edward	Jamestown	Engineering
Jaffe, Bernard	Brooklyn	Engineering
Julkowski, Edmund Gerald	Buffalo	Design
Kaiser, Charles Paul	Lynbrook	Engineering
Kershner, William George	Olean	Engineering
Klinetsky, Joseph George	Richmond Hill	Engineering
Lindquist, Claude Alan, Jr.	Jamestown	Engineering
Lowden, Mary Estelle	Hempstead	Design
Macaulay, Ruth Mathea	Sherrill	Design
Nadler, Marion Ronald	Homer	Glass Tech.
Ormsby, Walter Clayton	Alfred	Engineering
Palter, Lewis	New York City	Engineering
Parker, Harry S.	Irving	Engineering
Paul, Wortley Browning, Jr.	Buffalo	Engineering
Post, Benjamin Franklin	Alfred	Engineering
Powers, Alfred Edward	Miami, Fla.	Glass Tech.
Prior, Gordon Marshall	Wellsville	Engineering
Setchel, Hayden Merritt, Jr.	Cuba	Glass Tech.
Springer, Rosemarie	Pittsburgh, Pa.	Design
Squires, Helen Jeanette	Attica	Design
Suchora, Renee Natalie	Depew	Design
Terry, Nancy	Lynbrook	Glass Tech.
Uyemura, Kenichiro James	Seabrook, N. J.	Design
Weintraub, David Leon	New York City	Engineering
Wilson, Robert Gladstone, Jr.	Batavia	Design
Young, Robert Wesley	Yonkers	Glass Tech.

SENIORS

Abler, Morton	New York	Design
Adams, Ruth Grace	Harmon-on-Hudson	Design
Anderson, Winslow	Plymouth, Mass.	Design
Barnes, Harry Hamilton	New York City	Engineering
Bassett, William Leon	Alfred	Engineering

Name	Residence	Course
Bates, Edgar Auser	Buffalo	Glass Tech.
Baumer, Leon Nichols	Kendall	Engineering
Beerman, Henry Peter	Hewlett	Glass Tech.
Boros, John	New York City	Engineering
*Bowman, Robert Richards	Elmira	Engineering
Breckon, Haldred Charles	Lewiston	Engineering
Brennan, Constance Gratiaa	White Plains	Design
Bunnell, Lowell Avery	Middleport	Engineering
Case, Douglass Ackerly	West Falls	Design
Deyerling, Carl Lester	Batavia	Engineering
Emhiser, Donald Edward	Painted Post	Engineering
Faust, Ernest Henry, Jr.	Highland	Glass Tech.
Gaffney, Robert Francis	Attica	Glass Tech.
Guillaume, Barbara Flierl	Williamsville	Design
Hatch, Edwin Francis	Gulfport, Fla.	Glass Tech.
Hathaway, Augustus Jeremiah III	Niagara Falls	Engineering
Heasley, Franklin Alvin	Patchogue	Engineering
Heebner, John Culver	Stewart Manor	Engineering
Keitel, Gerald Arthur	Kenosha, Wis.	Design
Lange, Robert Voss	Oneonta	Glass Tech.
Laurie, Dominick	Frankfort	Engineering
Lawrence, Walter Frederick, Jr.	Woodcliff, N. J.	Engineering
Longfritz, Beverly June	Mt. Morris	Design
Ludwig, Urban Wilbert	Jamaica	Glass Tech.
McKinstry, Herbert Alden	Avoca	Glass Tech.
Merriman, Seth Grant	Utica	Glass Tech.
Mosco, Samuel Arthur	Buffalo	Engineering
Pachl, Margaret Davis (Mrs.)	Kansas City, Mo.	Design
Parry, William David	Alfred	Design
Petrusiw, Walter Francis	Elmira	Engineering
Phillips, Jack Elmer	East Quoque	Engineering
Rapp, Nettie Ann	Darien	Design
Reid, Margaret Lore (Mrs.)	Alfred	Design
Roberts, Mervin Francis	New York City	Glass Tech.
Rowland, Donald Arthur	LeRoy	Design
Saunders, Hannah Arlotta	Alfred	Design
*Schloh, Dorathea Anne	Richmond Hill	Design
*Schwartz, Jerome William	Bronx	Engineering
*Stillman, Donald Richard	Friendship	Design
Storper, Samuel Jack	Bronx	Engineering
Suga, Arthur M.	Medford	Engineering
Thomson, James Keith	Bellmore	Engineering
Tiftickjian, John Dickran	Buffalo	Engineering
Turnbull, Robert Charles	Canisteo	Glass Tech.
Weinrib, David	Brooklyn	Design
Wilson, Roger Earl	Lockport	Engineering

SPECIALS

Albiston, Florence Elizabeth	Alfred	Design
Artis, William Ellsworth	Corona	Design
Barlow, Jeanne	Park Ridge, N. J.	Design
Brownell, Wayne Ernest	Hornell	Engineering
Burnham, Forrest Earl	Alfred	Engineering
Busch, John H.	Holcomb	Glass
Dickens, Donald Applebee	Alfred	Engineering
Haskins, David D.	Wellsville	Ceramics
Hoffman, Lewis Charles	New York City	Engineering

* Work completed in summer school

Name	Residence	Course
Knudsen, Christen	Borgestad, Norway	Engineering
Liu, Lien-Pao	Hopie, China	Glass Tech.
Malm, Olive Dorothy	Worcester, Mass.	Design
Negoro, Minnie	Alfred	Technology
Nowak, John Michael	Niagara Falls	Engineering
Patterson, Clare Beatrice	Niagara Falls	Design
Ploetz, George Lawrence	Ellicottville	Glass Tech.
Ruhe, Karl	Kew Gardens	Engineering
Segal, Bernard	Philadelphia, Pa.	Design
Sephton, Howard Irving	Patchogue	Engineering
Sheheen, Alexander Thomas	Hornell	Glass Tech.
Stone, Barbara	North Scituate, R. I.	Design
Supera, Julius	Hancock	Design
Tinklepaugh, James Root	Hornell	Engineering
Washburn, Lucius Henry	Alfred	Engineering
West, Richard Rudolph	Richburg	Engineering
Williams, Leland Ellis	Alfred	Engineering
Wygant, James Frederic	Hornell	Engineering

GRADUATES

Bhatia, Baikunth Bihari	Bulandshank, India	Glass Tech.
Bissell, Don Wilson, Jr.	Hamburg	Engineering
Chandappa, Nanjaiah	Mettupalaiyam, S. India	Glass Tech.
Gifford, Dudley Morton	Uxbridge, Mass.	Design
Heystek, Hendrik	Transvaal, S. Africa	Engineering
Jacobs, Charles William Fred.	Alfred	Design
Johnson, Arnold George	Thomaston, Conn.	Glass Tech.
Khan, Abdul Rahim	Jubbulpare, India	Glass Tech.
Meyer, Elsie Lois	Perry	Design
Perkins, Lyle Nathaniel	Alfred	Design
Polar, Alfredo	Lima, Peru	Engineering
Satterly, Mary Florence	Toronto, Canada	Design
Scheffer, Karl Daniel	Pretoria, S. Africa	Technology
Schickel, William John	Ithaca	Design
Shoemaker, Charles William Jr.	Olean	Design
Singh, Rabindar	Lahore, India	Engineering
Thakur, Ram Lakhan	Muraffarpur, India	Glass Tech.
Turner, Robert Chapman	Brooklyn	Design
Varma, Satya Pal	Lahore, India	Glass Tech.
Webb, Randolph Owen	Arkport	Design

DEGREES CONFERRED

June 10, 1947

BACHELOR OF SCIENCE

(Department of Ceramic Engineering)

Javier Hernan Fuenzalida, in absentia	Chile
Willard Ellsworth Hauth, Jr.	Niagara Falls

BACHELOR OF SCIENCE

(Department of Glass Technology)

Albert Charles Groth	Rochester
Russell Frederick Leinhos	Painted Post

BACHELOR OF FINE ARTS

(Department of Industrial Ceramic Design)

Carolyn Elizabeth Banks
Marie Basciani
Frances Evelyn Bovee
Gloria Jean Burchell
Paul William Cook
Violet Knauth Dunbar
Marilynn Miscall Fitzroy
Evelyn Virginia Harley
Anne Jane Hooker
Edna Ruth Levy
Sylvia Elaine March
Joanna Folts Stetson
Alice Boyd VanGaasbeek
David Joseph Broudo
Charles William Frederick Jacobs
Elaine Judith Locke
Martha Elizabeth Miner
Charles Jacob Lakofsky

MASTER OF SCIENCE

Javier Hernan Fuenzalida, in absentia	Chile

MASTER OF FINE ARTS

Christine Legge Congdon	Binghamton
Alexander Giampietro	New York
Jane Pollard Hartsook	Alfred
Emma Jennelen Langseth	Worthington, Minn.

The main building of the College of Ceramics

Industrial Ceramic Design

Ceramic Technology

Ceramic Engineering