ALFRED UNIVERSITY PUBLICATION

COLLEGE OF CERAMICS

at ALFRED UNIVERSITY

Catalog Number

CALENDAR FOR 1958-1959 AND 1959-1960

	First Semester	*1958*	*1959*
Registration	Mon.-Thurs.	Sept. 15-18	Sept. 14-17
Instruction begins	Fri. 8:00 A.M.	Sept. 19	Sept. 18
Registration part-time graduate students	Mon. 5 to 8 P.M.	Sept. 22	Sept. 21
Founders' Day	Thursday	Oct. 16	Oct. 15
Mid-Semester Grades	Mon. 12:00 M.	Nov. 17	Nov. 16
Thanksgiving recess	Wed. 10:00 A.M.	Nov. 26	Nov. 25
Instruction resumed	Mon. 8:00 A.M.	Dec. 1	Nov. 30
Christmas recess begins	Wed. 10:00 A.M.	Dec. 17	Dec. 16
		1959	*1960*
Instruction resumed	Mon. 8:00 A.M.	Jan. 5	Jan. 4
Mid-year Exams begin	Wednesday	Jan. 21	Jan. 20
Exams end: Sem. ends	Friday	Jan. 30	Jan. 29
	Second Semester		
Registration new students	Tuesday	Feb. 3	Feb. 2
Instruction begins	Wed. 8:00 A.M.	Feb. 4	Feb. 3
Registration part-time graduate students	Mon. 5 to 8 P.M.	Feb. 9	Feb. 8
St. Pat's Festival Half Holiday	Friday	Mar. 13	Mar. 18
Mid-Semester Grades	Mon. 12:00 M.	Mar. 25	Mar. 30
Spring recess begins	Thurs. 10:00 A.M.	Mar. 26	Apr. 8
Instruction resumed	Mon. 8:00 A.M.	Apr. 6	Apr. 19
Moving-Up Day	Thurs. No classes after 10:00 A.M.	May 7	May 5
Baccalureate Service	Sunday	May 24	
Final Exams begin	Wednesday	May 27	May 25
Memorial Day—Half Holiday	Mon. No exams in P.M.		May 30
Exams end: Sem. ends.	Friday	June 5	June 3
123rd. Anniversary Comm.	Sunday	June 7	June 5
	Intersession		
Term begins	Tuesday	June 9	June 7
Term ends	Friday	June 26	June 24
	Regular Summer Session		
Term begins	Monday	June 29	June 27
Term ends	Friday	Aug. 7	Aug. 5

STATE UNIVERSITY OF NEW YORK

Catalog of the College of Ceramics at Alfred University

ALFRED UNIVERSITY PUBLICATION

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STATE UNIVERSITY OF NEW YORK

DESCRIPTION

The State University of New York was established by the State Legislature in 1948. It comprises forty-two colleges. Twenty-eight of them are state-operated and fourteen are locally-sponsored community colleges. Although separated geographically, all are united in the purpose to improve and extend opportunities for youth to continue their education after high school.

State University offers cultural and professional four-year programs in liberal arts, home economics, industrial and labor relations, veterinary medicine, ceramics, agriculture, forestry, maritime service, medicine and teacher preparation, as well as two-year programs in a wide variety of fields, including technical courses in agricultural, industrial, health, and service areas. Several of its colleges offer graduate programs.

Governed by a Board of Trustees appointed by the Governor, State University of New York plans for the total development of State-supported higher education. Each college of State University is locally administered, and students apply directly to the institution for admission.

Although State University of New York is the second largest state university in the country, its students have the additional advantage of attending relatively small colleges.

The State University motto is: "Let Each Become All He Is Capable Of Being."

STATE UNIVERSITY OF NEW YORK

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GENERAL INFORMATION

CERAMICS

THE WORD CERAMICS is derived from the Greek word Keramos, which means fired earth.

Since the beginning of recorded time, man has had need of Ceramic Products: he needed vessels for preparation and storage of food and he needed materials of which to build his home. These needs were satisfied through man's knowledge of the properties of clay, the only natural material that man could, with the use of his hands alone, make into useful products. Primitive man learned not only that clay articles, when dry, had properties that made them useful but also that heat affected clays in such a way as to make clay articles not only able to withstand daily use, but also rock-like in their resistance to the elements.

The history of Ceramics is the history of man himself. The articles that one studies to trace the history of Ceramics are the very ones used to trace the history of man. Because of their lasting properties, ceramic articles serve as the fingerprints and milestones of man and his development.

Each civilization of the past has in some way contributed significantly to the present day knowledge and importance of ceramics. It was not until the middle of the nineteenth century, however, that any attempt was made to seek out, compile, and record this knowledge. From that time until the beginning of the twentieth century the recorders of the facts were not particularly interested in the general dissemination of this knowledge. It was left for the twentieth century to make the information generally accessible through educational programs.

During the first quarter of the twentieth century, teachers and students in America concerned themselves with studies relative to the properties of clays and shales; the properties of a few minerals which were added to clays to alter their properties; how to prepare mixes (make clay bodies); how to shape, dry and fire wares; how to make glazes; and how to make glass. Then came World War I and with it an awakening to the fact that, though the products of the ceramist were important because of their beauty, sanitary properties and dura-

bility, they were products without which other important industries could not operate. In retrospect one can visualize the coming together of many skeins to make a whole warp: the sciences of chemistry, mathematics and physics had advanced markedly; the applied sciences including geology, electricity and metallurgy had taken on stature and great impetus had been given to the development of the electrical, metallurgical, optical and power industries. Up until the war, developments had taken place just for "developments" sake, each in a bit of a vacuum, but with the advent of war it became necessary to progress for the purpose of defeating an enemy and to meet the demands of other growing industries. The country (and the world) had awakened to the inter-dependence of industries upon one another and the dependence of all on fundamental science.

And so it came about that the ceramist was called upon to produce new products for use in melting, casting and cleaning metals; to develop new products for insulating heavier electric current, better spark plugs for airplane and automobile engines; to produce brick that would stand up longer in furnaces of all kinds; and to prepare glasses to permit the building of better optical systems. The ceramics industry did the things that were expected of it and, in doing so, expanded greatly the knowledge of ceramics.

Between World War I and World War II ceramists spent much time restudying their contributions and analyzing how these accomplishments had come about. The industry used this period to consolidate its gains through the establishment of more penetrating research activities and by stepping up its educational programs. Its broadened horizons no longer permitted development "in vacuum" or the underestimation of the basic sciences. This period was one of leisurely progress bringing with it important developments for a peaceful world in which peace-loving people could live.

World War II brought more difficult and complicated problems to the ceramist but because of his knowledge, training, and his research he had no difficulty in meeting its challenges. However, these challenges were nothing compared to the problems which presently confront the ceramist. During the present time of pseudo-peace fantastic developments that are taking place for furthering the peace as well as preparing for war have and will continue to involve ceramics. At no time in the history of man and in no other country of the world has there been the amount and/or type of development that is presently taking place in this country. The needs of the people and the needs of

the country are being attacked on all fronts with strongly integrated development programs and with phenomenal results.

Today, instead of being satisfied with a knowledge of clays, shales and a few other minerals involved in the manufacture of brick, tile, sewer pipe, terra cotta, pottery, floor and wall tile, sanitary ware, and fireclay refractories, the ceramist has to concern himself with every non-metallic mineral.

He must produce not only new, different, and better building brick and tile, floor and wall tile, dinner ware, pottery, and sanitary ware, but also

Refractories that will:

- withstand ever-increasing temperatures
- be non-reactive to melts of new metals and alloys
- resist more effectively the corrosive action of molten glasses
- withstand severe heat shock
- help make better jet engines and rockets
- stand up under heavy loads at high temperatures
- be suitable for use in atomic energy applications

Dielectrics for:

- radar equipment
- radio equipment
- calculating machines
- television equipment
- ultra-high frequency application
- electronic devices of all kinds

Portland Cement for:

- faster and better road building
- high temperature applications
- use in contact with chemically active materials
- better concrete structures

Specific Products for the:

- Textile Industry
- Metal Polishing Industry
- Electronic Industry
- Oil Industry
- Printing Industry
- Atomic Energy Applications

Glasses for:

- new optical sytems
- reflecting signs and markers
- television applications
- structural uses
- electrical light fixtures
- heating elements
- utensils

Enamels for:

- use in jet engines
- chemical engineering equipment
- new household appliances
- new jewelry applications
- architectural applications

PROGRAMS

The programs of the College have been developed with reference to its principal function, the education of youth. Although students come to the institution for specialized training in ceramics, it is considered the duty of the College to make certain that the education received is one which prepares them for life as well as for a professional career in ceramics. Courses are arranged in such a manner as to present in logical sequence not only those fundamental and applied subjects so important to the ceramic engineer, ceramic designer, ceramic technologist or glass technologist, but also those subjects in the realm of humanistic-social studies which will point out to him the important role he will be expected to play in society as well as his profession, and will help him to become a good citizen.

The opportunities in ceramics are great and in order to prepare oneself for these opportunities a young person may study to be a ceramic engineer, a ceramic technologist, a glass technologist, or a ceramic designer. Each program involves a particular area of study and each is important to the industry. The specific course which one should follow can be determined by one's aptitude, abilities, and desires. Each course is treated in detail under Departments of Instruction.

The ceramic profession is one of the oldest and one of the most challenging. It has need for qualified persons who are willing and able to develop it further. Great advancements are possible, and these will be made by well-trained, imaginative persons. Approximately 1,000 are registered in American schools and colleges preparing themselves for careers in the ceramic profession while approximately 4000 ceramic graduates are gainfully engaged in it. In normal times approximately 200 are graduated into the profession, one-third of them being graduated from the College of Ceramics. It is significant that normally only 200 are graduated yearly to enter a highly technical industry comprised of hundreds of plants and turning out products valued in billions each year. The opportunities for ceramic graduates are great.

Contact with the industries of the State is maintained through the splendid cooperation afforded the College by the Ceramic Association of New York whose special committees assist college authorities in evaluating the teaching and research programs. Contact with other State agencies is maintained through active cooperation with the New York Science Service and the New York State Department of Commerce.

Encouragement is given to participation in extra-curricular activities because it is known that through such participation a student has the opportunity to learn the effectiveness of cooperative work and to develop talents not brought out by regular course work. The value of a student's participation in religious fellowship, dramatics, athletics, and journalism is difficult to evaluate, but experience has shown that such activities not only add much to the student's outlook on life but also serve to develop understanding and confidence in areas outside his chosen field.

Staff proficiency is kept high by staff participation in the affairs of educational and scientific societies as well as by the direct contact they have with industry and research.

Research is kept timely and alive by an active research and development program and the availability of exceptionally good equipment. Involving as it does studies of a fundamental scientific nature, studies in applied research, and studies concerning the utilization of New York State minerals, the program affords the student an opportunity to become acquainted with practically all types of ceramic research. Projects sponsored by the College, by industry, federal agencies and associations, bring to the campus leading industrialists and outstanding research workers. Research carried on by undergraduate and graduate students links the teacher, the researcher, and student in a valuable educational experience.

CAMPUS FACILITIES

The College of Ceramics is an integral part of Alfred University, and its students are Alfred University students. In view of this, students of the College have available to them all the facilities provided by Alfred University. Among the most important of these facilities are Alumni Hall, an assembly hall used for dramatic production, student assemblies, moving pictures, commemorative exercises, concerts and Forum series; the Herrick Memorial Library, containing over 90,000 volumes and providing reading and seminar rooms; the Clawson Infirmary, providing facilities for the treatment of student illnesses and staffed by two University doctors and by registered nurses; Merrill Athletic Field, equipped with large bleachers, floodlights and a field house; South Hall, containing a gymnasium for women and adjacent to tennis courts and archery range and flats for outdoor activities for women; Howell Hall, providing kitchen, dining rooms and reception rooms, and available for special meeting purposes; the Track and Field House, containing an indoor track, a basketball court and a jumping and vaulting pit, training quarters, team rooms, showers, and used for large dances; and the Campus Union, a place to eat, relax and meet friends.

ORIENTATION WEEK

The first week of the academic year is devoted to orienting entering students to university life and to their scholastic work. Attendance by all freshmen and transfers is required.

PLACEMENT

The College does not guarantee employment for its graduates, but members of the staff assist graduates in finding positions for which they are qualified. The many industrial contacts which the College and its staff enjoy and the records made by graduates result in the receipt of many inquiries for qualified persons. Graduating students who are considered qualified for an open position are placed in direct contact with the interested persons.

The positions which the graduates fill have to do with plant production, control of operations, research, industrial ceramic design, sales engineering, teaching and testing. All students are aided in finding the field of work for which they are particularly suited.

Salaries of graduates are on a par with those received in engineering and design fields and vary greatly depending upon the individual and the position. Advancement on the job depends upon the ability to produce.

GRADUATE STUDY

In cooperation with the Graduate School of Alfred University the College of Ceramics offers advanced courses leading to the following degrees: Master of Science in Ceramic Engineering, Master of Science in Ceramics, Master of Science in Ceramic Technology, Master of Science in Glass Technology, Master of Fine Arts and Doctor of Philosophy in Ceramics Science.

Requests for information and formal application for admission to the Graduate School should be addressed to the Dean of the Graduate School, Alfred University, Alfred, New York.

VETERANS

The benefits obtainable under the G. I. Bill of Rights and the Korean Benefits Bill are open to both men and women students according to degree of eligibility and amount of service.

THE INSTITUTION

OBJECTIVES

CHAPTER 383 of the Laws of New York of 1900 stated that the purpose of the new institution at Alfred shall be "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."

During the fifty-seven years of its existence, the institution has kept its sights high. Its principal desire has been, and is, to afford students a program of progressive education and stimulating research which will prepare them to be good citizens and capable ceramists.

LOCATION

The College is at Alfred University, Alfred, N. Y. The village of 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 state highway 244, which, two miles east at Alfred Station, connects with state highway 21 and the main line of the Erie Railroad. Alfred, with a population of 2,053, is situated at an elevation of 1800 feet.

HISTORY

The College had its beginning as the New York State School of Clay Working and Ceramics, which was established at Alfred University in 1900. Two men, Boothe C. Davis and John J. Merrill, visioning the promising position ceramic education was to take in the professional and industrial life of the nation, labored unceasingly for its establishment.

At the time the school was established there was only one other University offering specialized courses in ceramics; together these institutions pioneered in the fields of ceramic education.

It was under the guidance of its first director, Charles Fergus Binns, and the then president of Alfred University, Boothe C. Davis, that the philosophy of the school was developed and the foundation laid for further growth. During the administration of Dr. Binns (1900-1931), the first school building (Binns Hall) was erected and enlarged, courses of instruction were developed, student registration increased from five to one hundred sixty-nine, the importance of ceramic education was proved, and plans for expansion of the school were developed.

In 1932, the school was renamed the New York State College of Ceramics, and its program expanded. A new building (Merrill Hall) was built and equipped.

Dr. Major Edward Holmes was appointed the first Dean of the College and served in that capacity from 1932 to 1946. During those years Dean Holmes worked with Presidents Davis, Norwood and Walters in carrying the work of the College forward. Under the direction of Dean Holmes, the engineering and technology courses were strengthened and broadened, the interest of state manufacturers was attracted to the College, the Ceramic Experiment Station was established (1936), and ground was laid for the development of a research program. The engineering curriculum was accredited by the Engineers' Council for Professional Development.

During the years of World War II, registration decreased but the research work of the College increased rapidly. The staff readjusted its efforts to care for the demands being placed on the College and made numerous contributions to the war effort.

Under the guidance of Dr. Samuel R. Scholes, who served as Dean from 1946 to 1948, provisions were made for handling the heavy research program and the record registration stemming from World War II, the engineering and technology courses were reviewed and reconstituted to include strengthened basic courses and courses in humanistic-social studies, impetus was given to further development in the ceramic design program, a reference library was established, appropriations were obtained for the erection of a grinding and clay-storage building, and positions were established for the purpose of strengthening work at the graduate level.

Binns Hall was torn down in 1950 and on its site a new class-room and laboratory building, which was tied in with Merrill Hall, was built. Classes were held in the new building for the first time in September of 1953. This building was the outcome of plans laid in 1943, and is one of the finest and best equipped of its kind. The completed Ceramic Building is known as Binns-Merrill Hall.

During the school year of 1955-56, a program leading to the Ph.D. in Ceramics Science was established.

Since its beginning, the College, while contributing greatly t ceramic education, has been keenly aware of the developments takin place in education and of the advancements being made in science Its administrators have been eager to bring to the students th benefits of the most progressive thinking in all phases of ceramics As a consequence of this progressive attitude, the College, with its wel qualified staff and exceptionally well-equipped laboratories, offers outstanding undergraduate and graduate courses in Ceramic Engineering, Ceramic Technology, Glass Technology and Design.

CONTROL

The College of Ceramics is a unit of the State University of New York and as such is under the general direction of the officers and Board of Trustees of that University. It is supported by annual appropriations of the Legislature. Because of the law which established the College in which certain powers were granted to Alfred University, it is known as one of the "contract" or "statutory" colleges within the State University.

The trustees of Alfred University have been entrusted with the responsibility of operating the College of Ceramics and they appoint annually a committee which acts in an advisory capacity in carrying on the affairs of the College. The committee is known as the Advisory Council of the College and the President of Alfred University serves as Chairman.

The immediate direction of the affairs of the College is carried out by the Dean.

BUILDINGS AND EQUIPMENT

The "Ceramics" building, in which most of the work of the College is carried on, is one of which the College is justly proud. This building, which was dedicated in June 1953, is known as "Binns-Merrill Hall." It is quadrangular in shape containing 70,000 square feet of working space especially designed and laid out to serve the particular needs of the College. Three-fourths of the building is new and the other fourth is "Old Merrill Hall," to which the new portion has been connected. The building and its equipment represent an outlay of approximately two million dollars and provide the finest and most complete facilities for ceramic education.

Among many features possessed by this building are a well quipped library, excellent mineralogy laboratories, airy chemistry aboratories, special facilities for research and development, air-onditioned lecture rooms, bright drawing rooms and a 194-foot long iln room two stories high.

A grinding and clay storage building was constructed in 1949. his concrete block building has been used for grinding and clay orage, but it is planned, with the moving of the grinding equipment o the new building, to use this building for a freshman shop and as laboratory in which pilot-plant work may be carried out.

The ceramic laboratories are equipped with modern apparatus nd machinery needed for clay and mineral processing, body mixing nd body preparation, shaping and forming of ware, drying and firing f samples, the testing of products and the analyses of minerals. The pecial laboratories such as those for chemistry, petrography, spec-roscopy, electron microscopy, and x-ray have excellent and adequate quipment. Besides the stationary equipment there are available the any small items of equipment and apparatus essential to special udies and research.

Some of the research work which is under the direction of the College staff is cared for in buildings owned by Alfred University.

LIBRARY

A highly important facility of the College is the ceramic reference ibrary. Under the guidance of trained librarians, the students find here a wealth of published material relating to all phases of ceramic ngineering, technology, art, and design, as well as to the pertinent ciences. The library is open five days and five evenings during the eek and at prescribed times over week-ends.

The number of bound volumes of art and technical books is more han 12,000. In addition the library has many unbound bulletins, nprints, pamphlets, and student theses. More than 275 periodicals are urrently received on subscription.

The facilities of the Herrick Memorial library containing about 0,000 volumes, are also available to ceramic students. This collection upplements effectively the ceramic library, particularly in humanistic-ocial subjects.

ADMISSION

(UNDERGRADUATE)

IT IS THE RESPONSIBILITY of the Committee on Admissions to select those candidates who have character, intelligence and purpose and who will profit most by the program offered by the College.

The Committee on Admissions meets at frequent intervals to consider applications and to review the scholastic records of candidates. Soon after a candidate's application has been considered, he or she is notified of the committee's action. Ordinarily the candidate is definitely accepted or rejected but in border-line cases decisions may be deferred until nearer the time of the opening of College.

Enrollment is limited and it is not possible to accommodate all qualified applicants. It is advantageous therefore to make application early, preferably before April 15.

PROCEDURE

Catalogs and application blanks may be secured by writing to the Director of Admissions, Alfred University, Alfred, New York. The application blanks consist of two forms:

Form I, application for admission, must be completed by the candidate in full and returned to the Director with a $10 application fee. This fee will not be refunded.

Form II, the official secondary-school transcript, is to be filled out by the secondary-school principal or counselor and mailed directly to the Director of Admissions.

All candidates are required to take the Scholastic Aptitude Test of the College Entrance Examination Board. These tests are given at convenient locations throughout the world in December, January, February, March, April, May and August of each year. For full information as to location of tests, fees, sample examinations and scheduling for the examination, write The College Entrance Examination Board, Box 592 Princeton, New Jersey. It is preferred that the December or January tests be taken to facilitate early completion of the candidate's application for admission.

Should a personal interview be desired an applicant may apply to the Director of Admissions for an appointment to visit the campus, discuss his educational aims and see the facilities of the College.

ACCEPTANCE

1. Candidate's Reply Date. Alfred University subscribes to the Uniform Reply Date Agreement of the College Board which is as follows:

"The institutions listed below have, by common agreement, bound themselves not to require any candidate admitted as a freshman to give notice before May 22, 1958, of his decision to attend one of these institutions or to accept financial aid from it."

"This policy has been agreed upon so that a candidate may be able to give consideration to all opportunities available to him. It should be emphasized, however, that, whenever a candidate can reach a decision before this date, he is encouraged to notify the institution as soon as that decision has been reached. Even if his decision is not to attend the institution, he should notify the institution."

2. Acceptance Fee. A $50.00 fee is required of all accepted students payable in accordance with the above Uniform Reply Date Agreement. Applicants accepted after May 22 should submit their fees within 15 days of notification. Payment of this fee assures reservation of a place in the entering class. The $50. will be refunded at the end of the student's program at Alfred University. It will not be refunded to students who do not register for classwork.

(GRADUATE)

To be eligible for general admission, an applicant must have received a Bachelor's degree from a recognized institution and must present evidence of (a) his ability to carry on work at the graduate level, (b) sound character, (c) better than average scholarship in his undergraduate work.

The programs of students coming from other institutions may differ considerably from those of graduates of the College of Ceramics. Where the Bachelor's degree was obtained in a field other than ceramics, students will be required (1) to take undergraduate courses

that would bring the knowledge of ceramics up to the level required for graduation from this College, or (2) to carry on independent study in such courses and pass a special suitable examination.

Due consideration will be given to graduate work done elsewhere. However, transfer credit must be of grade B or better, and it will not reduce the time of residence. Such credit must be scheduled in advance with the Dean and Registrar.

Application for admission is to be made to the Director of Admissions, Alfred University, and may be accomplished by submitting the following:

(1) a completed application form

(2) one official transcript of the applicant's academic record

(3) two letters of recommendation from former instructors who have first-hand knowledge of the applicant's academic work

(4) the payment of a $10.00 application fee

ENTRANCE REQUIREMENTS

(Undergraduate)

GENERAL

The basic requirement for admission to the College is graduation from an accredited secondary school. The candidate is expected to rank in the upper half of his class and to present a total of 16 high school units.

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.

The majority of applicants comply in full with the unit requirements. In exceptional cases where evidence of high scholarship is presented, 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.

For more specific course requirements, see below:

ENGINEERING AND TECHNOLOGY

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.

MATHEMATICS — 3 units.

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

SCIENCE — 3 units.

Physics, chemistry and general science. In certain cases consideration will be given to the substitution of biology or physical geography for one of the above.

ELECTIVES — 6 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 be chosen from the following: agriculture, domestic science, commercial subjects, drawing and design, industrial arts, music, public speaking, and dramatics.

DESIGN

ENGLISH — 4 units.

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

MATHEMATICS — 2½ units.

To include elementary algebra and plane geometry.

SCIENCE — 1 unit.

Physics, chemistry, biology or general science.

ELECTIVES

Electives may be chosen from any of the regular high school subjects such as foreign languages, social sciences, natural sciences or mathematics. No more than four units may be chosen from the following: commercial subjects, drawing or 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 is required. Applicants for admission to the Design Department may be invited for a personal interview or to submit exhibits of their high-school art work, in order to present 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 State University of New York 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, such as initiative, industry, appearance, honesty, originality, and resourcefulness are given due consideration.
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. A health form will be sent to the entering freshman during the summer. This form should be filled out by the family physician.
7. *Date of application.* The choice between applicants who equally meet the foregoing requirements will be determined by the date of application.
8. *Interviews.* Occasionally a candidate may be specially requested to present himself at the College for an interview with the Dean and 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 Director of Admissions.

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 record, 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.

REQUIREMENTS FOR DEGREES

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.

BACHELOR'S DEGREES

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

The degree of BACHELOR OF FINE ARTS (B.F.A.) is awarded to those students who successfully complete the prescribed course of study in the department of Design with a scholastic cumulative grade-point index of 1.00.

MASTER OF SCIENCE DEGREE

To be eligible for general admission to the graduate school an applicant must have received a Bachelor of Science degree from a recognized institution and must present evidence of (a) his ability to carry on work at the graduate level, (b) sound character, (c) better than average scholarship in his undergraduate work.

Science graduates of the Ceramic College or others with equivalent preparation may earn the Master of Science degree in one or two years, depending upon the program decided upon.

The programs of students coming from other institutions may differ considerably from those of graduates of the College of Ceramics. If the Bachelor's degree was obtained in a field other than ceramics, students will be required either: (1) to take undergraduate courses in those subjects necessary to bring their backgrounds up to the level required for graduation from this College, or (2) to pass a comprehensive examination after suitable independent study, before

they may become candidates for the Master of Science degree. More than one year will be required in such cases.

Courses marked with an asterisk in this catalogue are accepted for graduate credit. In order to obtain graduate credit for those courses which are normally undergraduate courses, students must (1) prepare an acceptable term paper, (2) pass an oral examination on the subject.

Due consideration will be given to graduate work done elsewhere. However, transferred credit must be of grade B or better, and it will not reduce the time of residence.

Generally, the Master of Science degree is evidence that the holder possesses a maturity and grasp of his major subject well beyond that of one having the bachelor's degree; that he is able, not only to read and study independently, but also to understand and apply the literature of his field.

Written application for admission to candidacy must be made by the student to the Dean of the Graduate School not later than three months before the date of graduation.

To become a candidate for the Master's degree a student must satisfy the Committee on graduate studies that he has met the following preliminary requirements.

1. The satisfactory completion of 18 semester hours of acceptable courses, including not more than 9 hours of thesis work.
2. At least one semester in residence with graduate standing.
3. The completion of the non-credit prerequisites specified at the time of registration for graduate study.
4. A grade-point index of at least 2.00 for courses completed and forming a part of the student's program.
5. Acceptable performance on any qualifying or comprehensive examination required.
6. Satisfactory progress on thesis, if it has formed a part of the student's program.

The complete requirements for the degree are:

1. At least one year of residence (work must be completed within a period of three years unless special permission is granted).
2. Thirty-six credit hours of study including thesis. The thesis may count for not more than 16, nor less than 12 of the required hours. Not more than 12 credit hours may be taken outside the candidate's field of specialization and such courses are taken only after approval by the student's advisor.
3. A completed thesis based on original experimental work, on an approved subject, and so written as to be suitable for publication.
4. Successful performance during a two-hour oral examination in the candidate's major field.

MASTER OF FINE ARTS DEGREE

The prerequisites for graduate study toward the Master of Fine Arts degree are: (1) the Bachelor of Fine Arts or Art Education or, (2) the Bachelor of Arts degree with a major in Fine Arts or Art Education or, (3) the Bachelor of Arts degree with the equivalent of fifty semester hours of professional art training in a recognized institution.

Credit and residence requirements for the Master of Fine Arts degree can be completed in two semesters, but graduate students who have not had sufficient undergraduate courses in design should plan on a longer period of study in order to complete the full requirements.

To be eligible for general admission an applicant must have received his degree from a recognized institution and must furnish evidence (a) of having ability to carry on work at the graduate level, (b) of sound character, (c) of better than average scholarship in his undergraduate work.

The programs of transfer students will differ considerably from those of students graduating with a Bachelor of Fine Arts degree from the College of Ceramics. Where the Bachelor's degree was obtained in a field other than ceramics, students will be required either: (1) to take undergraduate courses in those subjects necessary to bring their backgrounds up to the level required for graduates from the College of Ceramics or, (2) to pass a comprehensive examination after suitable independent study, before they may become candidates for the Master of Fine Arts degree.

Graduate students who are enrolled in undergraduate courses will be allowed full graduate credit for such courses under the following conditions:

1. The student's work must be approved for graduate credit by a faculty jury.
2. Grades earned in such courses must be B or higher.

Due consideration will be given to graduate work done elsewhere. However, transferred credit must be of grade B or better and it will not reduce the time of residence.

Generally, the Master of Fine Arts degree is evidence that the holder possesses a maturity and grasp of his major subject well beyond that of one having the Bachelor's degree; that he is able, not only to read and study independently, but also to understand and apply the literature of his field.

Written application for admission to candidacy must be made by the student to the Dean of the Graduate School not later than 6 months before the date of graduation.

To become a candidate for the Master's degree, a student must satisfy the same preliminary requirements as those already outlined for the degree of Master of Science. The complete requirements for the Fine Arts degree are also the same except that 32 hours of graduate work are required. The thesis, or graduate project, is not necessarily written for publication and the examination for the Fine Arts degree may differ in form.

Graduate students who wish to specialize in industrial design may, at the discretion of the Chairman of the Department, be permitted to spend a portion of one semester as internees in the design laboratory of an industrial firm.

DOCTOR OF PHILOSOPHY DEGREE

Those interested in this degree make application through the Dean of the Graduate School for admission to graduate standing. The Doctor of Philosophy Degree is offered in the area of ceramic science, but not in the area of design.

The over-all requirements for the degree are:

(1) 90 hours of course credit beyond the requirements for the B.S. Degree.

(2) at least three academic years of work at the graduate level at least two of which must have been at Alfred University.

(3) a reading knowledge of two foreign languages.

(4) the completion of an original research study which must be defended and which must be acceptable for publication.

(5) the passing of a comprehensive examination on his course of study.

TUITION FEES AND EXPENSES

TUITION

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

No person is considered eligible to register in the College 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. In case of question regarding State residency, decisions will be arrived at in consultation with the Dean.

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

Fees are charges made which are non-returnable and the college reserves the right to charge fees without notice.

A general fee of $75 each semester is charged to care for laboratories, plant trip, library, campus tax, student year book, student branch of American Ceramic Society, athletics, the college paper, University Forum, and infirmary service.

Students taking elective courses in the College of Liberal Arts beyond those required for graduation will be expected to pay laboratory fees for such courses.

Special service fees are charged as follows:

1. An application fee of $10 to cover the cost of processing an application.

2. A late registration fee of $5 is charged to cover the cost of processing registrations which are not made during the prescribed times.

DEPOSITS

Deposits are those monies paid from which some return may be expected. The deposit charges are as follows:

A pre-registration charge of $50 is made to assure the college of the student's sincerity in registering in college. This deposit is refunded after graduation or at the time of leaving school, less any unpaid charges, providing the student follows the prescribed rules for discontinuing his program.

Breakage deposits are required in chemistry and other courses having laboratory work where glassware and other apparatns may be broken or lost. At the end of such a course the value of missing or broken pieces will be deducted from the breakage fee and the balance of the deposit will be refunded to the student.

All students in Design make a deposit of $50 to cover the cost of art supplies needed in their work. Freshmen deposit an additional $10 to cover supplies needed for the intersession drawing course. The amount the student receives back as a refund will depend on the cost of the items he or she has received from the stockroom.

DORMITORY EXPENSES

Dormitory Room Rentals, per semester..... *$150.00

In the Brick, Kruson, Cannon, Barresi or Bartlett Dormitories. Prices in all cases are per person. All rooms are completely furnished. Students are to supply their own towels, bed linen, blankets and desk lamps.

Board in Dormitory Dining Halls per semester..... *$225.00

Residents of the University dormitories are required to board in the dining halls. No credits or rebates for absences are allowed on board bills.

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.

* 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.

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.

Some students and parents prefer to pay tuition, room, board, and fees on a time-payment basis. Midland Time Plan, of which Alfred University is a participating member, provides a method by which parents and guardians may pay tuition and other fees in eight equal monthly installments during the academic year. This corporation applies to education the accepted and well established methods of deferred payments familiar in other fields. The Midland Plan charges 2¾% interest on money borrowed for college expenses.

REFUNDS

No refunds on account of tuition and fees will be allowed if the student withdraws after the 5th week of the semester. However, refunds on deposits will be made.

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

All other refunds will be made according to the following schedule:

Week of registration.....	100% refund
First week after registration.....	80% refund
Second week after registration.....	60% refund
Third week after registration.....	40% refund
Fourth week after registration.....	20% refund

No refund after fifth week (including registration week)

A special refund and credit policy has been formulated to protect those called into military service.

ESTIMATE OF EXPENSES

Total expenses for students who are legal residents of the State of New York, 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	$450	$400
Room	300	170
Inclusive College Fee	150	150
Deposits	50	50
Books, etc.	50	50
	$1,000	$820

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

All freshmen are required to room and board in University dormitories. For complete regulations covering student housing please refer to that section on page 74 of this catalog.

All freshmen in the Engineering and Technology courses are required to take Mathematics 221S, Plane Surveying, and all freshmen in Ceramic Design will take a course in drawing. These courses are offered during the three-week intersession in June, starting immediately after the close of the freshman year. An intersession symposium on some field of ceramics is given for three weeks each June and all students in the Engineering and Technology courses are required to attend at least one of these sessions. Such students are free to elect the symposium following their sophomore or junior years, but R.O.T.C. students must take the course at the end of the sophomore year. The cost of room and board for three weeks during all these sessions is not included in the estimate of annual expenses shown above.

During the three-week intersession the cost can be estimated as follows: Dormitory room $20.00, board in cafeteria $45.00, registration $10.

PROGRAMS OF STUDY

Programs within the college have been accredited by the Middle States Accrediting Agency. Furthermore, the Ceramic Engineering course has been accredited by the Engineers Council for Professional Development and the Design course accepted by the National Association of Schools of Design.

All curricula have been developed having in mind sound educational principles and the needs of the ceramic industry. The ceramic industry has need for engineers whose work will be concerned with people, money and machines, and whose principal task is the economical production of ceramic wares. The industry needs designers who can create shapes and forms, who can select and develop colors, and who can maintain standards in decoration and architectural appropriateness. The industry also needs technologists to maintain quality and to further the understanding of the principals underlying the manufacture of ceramic products.

Corresponding with these industrial needs are the three departments: Ceramic Engineering, Glass Technology and Design. A student has the opportunity of choosing one of these in which to specialize. The choice of Technology, Glass Technology or Ceramic Engineering may be delayed until the end of the sophomore year; the work of the first two years being the same for engineers and technologists. The choice of Design must be made when the student enters college.

CERAMIC ENGINEERING

The course provides for a thorough grounding in the fundamental sciences of mathematics, chemistry, and physics. The first two years' work stresses these subjects. The last two years of the course are devoted primarily to the application of these fundamental sciences to the technical and engineering aspects of the ceramic industries.

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

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

CERAMIC ENGINEERING

First Year

First Semester	*Hrs.*	*Second Semester*	*Hrs.*
Mathematics 105	4	Mathematics 217 (Dif. Calculus)	4
Chemistry 105 (General Inorganic)	4	Chemistry 106 (General Inorganic)	4
English 101 (Composition)	3	English 102 (Composition)	3
Civilization 101	3	Civilization 102	3
Engineering Drawing 101	2	Engineering Drawing 102	2
Cer. Eng. 101 or 151 (Introd.)	1	Cer. Eng. 102 or 152 (Introd.)	1
P.E. 101 or M.S. & T. 111	1	P.E. 102 or M.S. & T. 112	1
Assembly	0	Assembly	0
	18		18

Intersession term of three weeks following close of Second Semester
Industrial Mechanics 221S (Plane Surveying and Map Reading) *3 credit hours*

Second Year

First Semester	*Hrs.*	*Second Semester*	*Hrs.*
Mathematics 218 (Integral Calculus)	4	Mathematics 219 (~~Engr. Math~~)[1]	4
Chemistry 211 (Qualitative)	3	Chemistry 213 (Quantitative)	3
Physics 111 (General)	4	Physics 112 (General)	4
English 335 (Technical Writing)	2	Geology 206 (Structural)	3
Mineralogy 201 (Introd. & Cryst.)	3	Cer. Eng. 204 (Materials)[2]	4
Cer. Eng. 203 (Unit Operations)	3	P.E. 204 or M.S. & T. 222	1
P.E. 203 or M.S. & T. 221	1	Assembly	0
Assembly	0		
	20		19

Intersession term of three weeks following close of Second Semester[3]

Ceramics Special fields.....*3 credit hours*
(See Symposium on page 56)

[1] Engineering Mathematics may be substituted for Mathematics 219.

[2] Glass Technology students will substitute Glass 208 for Ceramics 204.

[3] R.O.T.C. students are required to attend the Symposium following their sophomore year.

Third Year

First Semester	*Hrs.*	*Second Semester*	*Hrs.*
Non-Tech. Elective or M.S. & T. 331	3	Non-Tech. Elective or M.S. & T. 332	3
Physics 237 (Mechanics)	4	Physics 238 (Strength of Materials)	4
Chemistry 341 (Physical Chem.)	4	Chemistry 342 (Physical Chem.)	4
Chemistry 343 (Fuels & Comb.)	3	Petrography 302	3
Cer. Eng. 305 (Unit Processes)	4	Cer. Eng. 306 (Glassy State)	4
	18		18

Fourth Year

First Semester	*Hrs.*	*Second Semester*	*Hrs.*
Non-Technical Elective	3	Non-Technical Elective	3
Economics 211 (Prin. and Probs.)	3	Economics 212 (Prin. and Probs.)	3
Cer. Eng. 421 (Structural Plan)	2	Cer. Eng. 422-472 (Plant Layout)	5
Cer. Eng. 431 (Heat)	3	Cer. Eng. 434 (Electricity)	3
Cer. Eng. 461 (Thesis)	2	Cer. Eng. 462 (Thesis)	2
Ceramic Elective or M.S. & T. 341	3	Ceramic Electives	3
Cer. Eng. 407 (Testing)	2	M.S. & T. 342	3
Cer. Eng. 426 (Plant Inspection)	1		
	19		22

Total Required Hours for Graduation.....155

Total Required Hours for R.O.T.C. Students.....158

GLASS TECHNOLOGY

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

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.

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

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

GLASS TECHNOLOGY

(See Symposium on page 56)

The first two years of this course are the same as those outlined for Ceramic Engineering.

Third Year

First Semester	*Hrs.*	*Second Semester*	*Hrs.*
Non-Tech. Elective or M.S. & T. 331	3	Elective or M.S. & T. 332	3
Physics 237 (Mechanics)	4	Physics 238 (Strength of Materials)	4
Chemistry 341 (Physical Chem.)	4	Chemistry 342 (Physical Chem.)	4
Chemistry 343 (Fuels & Comb.)	3	Petrography 302	3
Glass 301 (Composition)	3	Glass 302 (Physics of Glass)	3
Glass 351 (Laboratory)	1	Glass 352 (Laboratory)	1
Glass 370 (Seminar)	1	Glass 370 (Seminar)	1
		Glass 382 (Plant Inspection)	1
	19		20

Fourth Year

First Semester	*Hrs.*	*Second Semester*	*Hrs.*
Non-Technical Elective	3	Non-Technical Elective	2
Economics 211 (Prin. and Probs.)	3	Economics 212 (Prin. and Probs.)	3
Technical Elective or M.S. & T. 341	3	Mathematics 233 (Statistics)	3
Glass 403 (Properties)	3	Glass 404 (Melting)	3
Glass 461 (Thesis)	2	Glass 462 (Thesis)	2
Glass 470 (Seminar)	1	Glass 470 (Seminar)	1
Cer. Eng. 431 (Heat)	3	Cer. Eng. 434 (Electricity)	3
		M.S. & T. 342	3
	18		20

Total Required Hours for Graduation.....155

Total Required Hours for R.O.T.C. Students.....158

CERAMIC TECHNOLOGY

The course in Ceramic Technology differs from the course in Ceramic Engineering in but one respect. In 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 ceramics industries for graduates to serve as scientists and technologists in addition to the demand for engineers. The department provides for the education of students as scientists and technologists.

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.

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

CERAMIC TECHNOLOGY

(See Symposium on page 56)

The first two years of this course are the same as those outlined for Ceramic Engineering.

Third Year

First Semester	*Hrs.*	*Second Semester*	*Hrs.*
Non-Tech. Elective or M.S. & T. 331	3	Non-Tech. Elective or M.S. & T. 332	3
Chemistry 341 (Physical Chem.)	4	Chemistry 342 (Physical Chem.)	4
Chemistry 343 (Fuels & Comb.)	3	Petrography 302	3
Cer. Eng. 305 (Unit Processes)	4	Cer. Eng. 306 (Glassy State)	4
Cer. Eng. 431 (Heat)	3	Cer. Eng. 434 (Electricity)	3
Cer. Eng. 325 (Thermo Min.)	1	Ceramic Elective	2
	18		19

Fourth Year

First Semester	*Hrs.*	*Second Semester*	*Hrs.*
Non-Technical Elective	3	Non-Technical Elective	3
Economics 211 (Prin. and Probs.)	3	Economics 212 (Prin. and Probs.)	3
Cer. Eng. 407 (Testing)	2	Mathematics 239 (Statistics)	3
Cer. Eng. 423 (Adv. Cer. Tech.)	2	Cer. Eng. 424 (Adv. Cer. Tech.)	2
Cer. Eng. 461 (Thesis)	2	Cer. Eng. 462 (Thesis)	2
Petrography 401	2	Ceramic Elective	2
Ceramic Elective or M.S. & T. 341	3	Technical Electives	4
Cer. Eng. 426 (Plant Inspection)	1	M.S. & T. 342	3
	18		22

Total Required Hours for Graduation.....155

Total Required Hours for R.O.T.C. Students.....158

DESIGN

The curriculum of the Design Department provides opportunity for professional training in the design and production of ceramic products. By electing appropriate courses in the third and fourth years students may specialize in the design of ceramic wares for industrial production. Others may find in the potter's craft a means of personal expression and a future part-time vocation, and may wish to concentrate on acquiring the skills of the individual artist-potter.

The work of the first two years provides a foundation for the student's general education and introduces him to beginning courses in creative art, design, and the study of materials. The freshman and sophomore curriculum includes courses in the following areas—English, History, and History of Art, Mathematics, Science, Literature, Drawing and Engineering Drafting, Painting, Sculpture, and Design.

For the third and fourth years, lists of suggestions are given from which the student must select 17 credit hours each semester. Of these 17, at least 6 must be directly related to ceramics. The list of courses offered in the last two years provides for six hours of

electives each year, which may be applied to additional studies in liberal arts or to extra courses in Design subjects. The study of ceramics begins in the third year with laboratory exercises and lectures on the properties of earthy materials and their uses in the manufacture of glasses, clays and other ceramic products. Technical studies are blended with exercises in the use of ceramic materials and processes and their application to problems of creative design. These are accompanied by parallel courses in Drawing, Painting, Sculpture, Graphics, Photography, History of Art, and Design for furniture and other non-ceramic materials.

Although the college offers no organized training program for teachers of art in secondary schools, those design students who choose to do so may elect a maximum of twelve credits in education courses. The remaining courses, required for teacher certification, must be taken outside the regular design curriculum and at the student's own expense.

Attendance at a three week intersession course in drawing is required of all first year students. This course is given each June. A minimum of 139 hours is required for graduation. The college reserves the right to retain selected examples of student work. Freshmen enrollment is limited to twenty-five students, and preference is given to applicants whose high school record places them in the upper third of their graduating class, and/or who show evidence of exceptional ability for creative design.

CERAMIC DESIGN CURRICULUM

First Year

First Semester	*Hrs.*	*Second Semester*	*Hrs.*
Mathematics 103 (College Algebra)	3	Mathematics 104 (Trigonometry)	3
Design 111 (Engineering Drawing)	2	Design 112 (Engineering Drawing)	2
Design 121 (Drawing)	1	Design 122 (Drawing)	1
Design 123 (Introd. to Design)	1	Design 124 (Introd. to Design)	1
Design 125 (Clay Modeling)	1	Design 126 (Design exercises with various materials)	1
Design 151 (History of Art)	2	Civilization 102 (History & English)	6
Civilization 101 (History & English)	6	P.E. 102 or M.S. & T.	1
P.E. 101 or M.S. & T.	1	Assembly	0
Assembly	0		17
	17		

Intersession term of three weeks following close of second semester
227S (Life Drawing) *3 credit hours*

Second Year

First Semester	*Hrs.*	*Second Semester*	*Hrs.*
Science*	4	Science*	4
English 223 (Modern Literature)	3	English 224 (Modern Literature)	3
Design 227 (Painting & Drawing —Structure and Organization)	2	Design 228 (Painting & Drawing —Structure and Organization)	1
Design 233 (Visual Design)	1	Design 234 (Visual Design)	2
Design 233A (Exercises in Three-Dimensional Design)	1	Design 234A (Exercises in Three-Dimensional Design)	2
Design 231 (Advanced Modeling)	2	Design 232 (Advanced Modeling)	1
Design 253 (History of American Art)	3	Design 254 (History of American Art)	3
P.E. 203 or M.S. & T.	1	P.E. 204 or M.S. & T.	1
Assembly	0	Assembly	0
	17		17

There is a possibility that there will, in future years, be a three-week intersession course after the sophomore year.

* General Biology, Chemistry, Geology or Physics.

Third Year

First Semester	*Hrs.*	*Second Semester*	*Hrs.*
Design 313 (Advanced Drafting)	2	Design 314 (Advanced Drafting)	2
Design 333 (Advanced Drawing & Painting)	2	Design 334 (Advanced Drawing & Painting)	2
Design 333A (Advanced Graphics I)	2	Design 334A (Advanced Graphics I)	2
Design 335 (Furniture Design—Shop Pract.)	3	Design 336 (Furniture Design—Shop Pract.)	3
*Design 337 (Pottery—Forming)	2	*Design 338 (Pottery—Forming & Materials)	6
*Design 337A (Problems in Sculpture)	2	*Design 338A (Problems in Sculpture)	2
*Design 355 (History of Design)	3	*Design 356 (History of Design)	3
*Design 307 (Ceramic Materials & Glaze Calculations)	4		
†M.S. & T. or Elective in Design or Liberal Arts	2 or 3	†M.S. & T. or Elective in Design or Liberal Arts	2 or 3

Fourth Year

First Semester	*Hrs.*	*Second Semester*	*Hrs.*
Design 433 (Advanced Painting & Drawing)	2	Design 434 (Advanced Painting & Drawing)	2
Design 441 (Advanced Design Problems)	2	Design 442 (Advanced Design Problems)	2
Design 441A (Advanced Graphics II)	2	Design 442A (Advanced Graphics II)	2
*Design 443 (Advanced Pottery)	4–6	*Design 444 (Advanced Pottery)	4–6
Design 443A (Sculpture & Pottery Probs.)	2	Design 444A (Sculpture & Pottery Probs.)	2
Design 409 (Equip. & Materials)	2	Design 410 (Product Development)	2
Design 457 (Elective in History of Design)	2	Design 458 (Elective in History of Design)	2
†M.S. & T. or Elective in Design or Liberal Arts	3	†M.S. & T. or Elective in Design or Liberal Arts	3

* Required for graduation.

† Students may elect three hours of liberal arts courses or may add two additional credit hours each semester to any one of these courses in design, Drawing, Graphics, Furniture Design, or Sculpture.

RESEARCH

The College of Ceramics regards research and development as being essential to good instruction of both undergraduate and graduate students. Therefore, it maintains an active research department which works closely with the undergraduate and graduate students. Although research is the primary departmental function, it is closely associated with the instructional program of the College of Ceramics. The staff members of this department direct research projects at the undergraduate and graduate levels, act in a consulting capacity on sponsored projects, teach courses and carry on original investigations.

The demand for personnel trained in research methods and attitude is today greater than ever before. The acquisition of skill in applying knowledge by the undergraduate who works out a research problem is highly important. In directing research problems, the staff endeavors to develop this ability in the student.

The Research Department now conducts many programs sponsored by government agencies. These include the Air Force Materials Laboratory; Office of Naval Research Materials Branch and Physics Branch; Aeronautical Research Laboratory and the Air Research and Development Command. All of these programs deal with the high temperature applications of ceramic materials in various processes or equipment vital to the defense program.

A study of the mineral resources of New York State is in progress, in cooperation with the Science Service of the New York State Museum and the New York State Department of Commerce. This will make available to industry much needed information regarding New York State resources. A book describing the clays and shales has been published. The program is continuing with a survey of the limestones. A field party is maintained during the summer months. Analytical and testing work is done during the winter months in the department's laboratory.

Industrially Sponsored Research is conducted in the department in addition to full-time projects, and are projects that offer opportunities for supporting the work of the graduate and undergraduate students. The type depends entirely on the purpose and scope of the investigation required.

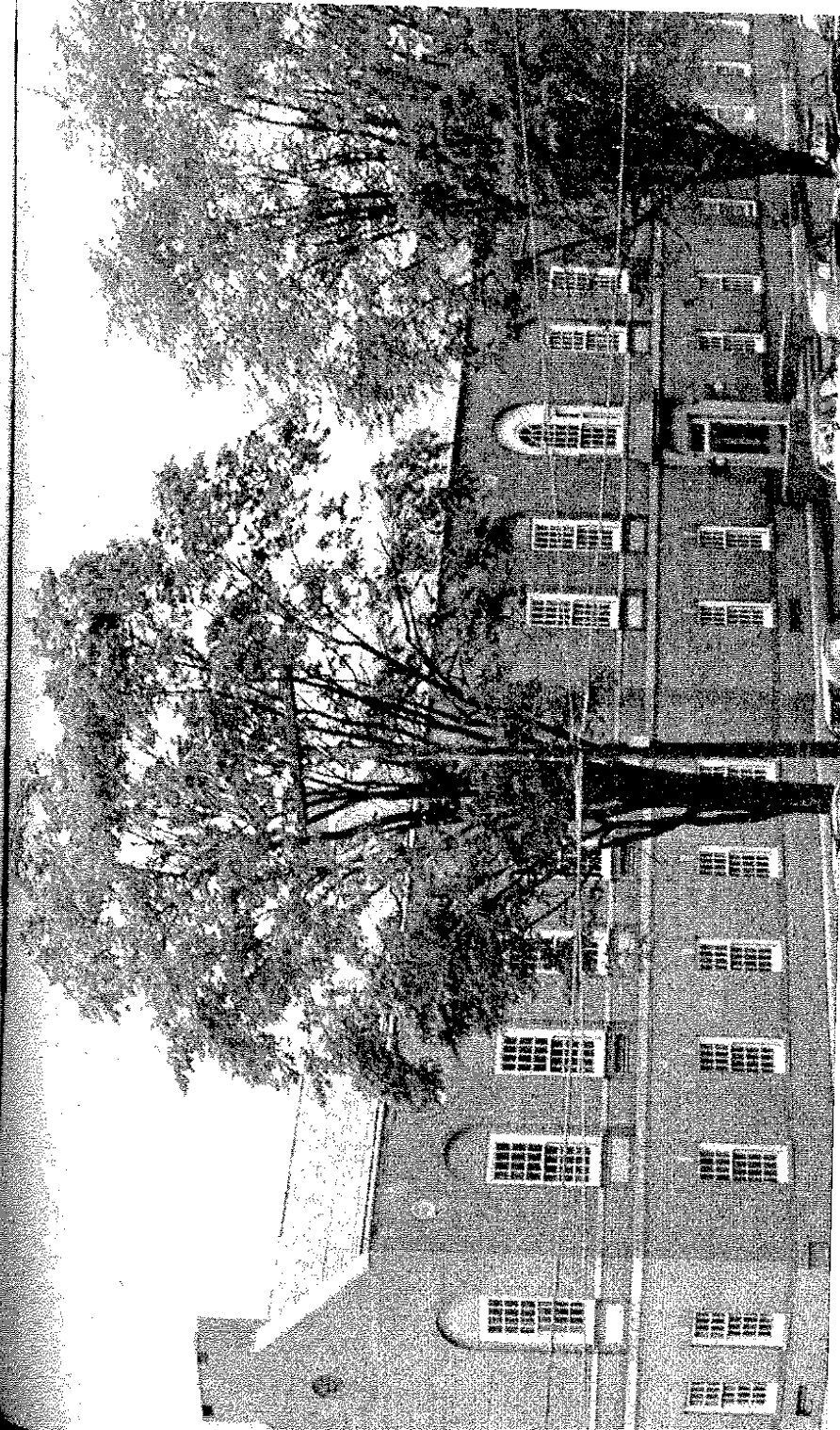
Fellowships are often maintained by associations of manufacturers such as the Hudson River Brick Manufacturers, who support a research project at the College which involves an active research program on the manufacture of soft-mud brick. The Structural Clay Products Research Foundation sponsors a program pertaining to the study of efflorescence and the fundamental properties of clays.

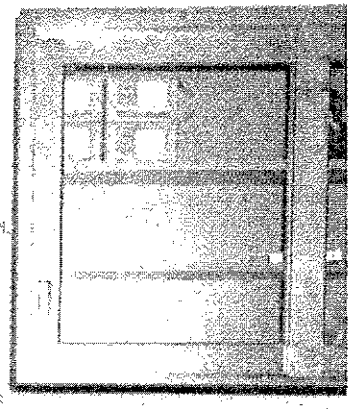
Other research carried on in the department is concerned with the economical utilization of clays, high temperature x-ray studies, differential thermal analysis of materials, lightweight products, catalysis, ferrites and single crystals.

The Research Department is fortunate in having the close cooperation of the Ceramic Association of New York. The Research Committee of this organization acts as an advisory committee, whose recommendations are most helpful in organizing and planning the department's program. Through this organization, the department obtains the advice of the leading ceramic industrialists of the State and the active cooperation of their companies.

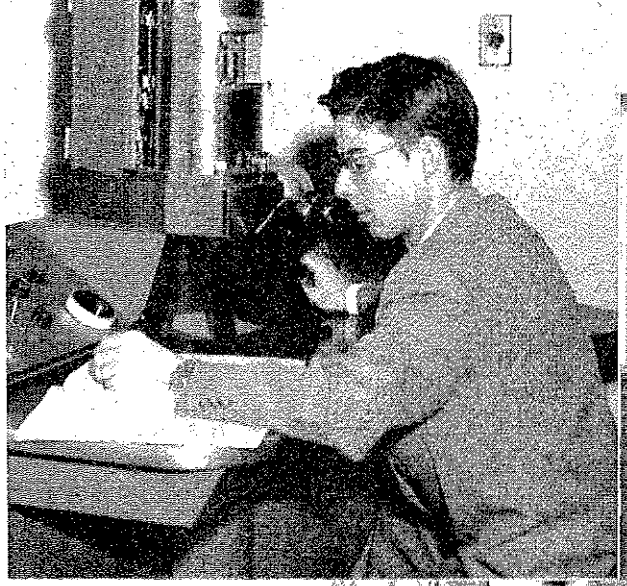
INDUSTRIAL FELLOWS (Assistants)

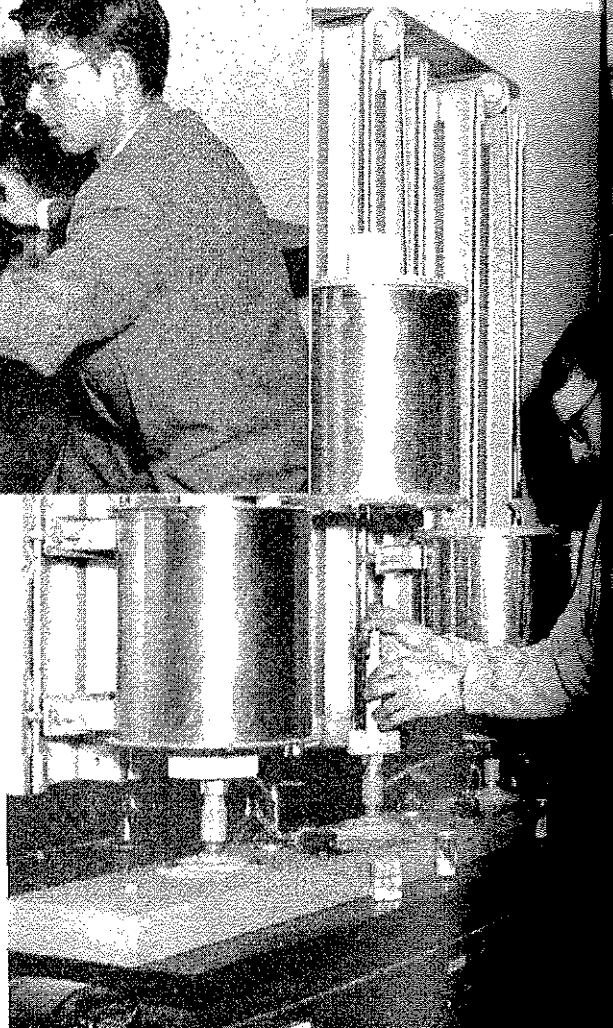
Various ceramic industries, groups of industries, organizations and Federal agencies sponsor research fellowships at the College. Some of these fellowships are held by seniors and graduate students on a part-time basis, whereas others are held by full-time research fellows. Salaries are commensurate with the experience and ability of the fellow and with the time that is devoted to the project on which the incumbent is engaged. Full-time industrial fellows and research associates are permitted to take a maximum of ten semester-hours of courses per year.



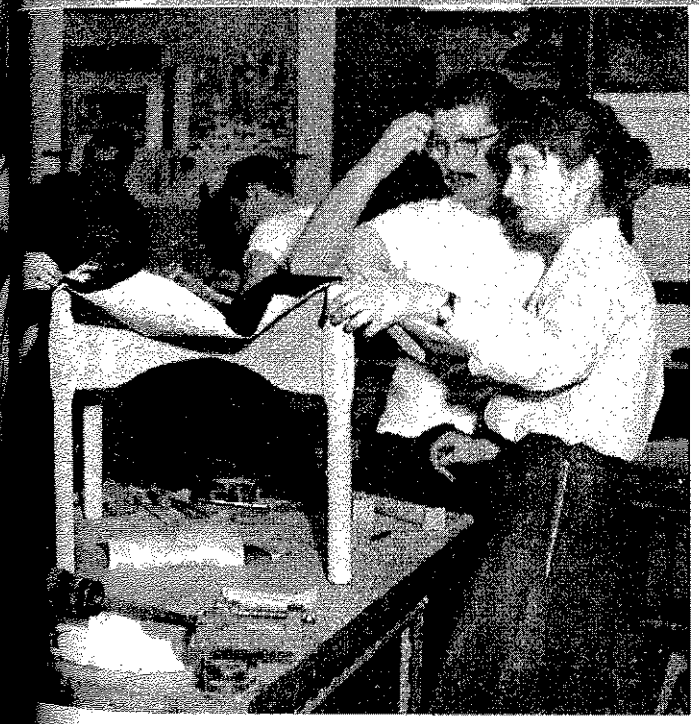


The Electron Microscope shows what real fine particles look like.



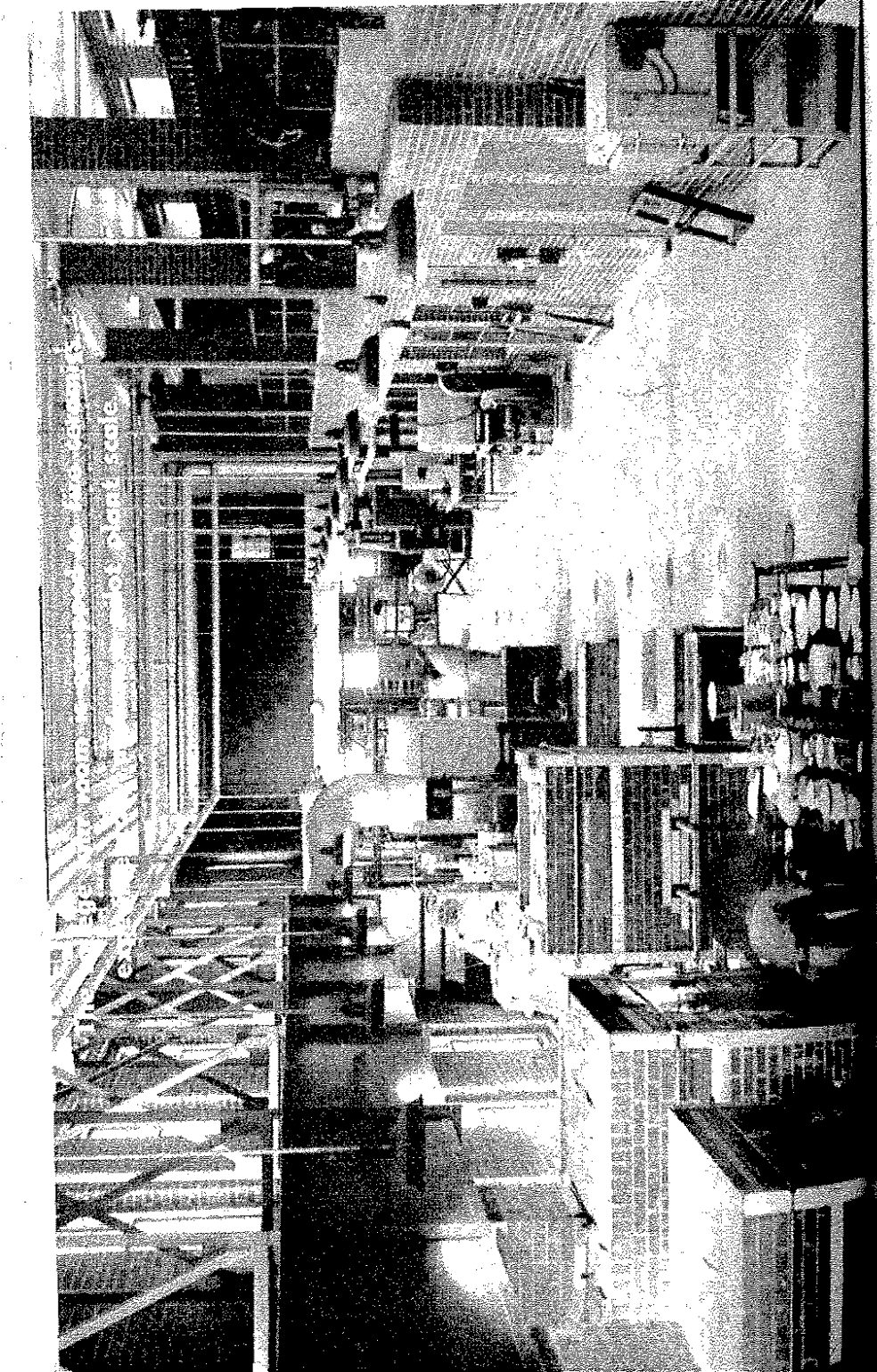


The Differential Thermal Analysis apparatus records minor chemical reactions.



Design involves experimentation and study.

The fascinating art of "throwing" involves patience and skill.



COURSES OF INSTRUCTION

The following points apply to the numbering of the courses: Courses having odd numbers are generally given in the first semester; courses having even numbers are generally given in the second. Courses ending in zero (0) are taught both semesters.

Hyphenated numbered courses (i.e. 101-102 or 235-236) are year courses subject to special regulations:

(a) A student is expected to satisfactorily complete both semesters of the course. (Credit for one semester may be obtained only by special permission of the Chairman of the Department followed by the approval of the Dean.)

(b) An "F" grade for the first semester bars the student from enrolling for the second semester.

(c) A student may not begin these courses in the second semester.

In addition to year courses, successive courses of one semester each may be listed together (i.e. 101 and 102 or 235 and 236) to express a desirable continuity without bringing to bear the year-course regulations.

Course descriptions often specify other courses as prerequisites. Such a prerequisite is satisfied where the specified course is completed with a grade of D+ or better (or an average of D+ for both semesters of a year course).

The course numbers which are used in this catalogue indicate, in general, the year or years of the college program in which they are taken. More specifically, the following maintain:

100-199 are primarily for first year students;
200-299 are primarily for second year students;
300-399 are usually taken during the third year;
400-499 are usually taken during the fourth year.

The 300 and 400 courses are upperclass courses and those marked with asterisk may, with approval, be taken for graduate study.

THE FOLLOWING COURSES ARE TAUGHT BY THE STAFF OF THE COLLEGE OF LIBERAL ARTS:

BIOLOGY

101–102. GENERAL BIOLOGY.

A comprehensive survey of the structural features, development, inheritance, evolution and interrelationships of plants and animals. Intended primarily for students expecting to major in subjects other than biology.

Laboratory fee $15 each semester.

Three lectures and two laboratory periods per week.

Four credit hours, each semester.

CHEMISTRY

105–106. 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.

Laboratory fee $15 each semester.

Breakage deposit $5.00 each year.

Four credit hours, each semester.

CIVILIZATION

101 AND 102. CIVILIZATION — OUR CULTURAL HERITAGE.

This course is an integration of the history of western civilization with the traditional freshman composition. Through concentration on a relatively few periods whose culture is judged to be of greatest significance, the course introduces the student to the basic patterns of social organization, intellectual activity, and artistic achievement. These materials form the basis of the work in composition, which meets the same quantitative and qualitative standards that are maintained in the traditional course in Freshman English. The course is conducted by a permanent teaching panel with occasional lectures given by representatives from the various departments of the University.

Required of all freshmen in the College of Ceramics. Design students will take the entire course while Engineering and Technology students will take only the lectures in history.

Six credit hours, each semester for Design students.

Three credit hours, each semester for Engineering and Technology students.

ECONOMICS

211 AND 212. PRINCIPLES AND PROBLEMS.

A study of modern economic society, its organization, operation and control.

Three credit hours, each semester.

ENGLISH

101–102. ENGLISH COMPOSITION.

The study and application of basic principles of verbal communication: correctness, clarity, concreteness, and effective organization.

Three credit hours, each semester.

223 AND 224. READINGS IN MODERN LITERATURE.

Readings in 20th century fiction, drama and poetry. The aim of the course is to help students who are specializing in non-literary fields of study to read with understanding and enjoyment the worthwhile literature of their own time.

Two lectures per week.

Three credit hours, each semester.

335. TECHNICAL WRITING (PROFESSIONAL ENGLISH).

Practice in routine business correspondence followed by a study of the engineering report, technical article, and research paper. Primarily for ceramic engineering students.

Two credit hours.

GEOLOGY

206. CERAMIC GEOLOGY.

A survey of physical and engineering geology emphasizing earth materials, economic deposits, and their origin.

Three lectures per week, second semester.

Three credit hours.

MATHEMATICS

103. COLLEGE ALGEBRA.

A review of high-school algebra, together with a study of progressions, binomial theorem, complex numbers, determinants, and the theory of equations. Prerequisite, one and one-half years of high school algebra.

Three credit hours.

104. PLANE TRIGONOMETRY.

A study of the trigonometric functions and their applications. Prerequisite, Mathematics 3 or its equivalent.

Three credit hours.

105. FRESHMAN MATHEMATICS.

A unified course including topics from college algebra and trigonometry. Intended primarily for freshmen in Ceramic Engineering. Prerequisite one and one-half years of high school algebra plus geometry and trigonometry.

Four credit hours.

217, 218, 219. ANALYTIC GEOMETRY AND CALCULUS.

A beginning course sequence in Analytic Geometry and Calculus for Liberal Arts and Ceramics students. The first semester includes both differentiation and integration of simple algebraic functions and their applications. The second semester covers the elementary transcendental functions. The third semester takes up multiple integrals, together with a brief introduction to infinite series and differential equations. Prerequisite, Mathematics 103 and 104, or Mathematics 105, or their High School equivalent. Each semester is prerequisite for the following one.

Four credit hours, each semester.

233. ELEMENTARY STATISTICS.

An introduction to the statistical methods of the natural and social sciences. Prerequisite, Mathematics 103 or 105, or 109–110, or their equivalent.

Laboratory fee $3.

Three credit hours.

465–466. MATHEMATICAL STATISTICS.

An introduction to the mathematical theory of statistics, frequency distribution, correlations, analysis of variance, small sample theory, and experimental design. Prerequisite, Mathematics 218, 219.

Laboratory fee $2.00 for 466 only.

Three credit hours, each semester.

PHYSICS

111 112. GENERAL PHYSICS.

An intensive study of the fundamental principles of physics, covering the fields of mechanics, heat, sound, electricity, magnetism, and light, with emphasis on problems. Co-requisite, Mathematics 218, 219. Two lectures and two laboratory discussion periods per week.

Laboratory fee, $15 each semester.

Four credit hours, each semester.

237 AND 238. MECHANICS AND STRENGTH OF MATERIALS.

An intermediate treatment of the statics and dynamics of particles and rigid bodies, and a study of such concepts as stress and strain, Hooke's law, failure theories, and torsion and bending. Physics 237 is prerequisite for Physics 238.

Four credit hours.

THE FOLLOWING COURSES ARE TAUGHT BY THE STAFF OF STATE UNIVERSITY OF NEW YORK COLLEGE OF CERAMICS:

CERAMIC ENGINEERING

CE 101 AND 102. A STUDY OF THE CERAMIC INDUSTRIES.

One lecture per week.

One credit hour, each semester.

CE 151 AND 152. 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 operations is demonstrated.

One laboratory period each week, first or second semester.

One credit hour.

CE 203. UNIT OPERATIONS.

The engineering aspects of typical and fundamental operations in each of the ceramic industries.

Three lectures per week, first semester.

Three credit hours.

CE 204. 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.

CE 305. UNIT PROCESSES.

The fundamental considerations 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 per per week, first semester.

Four credit hours.

CE 306. 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. Simple glasses are melted. Thermal expansions, softness and densities of glasses are measured in the laboratory.

Three lectures and one laboratory period per week, second semester.

Four credit hours.

CE 325. THERMOCHEMICAL MINERALOGY.

Establishment and interpretation of phase equilibrium diagrams to predict quantitatively the formation of ceramic minerals at high temperatures.

Two lectures per week, first semester.

Two credit hours. Prerequisite, CH 341.

CE 407. TESTING CERAMIC PRODUCTS.

Lectures, laboratory work; demonstrations on instruments and methods, and practice in testing commercial ceramic products and report writing.

Two credit hours.

*CE 408. STRUCTURAL CLAY PRODUCTS. (Ceramic Elective)

Specialization in the technology and the engineering aspects of the structural-clay-products industry.

Two lectures per week, second semester.

Two credit hours.

*CE 409. WHITEWARES. (Ceramic Elective)

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, first semester.

Three credit hours. Prerequisite, CE 204 and 206.

*CE 414. REFRACTORIES. (Ceramic Elective)

A study of the fundamental technology of all refractories and the engineering aspects of their production and use.

Three lectures per week, second semester.

Three credit hours. Prerequisite, CE 204.

*CE 415. LIME, GYPSUM AND CEMENT. (Ceramic Elective)

The properties, manufacture, testing, and uses of cementing material.

Three lectures per week, first semester.

Three credit hours. Prerequisite, CE 204.

*CE 418. ENAMELS. (Ceramic Elective)

The technology of the application of vitreous enamels to metals.

Two lectures per week, second semester.

Two credit hours. Prerequisite, CE 204.

CE 421. ENGINEERING I.

The engineering features of structural planning and design.

Two lectures per week, first semester.

Two credit hours. Prerequisite, CE 206 and Physics 237 and 238.

* For graduate credit.

CE 422. ENGINEERING II.

The engineering features of plant layout and design as applied particularly to the drying and firing of ceramic ware.

Two lectures per week, second semester. Associated with CE 472.

Two credit hours.

*CE 423 AND 424. ADVANCED CERAMIC TECHNOLOGY.

The study of solid-state reactions, ion exchange, unequilibrium crystallization, etc., and their ceramic implications.

Two lectures per week, each semester.

Two credit hours, each semester.

CE 426. PLANT INSPECTION.

Each year a one-week bus trip is planned where students are enabled to observe the operations used in various types of ceramic plants. Approximately fifteen different plants are visited during the trip, illustrating most of the principal types of ceramic production.

Required of all seniors in ceramic engineering and ceramic technology.

One credit hour.

CE 431. HEAT ENGINEERING.

Review of the laws of thermodynamics and their application to ceramic reactions and processes, principles of heat transfer, temperature measurement and instrumentation.

Two lectures and one laboratory.

Three credit hours. Prerequisites, Physics 111–112 and Mathematics 217, 218.

CE 434. ELECTRICAL ENGINEERING.

A treatment of the elements of electrical engineering practice for non-electrical engineering majors.

Three lectures.

Three credit hours. Prerequisites, Physics 111–112 and Mathematics 217, 218.

*CE 436. HIGH TEMPERATURE TECHNIQUES.

A review of the design construction and operation of high temperature furnaces, together with details relative to the control and maintenance of desired temperatures and temperature gradients.

One credit hour. Second semester.

*CE 459. WHITEWARE LABORATORY. (Ceramic Elective)

Laboratory studies to demonstrate the properties of whiteware raw materials, the preparation and testing of typical whiteware bodies, glazes and colors. Associated with CE 409.

Two laboratory periods per week, first semester.

Two credit hours.

* For graduate credit.

CE 461 AND 462. THESIS.

Original research on some problem decided upon in conference with the instructor.

Two laboratory periods per week, each semester.

Two credit hours, each semester.

*CE 464. HIGH TEMPERATURE, HIGH STRESS MATERIALS.

Raw materials, fabrication, firing, properties of cermets, intermetallics, and oxide ceramics for use in high temperature-high stress applications.

One credit hour. Second semester.

*CE 468. ENAMEL LABORATORY.

Two laboratory periods per week, second semester. To be taken with *CE 418.

Two credit hours.

CE 472. ENGINEERING DESIGN.

Design practice in which the structural engineering details of plant design, plant layout and plant equipment, including kilns and driers, are carried out.

Three laboratory periods per week, second semester. Associated with CE 422.

Three credit hours.

CE 517 AND 518. SEMINAR.

Seminar in Ceramic Engineering or Technology, for graduates. Hours to be arranged.

CE 526. 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.

CERAMIC SYMPOSIUM. (Required course to be taken by all undergraduates usually after their sophomore year.)

Over the past seven years, symposia have been held on refractories, whitewares, structural clay products, abrasives, enamels, and glass. In each symposium approximately forty speakers participated and each was an authority in his field. The lectures presented at the symposia are generally non-technical in nature and included the most recent practical developments that have taken place in that branch of the industry being considered. These speakers, representative of plant executives, research, production, quality control, sales and teaching, have made the symposia outstanding educational experiences. The symposia are held during the three weeks immediately following commencement, which period is termed the intersession.

All engineering and technology students are required to attend at least one symposium on ceramics during their four years in college. The symposium immediately following the sophomore year is the one that is generally recommended and for R.O.T.C. students is practically mandatory. The College has been extremely fortunate in being able to present to undergraduate students exceptional courses in the various fields of ceramics.

Three credit hours. (By special arrangement with the chairman of a symposium, two hours of graduate credit may be earned.)

GT 510. GRADUATE THESIS.

A minimum of at least half the credit earned for an advanced degree is earned through the ability, as evidenced by the completion of an original piece of work, to carry out research. Suitable subjects for investigation are review by the student in consultation with the advisors and a subject of special interest selected for study. Thesis subjects have to be formally approved by the Graduate Committee prior to the general acceptance. Each student is expected to pass an oral examination on his thesis and to write it up in such a manner as to be acceptable for publication.

CHEMISTRY

CH 205–206. CHEMISTRY.

A course in chemical principles, descriptive inorganic and organic chemistry, and chemical calculations for students in Ceramic Design.

Three lectures and one three-hour laboratory period per week.

Four credit hours, each semester.

CH 211. QUALITATIVE ANALYSIS.

Analysis of anions and cations with special emphasis on ionization and chemical equilibrium.

Two lectures and two laboratory periods per week.

Breakage deposit $15.00.

Three credit hours. Prerequisite, Chemistry 105–106.

CH 213. QUANTITATIVE ANALYSIS.

Volumetric and gravimetric analysis.

Two lectures and two laboratory periods per week.

Breakage deposit $15.00.

Three credit hours. Prerequisite, CH 211.

CH 213A. CALCULATIONS IN QUANTITATIVE ANALYSIS.

Methods and practice in various types of calculations arising from analytical procedures.

One credit hour.

* For graduate credit.

CH 341. 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, first semester.

Four credit hours. Prerequisite, CH 213.

CH 342. PHYSICAL CHEMISTRY.

It is assumed that the student will have had Calculus and Physics 111-112. A continuation of CH 341. Theoretical Chemistry.

Four class periods per week, second semester.

Three credit hours. Prerequisites, CH 341.

CH 342L. PHYSICAL CHEMISTRY LABORATORY.

One laboratory period per week to be taken with CH 342.

Breakage deposit $15.00 unless the student has already made a similar deposit for another course in the department.

One credit hour.

CH 343. FUELS AND COMBUSTION.

Fuels, principles of combustion, and heat balance.

Two lectures and one laboratory per week, first semester.

Breakage deposit $15.00.

Three credit hours. Prerequisite, CH 213.

CH 344. ADVANCED QUANTITATIVE ANALYSIS.

The analysis of silicate rocks, clays and ceramic materials.

One lecture and two laboratory periods per week, second semester. Prerequisite, CH 213.

Breakage deposit $15.00.

Three credit hours.

CH 346. FUNDAMENTALS OF ORGANIC CHEMISTRY.

A summary course, emphasizing as much as possible, applications of carbon compounds in ceramics. Elective, for undergraduate credit. Prerequisite, Chemistry 105-106.

Two lectures per week, offered both semesters.

Two credit hours.

*CH 472. CHEMISTRY OF THE COLLOIDAL STATE.

Two lectures per week, second semester. Prerequisite, CH 341 and CH 342.

Two or three credit hours.

* For graduate credit.

*CH 477. ELEMENTARY SPECTROSCOPY.

Emission and absorption spectroscopy in chemical analysis. Construction and use of spectographic equipment. Spectrum analysis by arc or spark methods of excitation. Qualitative and quantitative analysis.

One lecture per week, first semester.

One credit hour.

*CH 478A. SPECTROSCOPY LABORATORY.

Qualitative and quantitative analysis of inorganic salts and ceramic materials for ceramic engineering students.

One three-hour laboratory period per week, second semester.

One credit hour. Prerequisite, CH 477.

*CH 478B. SPECTROSCOPY LABORATORY.

Qualitative analysis of ceramic materials. Absorption spectroscopy. Glass technology students and chemistry majors.

One three-hour laboratory period per week, second semester.

One credit hour. Prerequisite, CH 477.

CH 502. ADVANCED PHYSICAL CHEMISTRY.

A study of equations of state, chemical equilibria —a) homogeneous h) heterogeneous, diffusion phenomena, strong electrolytes, theory of dislocations, theory of nucleation phenomena, theory of crystal growth.

Three credit hours. Second semester.

CH 503. GENERAL PHYSICAL CHEMISTRY.

A study of kinetic theory thermodynamics, electrochemistry, spectroscopy, and liquid state.

Three credit hours. First semester.

CH 512. CHEMICAL KINETICS.

A study of the rates and mechanisms of chemical reactions. Kinetic theory is reviewed and extended to collision and transition-state theories. The statistical treatment of reaction rates is covered. Special attention is given to surface and solid-state reactions, catalysis, viscosity and diffusion processes. Prerequisite, CH 503.

Three credit hours. Second semester.

CH 520. CRYSTAL CHEMISTRY.

The principles of crystal chemistry; the nature of the bond; the sizes of atoms and ions, and the organization of these units into solid bodies. Greater emphasis is placed on the structure of silicates, both crystalline and glassy, than on other compounds or on metals.

Two lectures per week, second semester.

Three credit hours. Prerequisite, X-Rays 411.

* For graduate credit.

CH 529. INORGANIC CHEMISTRY.

Survey of the chemistry of the elements and their compounds with special emphasis on bonding, structure and oxidation states.

Three credit hours. First semester.

CH 532. ADVANCED CERAMIC CHEMISTRY.

Modern concepts of inorganic chemistry with special emphasis on high temperature and surface chemistry.

Three credit hours. Second semester.

CH 535 AND 536. SOLID STATE CHEMICAL PHYSICS.

A study of defect structure of solids, band theory of solids and variants, surface electronic states, semiconductors; preparation and properties, photoconductors; preparation and properties, luminescent materials; preparation and properties, magnetic properties of materials, soft magnetic materials; preparation and properties, diffusion in ionic materials.

Three credit hours. First and second semesters.

CH 537. PHYSIOCHEMICAL EQUILIBRIUM.

Advanced work in the phase equilibrium relations of inorganic crystals and liquids with special emphasis on oxides, silicates and glasses. A thorough study of binary, ternary and quaternary equilibria.

Two credit hours. First semester.

CH 576. ADVANCED THERMODYNAMICS.

A study of statistical treatment and irreversible processes.

Three credit hours. Second semester.

CH 579. ADVANCED SPECTROCHEMISTRY.

Research applications. Analytical interpretation. Control and experimental.

One hour lecture and six hours laboratory per week. Offered both semesters.

Three credit hours.

CH 581. GENERAL SURFACE CHEMISTRY.

A study of the adsorption phenomena and thermodynamics of surface adsorbed layers.

Three credit hours. First semester.

CH 582. SURFACE REACTIONS.

A study of electronic structure of surfaces, interaction of adsorbed species, reactions at surfaces, catalytic reactions, liquid/solid interfaces, solid/solid interfaces, corrosion phenomena.

Three credit hours. Second semester.

CH 584. ADVANCED INORGANIC CHEMISTRY.

Introductory quantum and statistical mechanics, bond theory and molecular structure, many electron problems, free electron theory and band theory.

Three credit hours. Second semester.

DESIGN

DM 111 AND 112. ENGINEERING DRAWING.

The fundamental principles of drafting and elementary problems in descriptive geometry for Ceramic Design students.

Six clock hours per week.

Two credit hours, each semester.

DE 121 AND 122. PAINTING AND DRAWING.

Free-hand drawing and design from still life, landscape, the figure and memory; all media used. Introductory work in color.

Four clock hours per week.

One credit hour, each semester.

DE 123 AND 124. INTRODUCTION TO DESIGN.

A study of the basic vocabulary of two-dimensional design: point, line, texture, value and color. Application of this vocabulary in drawing and elementary design problems leading to an understanding of two-dimensional form and space.

Four clock hours per week.

One credit hour, each semester.

DE 125. CLAY MODELING

Elements of three-dimensional composition using clay and other media. Organization of forms, space and volumes, as the basis of creative sculpture.

Four clock hours per week.

One credit, one semester.

DE 126. DESIGN.

Exercises in three-dimensional design using a variety of materials. The student designs and constructs simple hand tools and utensils. Construction drawing.

Four clock hours per week.

One credit, one semester.

DE 151 AND 152. HISTORY OF ART.

Architecture, painting, sculpture and crafts from the earliest times to the present, examined in the light of prevailing ideals, traditions, modes of social behavior and environmental factors. This course is a requirement for the Bachelor of Fine Arts degree and for liberal arts majors in fine arts. For liberal arts majors additional work is required and 3 credit hours are allowed.

One lecture and one discussion each week.

CH 205–206. CHEMISTRY.

A course in chemical principles, descriptive inorganic and organic chemistry, and chemical calculations.

Three lectures and one three-hour laboratory period per week.

Four credit hours, each semester.

DE 227 AND 228. PAINTING AND DRAWING—STRUCTURE AND ORGANIZATION.

Plastic drawing and spatial organization, from still life, and landscape. All media used.

Four clock hours per week.

Two credit hours, first semester.

One credit hour, second semester.

DE 2275. LIFE DRAWING.

A course in drawing from life and from landscape. Class meets all day five days per week for a period of three weeks. This course is required of all students before admission to the sophomore year. Advanced students who have completed the course are invited to attend again each year at no extra cost.

Intersession.

Three credit hours.

DE 231 AND 232. ADVANCED MODELING.

A continuation of Course 325–326.

Four clock hours per week.

Two credit hours, first semester.

One credit hour, second semester.

DE 233 AND 234. VISUAL DESIGN

Continuation of 324. Introduction to typography, photomontage, and related exercises in drawing. The planning and organization of exhibitions.

Four clock hours per week.

One credit hour, first semester.

Two credit hours, second semester.

DE 233A AND 234A. THREE-DIMENSIONAL DESIGN.

The development of special knowledge and skills necessary to the solution of design problems. The study of structure. Design of small objects in wood, metal, glass, and other materials. The preparation of sections, profiles and models.

Four clock hours per week.

One credit hour, first semester.

Two credit hours, second semester.

DE 253 AND 254. HISTORY OF AMERICAN ART.

A survey of American expression in the arts from the 17th to the 20th century, dealing with such topics as European traditions and American culture, the influence of developing American political and social thought and the effects of mass production and communication. Required for graduation. (Elective for Liberal Arts students.)

Two lectures and one discussion each week.

Three credit hours, each semester.

DE 307. CERAMIC MATERIALS AND CALCULATIONS.

A general course in ceramic raw materials. Origin and properties. Calculation, development, preparation, classification, and uses of ceramic glazes and bodies. Laboratory exercises in development of textures and colors. Required for graduation.

Two lecture periods and six clock hours per week.

Four credit hours, first semester.

IM 313 AND 314. ADVANCED DRAFTING. (Elective)

Advanced drafting and architectural drawing.

Four or six clock hours per week.

Two or three credit hours, each semester.

DE 333 AND 334. ADVANCED PAINTING AND DRAWING.

Creative organization of pattern, color, texture, and form in relation to a two-dimensional surface, decorative pattern for various materials and processes. All types of media used in this course.

Four clock hours per week.

Two credit hours, each semester.

DE 333A AND 334A. ADVANCED GRAPHICS I.

General survey of graphic methods. Introduction to elementary printing methods: stencil, type, monoprint. Investigation of the woodcut as a creative medium.

Four clock hours per week.

Two credit hours, each semester.

DE 335 AND 336. FURNITURE DESIGN—SHOP PRACTICE.

Basic problems in design, stressing the influence of function, materials, methods of making, social and economic factors; problems in interior arrangement, furniture models and constructions. Selected problems are produced, full scale, in the final materials.

Six clock hours per week.

Three credit hours, each semester.

DE 337. POTTERY—FORMING.

Exercises in forming pottery. Thrown and pressed ware. Required for Graduation.

Four clock hours per week.

Two credit hours, first semester.

DE 338. POTTERY—FORMING AND MATERIALS.

A general course in pottery design and production. Creative use of clays and glazes; ceramic colors and textures. Molds and models. Firing practice. Required for Graduation.

Twelve clock hours per week.

Six credit hours, second semester.

DE 337A. AND 338A. SCULPTURE.

Sculptural problems related to Course 337–338. Required for Graduation.

Four clock hours per week.

Two credit hours, each semester.

DE 409. EQUIPMENT AND MATERIALS. (Elective)

Kiln construction, firing reactions, temperature measurement and control. Ceramic production equipment and plant design.

Two lecture periods per week, first semester.

Two credit hours.

DE 410. INDIVIDUAL PROBLEMS IN THE LABORATORY DEVELOPMENT OF CERAMIC MATERIALS. (Elective)

Two laboratory periods per week.

Two credit hours.

DE 433 AND 434. ADVANCED PAINTING AND DRAWING.

An advanced course in painting and drawing—all media used.

Four clock hours per week.

Two credit hours, each semester.

DE 441 AND 442. DESIGN.

An advanced course in drawing and three dimensional design problems, planned individually with each student.

Four clock hours per week.

Two credit hours, each semester.

DE 441A AND 442A. ADVANCED GRAPHICS II.

Advanced application of graphic methods learned in 333A and introduction to photography. Problems in visual design (book illustration, exhibition, the series, will be arranged individually with the student.

Four clock hours per week.

Two credit hours, each semester.

DE 443–444. ADVANCED POTTERY.

Problems in the design of pottery, tableware, and glass products. Individual problems including various methods of forming and types of market requirements; survey of history of ceramics. Required for graduation.

Eight to twelve clock hours per week.

Four to six credit hours, each semester.

DE 443A AND 444A. SCULPTURE AND POTTERY PROBLEMS.

Work in this course is coordinated with that given in 343–344.

Four clock hours per week.

Two credit hours, each semester.

DE 455 AND 456. HISTORY OF DESIGN.

This course explores the evolution of influential and significant ideas in the history of design from their genesis and original environment to their meaning in our own time. Particular emphasis is placed on the role of such ideas in the unfolding of American thought and ideals, with constant reference to the styles, techniques and related expressions of other cultures. Required for graduation. (Elective for Liberal Arts students.)

Two lectures and one discussion each week.

Three credit hours, each semester.

DE 457 AND 458. HISTORY OF DESIGN. (Elective)

In this course students engage in independent research on selected aspects of the history of design with emphasis on contemporary problems.

Hours to be arranged.

Two credit hours, each semester.

GRADUATE COURSES.

Hours and credits for graduate courses are arranged individually with each student.

With the exception of 570 and 570A, graduate students are enrolled in regular undergraduate courses. As the work of each graduate student reaches an approved level, an individual program is prescribed and graduate credit is allowed to qualified students.

DE 570. GRADUATE PROJECT.

In this course each graduate student selects and carries to completion an advanced problem or project in ceramics or design. The subject of the project is selected jointly with the faculty and is based upon the student's interests and aptitudes as evidenced by his previous performance in all courses. When completed and submitted in an approved form the graduate project may be considered in support of the student's application for the Master of Fine Arts degree.

DE 507A. DESIGN—PROFESSIONAL PRACTICE. (Elective)

This is a supervised off-campus work period in the design laboratory of an industrial plant.

GLASS TECHNOLOGY

GL 208. COMPOSITION.

The chemistry of the glass-making oxides. A study of the methods of production of the minerals and chemicals used in glass making and of the chemical reactions and properties; methods of testing purity, chemical composition, and functions in glass melting.

Three lectures per week.

Three credit hours.

GL 301. GLASS COMPOSITION AND MANUFACTURE.

The glass 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.

Three lectures per week, first semester.

Prerequisites, two years college work in science or equivalent experience, and one-half year of Physical Chemistry.

Three credit hours.

GL 302. THE PHYSICS OF GLASS.

The properties of glass are studied with particular attention to methods of measurement. Density, thermal expansion, viscosity, surface tension and the stress optical properties are covered in detail. The calculation of properties from composition, annealing, measurement of strain and heat shock resistance are treated mathematically.

Three lectures per week, second semester.

Three credit hours. Prerequisites, Calculus, Physics 111–112, GL 301.

GL 351–352. GLASS TECHNOLOGY LABORATORY.

Laboratory exercises on the measurement of the physical properties of glass. Annealing and tempering are studied as well as the measurement of strains by optical means. The effect of composition on the melting characteristics, color and other physical properties is studied by melting various batches in the laboratory. Elementary exercises in pressing and blowing glass.

One laboratory period per week, first and second semesters.

One credit hour. Prerequisites, Physics 111–112, Calculus. To be taken with GL 301 and 302.

*GL 370 AND 470. GLASS SEMINAR.

Oral reports on advances in glass technology from current literature.

One hour per week, each semester.

One credit hour, each semester.

GL 382. PLANT INSPECTION.

Visits to glass factories arranged during the second semester. One week away from Alfred.

One credit hour. Prerequisites, GL 301, 351. To be taken with GL 302 and 352.

GL 401. GLASS ANALYSIS.

A laboratory course in advanced analysis for glass technologists. Special problems in analysis of glass are assigned for laboratory work.

Two laboratory periods per week, first semester.

Breakage deposit $15.00.

Two credit hours. Prerequisite, CH 213.

*GL 403. PROPERTIES OF GLASS.

Text, lectures, assigned reading, individual reports on research papers. The physical chemical and optical properties of glass are intensively studied.

Three lectures per week, first semester.

Three credit hours. Prerequisites, GL 301, 302, 351, 352.

*GL 404. GLASS-MELTING UNITS.

Studies on the design, construction, and operation of glass furnaces. Thermal efficiency, heat economy, and application of electric energy are considered.

Two lecture hours, one laboratory period per week.

Three credit hours. Prerequisite, GL 301, 302, 403, CH 343, Physics 329*.

*GL 406. STRUCTURE OF GLASS.

Primarily for graduate students. A lecture course dealing with the coordination and linkage of cations and oxygen in the glass-forming, glass-modifying, and intermediate oxides, from the viewpoint of crystal chemistry.

Two lectures per week, second semester.

Two credit hours.

GL 461 AND 462. GLASS THESIS.

Laboratory study of a problem selected in conference with the department head. Review of literature. Two laboratory periods per week, each semester.

Two credit hours, each semester.

*For graduate credit.

INDUSTRIAL MECHANICS

IM 101–102. ENGINEERING DRAWING.

The fundamental principles of drafting and descriptive geometry.

Two credit hours, each semester.

IM 111 AND 112. ENGINEERING DRAWING.

The fundamental principles of drafting and descriptive geometry for students in Ceramic Design.

Two credit hours, each semester.

IM 221S. PLANE SURVEYING AND MAP READING.

Primarily for engineering students in the College of Ceramics. A student must do satisfactory work in both the field and classroom in order to receive credit. Offered for three weeks each summer, beginning immediately after the close of the regular school year. Prerequisites, Mathematics 105 and IM 101–102 or their equivalent.

Three credit hours.

IM 313 AND 314. ADVANCED DRAFTING.

Drafting and architectural drawing. An elective for Ceramic Design students.

Two or three credit hours, each semester.

EARTH SCIENCE

MIN 201. MINERALOGY.

Introduction to crystallography and to the study of minerals and their identification by chemical and physical tests.

Two lectures and one laboratory period per week, first semester.

Three credit hours.

PET 302. PETROGRAPHY.

Petrographic microscopy, including crystallography, linear, point, and counting methods for quantitative analysis of mineral mixtures; particle size distribution; thin sections, polished sections, and immersed grains.

Two lectures and one laboratory period per week, second semester.

Three credit hours.

*PET 401. PETROGRAPHY.

Advanced work in the use of the petrographic microscope and accessories in the examination and photography of ceramic raw materials and products.

One laboratory period per week, first semester.

Two credit hours. Prerequisite, PET 302.

* For graduate credit.

*X-RAYS 411. APPLIED X-RAYS.

Introduction to X-ray emission and absorption spectra, space groups, and diffraction methods and their use for determination of atomic arrangements in solids, identification of minerals, particle size, and orientation studies.

Two lecture periods per week, first semester.

Two credit hours.

*X-RAYS 411L. APPLIED X-RAY LABORATORY.

One laboratory period per week, first semester.

One credit hour.

MIN 508. CLAY MINERALOGY.

Crystalline structure, methods of analysis and genesis of clay minerals. The surface chemistry of solids and a structure theory of water will be studied in connection with advanced work on clay-water systems.

Three lectures per week, second semester.

Three credit hours. Prerequisites, CH 341 and PET 302.

MIN 512. GEOCHEMISTRY.

Application of the principles of phase equilibrium to the origin of igneous and metamorphic rocks and the distribution of elements in the earth's crust.

Two credit hours. Second semester. Prerequisite, CH 537.

PHYSICS

*PH 433. NUCLEAR PHYSICS.

The structure of atoms, quantum theory, special relativity, x-rays, radioactive transformations, alpha, beta and gamma rays, isotopes, artificial radioactivity, nuclear structure, neutron physics, elementary nuclear reactor theory. Prerequisites: Grades of B or better in Physics 111–112 and CH 341 and CH 342.

Three credit hours. First semester.

*PH 441–442. MODERN PHYSICS.

Designed to give the student an introduction to the newer concepts of physics. Topics discussed include radiation, the photoelectric effect, relativity, the origin of spectra, specific heats of solids, elementary quantum mechanical concepts, and nuclear physics. Prerequisites: at least two years undergraduate physics, calculus. Differential equations should either precede or be taken concurrently with this course.

Three credit hours.

* For graduate credit.

PH 542. LOW TEMPERATURE PHYSICS.

Offered if there is sufficient interest.

A survey of the techniques of experimentation and the properties of matter at very low temperatures, particularly below 5° Absolute.

Two credit hours.

PH 543-544. ADVANCED SOLID STATE PHYSICS.

Various topics in the theory of solids, including binding energies, specific heats, the free-electron theory, the band approximation, magnetic properties, semiconductivity, and dielectric properties. Quantum mechanics is introduced at the beginning and used throughout the course. Prerequisite, PH 441.

Three credit hours, each semester.

PH 545. QUANTUM MECHANICS.

An introduction to the concepts and methods of quantum mechanics. The treatment is primarily by the Schroedinger method, although the Heisenberg matrix method is introduced. Topics covered include potential barrier problems, the simple harmonic oscillator, the rigid rotator, the hydrogen atom, the method of linear variation and perturgation theory. Prerequisites: PH 441 and Mathematics 370.

Three credit hours. First semester.

PH 546. DIELECTRIC THEORY.

The theory of the dielectric polarizability of materials, with emphasis on solids. The various processes leading to polarizability and to dielectric losses are considered in considerable mathematical detail. Prerequisite: PH 441.

Two credit hours.

MATHEMATICS

MA 501. VECTOR ANALYSIS.

A study of basic algebraic operations on vectors, vector differentiation, and vector integration including divergence, curl, curvilinear coordinates, line and surface integrals, gradients and potentials, with applications in scientific areas. Course includes an introduction to tensors. Prerequisite: Three hours of Advanced Calculus, *or* consent of instructor.

Three credit hours. First semester.

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* For graduate credit.

MA 503. APPLIED MATHEMATICS.

Content of course varies according to the needs of the students. Topics may include infinite series, Fourier series and orthogonal functions, special partial differential equations, Laplace and Fourier transforms, and items from Higher Algebra and Complex Variables. Prerequisite: Three hours of Advanced Calculus *and* three hours of Differential Equations.

Three credit hours. First semester.

MA 504. THEORY OF FUNCTIONS OF A COMPLEX VARIABLE.

A standard one-semester course, including complex integrals, Cauchy's formulae, analytic continuation, Taylor and Laurent expansions, and residues. Prerequisite: Consent of instructor.

Three credit hours. Second semester.

MA 505. PARTIAL DIFFERENTIAL EQUATIONS.

Origins and formal methods of solution of the familiar partial differential equations, including the wave equation, equation of heat flow and diffusion, Sturm-Liouville systems, and the equations of Bessel, Legendre, Hermite, and Laguerre. Properties of the solutions. Methods of Charpit, Jacobi, and Monge. Prerequisite: Three hours of Differential Equations.

Three credit hours. First semester.

EXTRA-CURRICULAR

CAMPUS LIFE is motivated and governed by the students under the guidance of the personnel Deans. Among the many sponsored activities, each is certain to find one or more of interest. There are clubs and organizations carrying on programs pertaining to languages, sciences, drama, art, journalism, athletics, music, outdoor sports, aviation and scouting. There are honorary scholastic and service organizations which recognize a student's accomplishments in different areas.

ORGANIZATIONS

The Student Branch of the American Ceramic Society is an organization composed of students taking ceramic engineering, ceramic technology or glass technology. Its present membership is 300. Students elect officers who are responsible for arranging the year's program. Speakers, having messages of particular interest to the members, are brought to the campus.

The St. Patrick's Board is composed of upper-class technologists and engineers, elected by the student branch. The board manages the most important social event of the year, which is a celebration in honor of the birthday of St. Patrick, the patron saint of engineers. The celebration entails one-and-one-half days of fun and relaxation and associated with it are an all-university assembly, a parade of floats, and a Ceramic College open house.

Keramos is the national honorary ceramic engineering fraternity. Its membership is composed of students from all ceramic schools and colleges, and men particularly prominent in the ceramic engineering profession. The principal objectives of the fraternity are: to promote and emphasize scholarship and character: to stimulate mental achievement; and to promote interest in ceramic engineering. Student membership is based on scholastic record, character, and interest in ceramics. It is one of the highest honors a student in ceramic engineering or technology can attain.

PUBLICATIONS

The University Students issue a weekly newspaper, the "Fiat Lux," a year book, the "Kanakadea," and a literary journal, "The Alfred Review" which is published once a year. Ceramic students interested in journalism or publishing as a hobby find ample opportunity for active work on these publications.

RELIGIOUS LIFE

Religious life on the campus is the special concern of the University Chaplain whose office adjoins the chapel room in Kenyon Hall. Regular University chapel services are held by the Chaplain on Tuesdays. The student's Chapel Choir regularly contributes to these services. Although attendance is voluntary, chapel services have become an integral part of student activities, and are attended by large numbers of students and faculty.

There is a variety of religious services available to students on weekends. Without denominational affiliation, the Union University Church has a service and program of interest to young people of many Protestant faiths. The church is governed by an executive committee made up of students, faculty members, and townspeople. Services are held twice each Sunday morning in the Seventh Day Baptist Church.

On Sunday there are also, on campus, Roman Catholic Mass, Episcopal services, and a Friends (Quaker) Meeting. Services for Jewish students are regularly held on Friday evenings.

The First Seventh Day Baptist Church of Alfred, with whose people Alfred University has always maintained the friendliest relations, conducts services for those who are accustomed to worship on the Seventh Day.

CONCERTS AND LECTURES

An outstanding group of lecturers and musical artists is brought to the campus each year to appear on the University Forum and in University assemblies. These programs are maintained through the inclusive college fee, and all regularly enrolled students are admitted without extra charge.

SOCIAL LIFE.

Social life at Alfred revolves around the open houses and informal dancing parties, the formal Interfraternity and St. Pat's balls, the various sports events, teas, receptions, the Campus Union, the Forum, and the Campus Theatre where motion pictures are shown three times weekly.

SELF-HELP

The College cannot guarantee that a student will find work. Students should be prepared to finance their first two years, at least. Juniors and seniors are eligible for student assistantships and some find gainful employment in dining halls and in the village. The best means for a student to augment his resources substantially is to find employment during the summer vacation period.

INDUSTRIAL EXPERIENCE

Students are urged to secure employment in ceramic plants during the summer-vacation period. A few months' work under industrial conditions aid materially in rounding out their training. Every possible aid is given students in their efforts to obtain summer positions.

STUDENT HOUSING

All freshmen, unless excused by the Dean of Men or the Dean of Women, are required to room and board in University dormitories. These include for women The Brick and Kruson and for men Bartlett, Cannon, and Barresi Halls. Each dormitory is in charge of a head resident, who is assisted by upperclass counselors. Women students are also required to live in University dormitories during their sophomore year and are normally assigned to Kruson Hall.

During the junior and senior years, women may live in either sorority houses, University cooperative housing, or University dormitories. During the sophomore year men students must room and board in either University dormitories or fraternity houses. Beyond the sophomore year, men may reside in fraternities, University dormitories, or in private homes. In all instances, however, the right of assignment to housing for both men and women rests with the University.

Married students are usually housed in Saxon Heights, a temporary housing development located about three-quarters of a mile from the center of the campus. Applications for these apartments should be made to the Dean of Men.

RESERVE OFFICERS' TRAINING CORPS (ROTC)

A United States Army Reserve Officers' Training Corps program of the General Military Science curriculum is established at Alfred University. Students who successfully complete the four year program of instruction will be commissioned as Second Lieutenants in the United States Army Reserve, and outstanding graduates may be offered a commission in the Regular Army. Appointments will be to one of the Branches of the Army and will be made on the basis of individual aptitudes and choice, and the needs of the Army.

The program is divided into two phases. The first two years are known as the Basic Course and the second two years as the Advanced Course. It is a University requirement that all physically fit, non-veteran male students successfully complete the Basic Course before graduation. This course carries regular college credit, and these credits may be substituted for the requirements in physical education.

The Advanced Course is offered as an elective course to eligible juniors who have demonstrated outstanding leadership ability and aptitude for military training during the Basic Course. Those students who apply, and who are acceptable to the Professor of Military Science and Tactics, who can qualify physically, may participate in the Advanced Course.

All students are furnished on a loan basis all textbooks, uniforms, and equipment. In addition, Advanced Course students are paid approximately $27.00 per month subsistence allowance and $78.00 per month while attending a six-week summer camp between their junior and senior years. These amounts, plus a travel allowance for the trip to summer camp, total over $700 for the two year Advanced Course.

REGULATIONS

REGISTRATION

All students are expected to register on the days designated for that purpose on 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 Design Department is expected to register for at least fifteen hours of work each semester.

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; (3) the payment of $20.00 per semester hour for each extra credit hour taken.

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 a permissible list, but in making his selection he should be governed by the advice of the faculty.

AUTOMOBILE REGULATIONS

Resident freshmen may not have automobiles or motorcycles either on campus or in the Village of Alfred. All permitted student automobiles or motorcycles must be registered with the Dean of Men. This registration will take place at the time of registration for classes. Registration of a student automobile or motorcycle will cost $5.00. This registration is required and does not mean that the student has a right to drive to classes or to park on the campus.

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 among 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 expected of all the students.

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.

SCHOLASTIC STANDARDS

Owing to the exacting demands of the ceramic profession, high standards of scholarship must be maintained. Students unable to meet these standards are dropped from the College. Instructors are 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 his problems.

GRADES AND INDICES

SYSTEM OF GRADING

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

Grade	*Quality of work*	*Quality points per credit hour*
A	Superior	3.
B+	Very Good	2.5
B	Good	2.0
C+	Average	1.5
C	Average	1.0
D+	Average	0.5
D	Poor	0.0
F	Failure	−1.0
I	Incomplete	No Points
W.P.	Withdrew Passing	No Points
W.F.	Withdrew Failing	−1.0

The grade point index is obtained by dividing the total number of points by the total number of the credit hours taken. 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 grades is included.

The lowest passing grade is "D". However, a "D" obtained in a course prerequisite to other courses will not permit the student to register in these courses, i.e., inasmuch as Mathematics 105 is prerequisite to Mathematics 217, a "D" will earn credit in Mathematics 105 but will not permit the student to register in Mathematics 217 or in any other course for which Mathematics 105 is a prerequisite. If the stated prerequisite is a year course (hyphenated), the average for both semesters must be at least D+.

Grading for graduate students is on a scale of A, B, C and F. No index is kept but a graduate student must have an average of B or better in all courses to receive an advanced degree. When undergraduates enroll in a course primarily for graduates they will be graded on the same scale (A, B, C and F) and will receive point values of 3.0, 2.0, 1.0 or −1.0 in accordance with the table above.

All grades remain on the student's permanent record. If a course is repeated and a higher grade is earned, its index replaces that of the former grade.

Note: A student wishing to take a summer school course elsewhere should obtain in advance written permission from his academic dean, especially if he wishes to be assured that the credit earned will be accepted by Alfred University. Requests for such permission should be accompanied by the printed course description from the catalog of the school the student wishes to attend.

SEMESTER STANDARDS

The minimum indices for the various semesters are as follows:

First year, each semester	0.7
Second year, each semester	1.0
Third year, each semester	1.1
First semester of fourth year	1.2

The student's year is determined as follows:

Less than 2 full semesters in attendance—first year
2 but less than 4 full semesters in attendance—second year
4 but less than 6 full semesters in attendance—third year
6 or more semesters in attendance—fourth year
Two summer sessions will be counted as one semester.

Such ranking will also be used to determine a student's eligibility to enroll in a course when the description specifies the year in college.

A student whose index at the end of any semester falls below the minimum semester standard will be permitted to continue his studies on a conditional basis ("on condition"). Further, a student who has a low cumulative index, has low grades in critical prerequisite courses, or faces other academic difficulties, may be placed "on condition" at the discretion of the academic dean concerned and may be directed to pursue remedial measures stated by the dean. Any student "on condition" who fails to attain the required semester index and/or fails to meet other academic requirements, which may be specified for remedial purposes by the dean after consultation with the student's adviser, will not be permitted to reenroll unless, for unusual circumstances, the Committee on Scholastic Standards extends the student's conditional status.

The main objective of these rulings is to assist the student who continues in college on a conditional basis to gain or regain the requisite academic standing in the shortest possible time and in a way that will do the student the most all-round good. This may mean that the student will not be permitted to participate in certain co-curricular activities (athletics, dramatics, music, etc.), or that he will not be permitted to carry a full curricular load, or that he will not be permitted to engage in any extra social activities. On the other hand, he may be encouraged to engage in selected added interests to add zest to his total outlook. Any such special provisions will be made through joint consultation of the student's adviser and his academic dean. Finally, students "on condition" are urged to take full advantage of all University advisory sources available to them.

DISMISSALS

A student dismissed for academic reasons for the first time from the University is usually granted the opportunity to return on a conditional basis after one full semester has elapsed. For this he must request a letter of readmission from his academic dean as chairman of the Committee on Scholastic Standards responsible for the dismissal. Such requests should be made about two months before the anticipated return. The Committee will be especially interested in indications that the student will pursue his studies more successfully than in the past.

The University reserves the right to suspend or expel at any time students whose conduct is considered undesirable. Such action is usually taken only after full consideration by the Discipline Committee and the approval of the President. Suspension or expulsion may or may not be accompanied by a public statement concerning the reason for the Committee's action.

HONORS, PRIZES AND AWARDS

Undergraduate Honors. A Dean's Honors List is published at the end of each semester. This is composed of the names of students from all classes who have a semester's scholarship index of at least 2.30, and who have no college entrance condition.

Senior Honors. Three grades of honors are awarded, upon faculty approval, to seniors based on their attainment in scholarship during the entire college course, viz.:

(a) *Summa cum laude,* or highest honors, to those having a scholarship index of 2.90 and no grade below B.

(b) *Magna cum laude,* or high honors, to those having a scholarship index of 2.70 and no grade below C.

(c) *Cum laude,* or honors, to those having a scholarship index of 2.30.

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

The College Citizenship Award. This was established by the Ceramic Association of New York, and it is made annually by nomination by students and vote of the faculty, to that senior whose entire record as a College citizen is most outstanding.

Departmental Honors. These honors are awarded to seniors at the time of their graduation by the departments in which they have pursued their majors studies. The specific requirements for these honors are determined by each department. The general requirements for all departments have been adopted by the faculty:

A candidate for departmental honors shall have (1) attained a cumulative index of 2.20 in the courses of his major field, (2) earned at least two semester hours of credit in a tutorial course, (3) passed an oral examination in his major and allied fields, conducted by a committee selected by the major department. Candidates for departmental honors will be recommended by their respective departments and approved by the faculty.

The Mary Wager Fisher Literary Prize. William Righter Fisher, Esq., of Philadelphia, contributed $1,000 to found in perpetuity a literary prize in Alfred University in memory of his late wife, Mary Wager Fisher, of the Class of 1863. The income of this fund will be given annually to one or more students as a prize for excellence in literary composition. The head of the Department of English is chairman of the committee of the award.

The Chemistry Medal. This medal is awarded to that member of the senior class majoring in chemistry, ceramic engineering or glass technology, who, during his sophomore and junior years, has made the highest average in all his subjects.

REGISTER OF STUDENTS: 1957-1958

Name	*Classification*		*Residence*
Acker, Gerald M.	Eng.	'61	Monticello
Adler, Harvey J.	Glass	'60	Savona
Allen, E. Jane	Design	'59	Canisteo
Anderson, David O.	Eng.	Grad.	St. Louis, Mo.
Angelo, James J., Jr.	Eng.	'58	Watkins Glen
Aunich, Joyce L.	Design	'60	Suffern Park
Antonius, Richard W.	Eng.	'61	Bellmore
Arney, Don M.	Eng.	'60	York
Avery, Orvella R.	Eng.	'59	Wellsville
Avery, Robert C.	Eng.	'58	Wellsville
Babu, Victor A.	Design	'58	Bronx
Bacher, Peter H.	Eng.	'59	Rock Tavern
Bailey, Thomas W.	Tech.	'59	Elmira
Baker, Alan T.	Eng.	'61	Horseheads
Baker, Thomas G.	Eng.	'60	Medina
Barbaro, Michael J., Jr.	Tech.	'61	Olean
Barlow, Gordan A.	Eng.	'61	Batavia
Barnard, Leon M.	Eng.	Spec.	Bloomfield, Conn.
Bassett, Gary L.	Eng.	'61	Beaver Falls, Pa.
Bauer, Richard F.	Eng.	'58	Elmira
Beard, Charles T.	Eng.	'60	Hornell
Beechner, Donald H.	Eng.	'61	Cohocton
Bellomo, Philip S.	Design	'59	Bath
Bender, Joel L.	Eng.	'61	Bronx
Bentley, Alan M.	Eng.	'60	Jamestown
Bentley, Grace M.	Design	'59	Troy
Berner, Ronald E.	Eng.	'61	Buffalo
Berner, Warren E.	Eng.	'59	Buffalo
Biele, Frank S.	Design	'61	Yonkers
Billeci, Andrea	Design	'60	New York
Blackmar, Robert J.	Eng.	'59	Hastings-on-Hudson
Blaze, Joseph E., Jr.	Eng.	'58	Falconer
Bleecher, Jeremy	Eng.	'61	New Rochelle
Bohanan, C. Mark	Design	'59	Geneva
Booy, Emmy C.	Eng.	'60	Locust Valley
Bradt, Charles J.	Eng.	'59	Endicott
Brennessel, David W.	Eng.	'61	Dansville
Briggs, Julie A.	Design	'61	Homer
Brosnan, David R.	Eng.	'61	Westboro, Mass.
Brown, James R.	Glass	'59	Hornell
Brown, Virginia L.	Eng.	'60	Montour Falls
Brownell, Dean B.	Eng.	'60	Friendship
Bubnack, Harry W., Jr.	Eng.	'58	Minoa
Bucher, Gerald L.	Eng.	'59	Allegany

Name	*Classification*		*Residence*
Buckley, Michael J.	Eng.	'59	Geneva
Buckley, John C.	Eng.	'60	Syosset
Burdick, Robert B.	Eng.	Grad.	Alfred
Burdick, Vernon L.	Eng.	'61	Portville
Burger, Kendal R.	Eng.	'60	Stony Point
Burt, Stewart W.	Glass	Spec.	Corning
Bush, Allen H.	Eng.	'60	Owego
Calabrese, Donald W.	Eng.	'58	Flushing
Caldwell, Smiley M., III	Eng.	'58	Nashville, Tenn.
Call, Dennis N.	Eng.	'61	Rochester
Cannon, John W., Jr.	Design	Grad.	Forest City, N. C.
Carmichael, Ronald J.	Eng.	'60	Castile
Casper, Richard L.	Eng.	'60	Niagara Falls
Chambers, Curtis D.	Eng.	'59	Horseheads
Chung, Dae Hyun	Eng.	'60	Seoul, Korea
Cieman, Albert J.	Eng.	'61	Poughkeepsie,
Clark, Robert F.	Glass	'61	Corning
Clayton, Suzanne K.	Design	'58	Beacon
Cohrssen, Barbara R.	Eng.	'59	Port Chester
Cole, Michael E.	Eng.	'60	Ceres
Coleman, Ronald C.	Eng.	'59	Hornell
Comsti, Francisco A.	Eng.	Spec.	Phillippines
Conabee, Earl E.	Eng.	'60	Zanesville, Ohio
Condon, William F.	Eng.	'59	Canisteo
Connor, Joseph H.	Eng.	'59	Ogdensburg
Constantine, John C.	Eng.	'60	Oneonta
Conwicke, Joel A.	Eng.	'60	Endicott
Cook, Donald C.	Eng.	'59	Gloversville
Cooper, Joseph E.	Glass	'58	Knoxville, Pa.
Corah, Donald E.	Eng.	'59	Getzville
Corry, Terrance M.	Eng.	'61	Elizaville
Covert, Theodore B.	Eng.	'60	Watkins Glen
Cridge, Edmund S.	Eng.	'60	Gansevoorts
Crupain, Daniel	Eng.	'61	New York
Cudworth, James N.	Eng.	'59	Delevan
Culley, Paul T.	Eng.	'60	Geneseo
Cutter, Joan R.	Eng.	'60	Flushing
Daggett, Catherine B.	Design	'58	Bradford, Pa.
Daggett, George H., Jr.	Eng.	'60	Bradford, Pa.
Daignault, David W.	Eng.	'61	Spencerport
Daly, Robert A.	Eng.	'59	Yonkers
Davidson, Douglas N.	Eng.	'61	Larchmont
Davis, Lyman H., III	Eng.	'61	Hamburg
Day, Kenneth R.	Tech.	Grad.	Buffalo
DelRosso, Louis J.	Eng.	'58	Watkins Glen

Name	*Classification*	*Residence*
Dennerlein, Donald A.	Glass '61	Valhalla
DeVolder, Norman E.	Eng. '59	Sodus Point
DiBenedetto, Bernard A.	Eng. '58	Bedford
Dick, William R.	Glass '58	Garden City
Dickson, Terry E.	Eng. '59	Hornell
DiGangi, Frank	Eng. '59	Bellport
Donnelly, John A.	Eng. '58	South Glens Falls
Doty, Raymond C.	Eng. '59	Rexville
Doud, James R.	Eng. '61	Canaseraga
Durnwirth, Roy K.	Eng. '59	Peekskill
Dutton, Stanley S.	Eng. '60	Seneca Falls
Eaton, Lawrence E.	Eng. '59	Amsterdam
Eckert, Leon J.	Eng. '61	Lake View
Eiss, Roger L.	Tech. '58	Indiana, Pa.
Ellsworth, Richard L.	Eng. '61	Deposit
Emmerich, Charles W.	Eng. '59	Pittsburgh, Pa.
Erikson, Carolyn V.	Tech. '61	Bayside
Fahey, J. Russell	Eng. '58	Waverly
Fancher, Norman G.	Eng. '61	Delmar
Feinstein, Michael	Eng. '60	Brooklyn
Fell, Edward C.	Glass '58	Elmira Heights
Ferguson, Kenneth R.	Design Grad	Pittsburgh, Pa.
Finlayson, Joseph A., Jr.	Eng. '59	New York
Fisher, Dale M.	Eng. '61	Springville
Fisher, James F.	Eng. '59	Hornell
Fisher, Richard G.	Eng. '59	Hornell
Fitzpatrick, John	Eng. '58	Niagara Falls
Fleischer, Donald H.	Eng. '59	Wellsville
Floch, Jenny E.	Design Grad	New York
Flood, Frances J.	Design '58	Ontario, Canada
Folwell, Marjorie L.	Eng. '60	Wellsville
Foster, Bryan P.	Eng. '59	Wellsville
Fox, Marilyn L.	Eng. '58	Utica
Francis, Rouald K.	Eng. Grad	Wellsboro, Pa.
Frank, Patrick A.	Eng. '61	Hammondsport
Frazier, James H.	Eng. '59	Yonkers
Fredericks, John D.	Eng. '59	Elmira
Friedlander, Steve J.	Design '60	Brooklyn
Fritz, N. Jeanne	Design Grad	Binghamton
Funt, John B.	Eng. '60	Industry
Gath, Norman C.	Eng. '60	Avon
Geller, Harold L.	Eng. '59	Hollywood, Fla.
Georganta, Anastasia T.	Design '58	Olean
Giess, Edward A.	Eng. Grad	Alfred

Name	*Classification*	*Residence*
Gilbert, Harrison C.	Eng. '59	Elmira
Gill, David L.	Eng. '60	Buffalo
Gold, Charles S.	Design '61	Brooklyn
Goldstein, Leonard D.	Tech. '59	Corona
Goodridge, Clair L.	Eng. '61	Andover
Gordon, Stuart W.	Eng. '60	New York
Grantier, Gary L.	Eng. '60	Whitesville
Graves, George A., Jr.	Eng. '59	Mayville
Gray, Donald W.	Eng. '61	Oakfield
Green, Daniel K.	Eng. '58	Elmira Heights
Green, Gilbert S.	Eng. '61	Ossining
Greenwald, Howard B.	Eng. '60	Troy
Gregory, David G.	Eng. '61	Alfred
Griffin, Margaret F.	Tech. '60	Pittsford
Groffman, Barbara A.	Design '59	Floral Park
Grossman, Robert F.	Eng. '60	Andover
Guernsey, Alan S.	Eng. '59	Cobleskill
Guile, Donald L.	Eng. '60	Dansville
Hacker, Richard C.	Eng. '60	Orchard Park
Hale, John R.	Eng. '61	Elmira
Hall, James K.	Eng. '59	Hornell
Handy, Arthur E., Jr.	Design '59	Aiken, S. C.
Hanschke, Marlies K.	Design '60	Wellsville
Hargrove, Jimmie L.	Eng. '60	Pine City
Harmon, David	Eng. '61	Yonkers
Harnett, Joan J.	Design '58	Massapequa
Harper, Robert E.	Eng. '61	Waverly
Harris, Bette A.	Eng. '61	Brooklyn
Harris, Philip A.	Eng. '60	Dunkirk
Harrison, Patrick G.	Eng. Grad	Akron, Ohio
Hart, Bernard J.	Eng. '58	Hudson Falls
Haskins, Shirley R.	Design '61	Elmira
Haugen, Alfred O., Jr.	Eng. '61	Poughkeepsie
Hausler, Elwood B.	Eng. '58	Buffalo
Haussmann, Steffi M.	Design Spec	Kt. Tch, Switzerland
Hawes, Florence E.	Eng. '61	Schenectady
Hayes, Robert J.	Eng. '61	Penn Yan
Hecht, Norman L.	Eng. '60	New York
Hedges, Philip E.	Eng. Grad	Hornell
Hendee, Muriel A.	Design '61	Hornell
Hewlett, Edward M.	Eng. '60	Monroeville, Pa.
Hinckley, Sheila Ann	Design '61	Wellsville
Hoagland, Peter J.	Eng. '59	Nunda
Hoffner, George C., Jr.	Design '59	Rockville Centre
Hokanson, Dean R.	Design '58	Olean
Holway, Paul A.	Eng. '59	Tonawanda

Name	*Classification*		*Residence*
Hommel, Richard O.	Eng.	'61	Pittsburgh, Pa.
Hoskyns, William R.	Eng.	'58	Kenmore
Houser, Phillip E.	Eng.	'61	Fredonia
Housman, William C.	Eng.	'59	Corning
Howe, Edward F.	Eng.	'60	Wellsville
Huber, John H.	Eng.	'60	Alfred
Hughes, Donald L., Jr.	Eng.	'58	Lackawanna
Hughes, Douglas M.	Eng.	'61	Larchmont
Hulbert, Samuel F.	Eng.	'58	Adams Center
Hunt, Larry E.	Eng.	'60	Hornell
Hurd, Harry E.	Eng.	'61	Almond
Ingerson, Judith I.	Design	'60	Syracuse
Jacobs, David B.	Eng.	'58	Hornell
Jacobson, Eugene D.	Eng.	Spec.	Alfred Station
Jempson, James R.	Eng.	'60	Buffalo
Jevremovic, Beatriz R.	Design	'59	Alfred Station
Johnson, Richard E.	Glass	'61	Elmira
Kagel, Dennis B.	Eng.	'61	Endwell
Kast, Edward T.	Eng.	'58	Athol Springs
Kaufman, Milton H.	Eng.	'60	Yonkers
Kelly, Albert J.	Eng.	'61	Port Allegany, Pa.
Kelly, Bruce W.	Eng.	'61	Cohoes
Kelly, Joseph B.	Eng.	'59	Ellicottville
Kempf, George T.	Eng.	'59	Woodmere
Kilmer, Joyce H.	Eng.	'61	Canisteo
Kitano, Ichiro	Glass	Spec.	Wakayama-ken, Japan
Kitchen, Alan J.	Eng.	'60	Angelica
Klein, David H.	Design	'59	Larchmont
Klosen, Douglas F.	Eng.	'60	Basom
Kluwe, George E.	Eng.	'60	Scotia
Knapp, James L., III	Eng.	'61	Painted Post
Kohler, Dennis J.	Eng.	'60	Buffalo
Kokis, George G.	Design	'59	New York
Korman, Barbara	Design	'59	New York
Koshetz, Judith E.	Design	'59	Brooklyn
Kranz, Janice C.	Design	'60	Floral Park
Kroll, Paul	Design	'61	Dobbs Ferry
Kunzman, Glen G.	Eng.	'61	Forestville
Laktasich, Peter M.	Eng.	'58	Lackawanna
L'Amoreaux, Jack H.	Eng.	'61	Elmira
Lane, Richard L.	Eng.	Grad.	Franklinville
Lasky, Elliott	Eng.	'58	New York
Lathrop, David L.	Eng.	'60	East Aurora

Name	*Classification*		*Residence*
LaTonzea, Dominick A.	Tech.	'60	Utica
LeBlanc, John R.	Eng.	'58	Canastota
Lehman, Kenneth A.	Eng.	'59	Scarsdale
Leifer, Doris A.	Design	'61	Flushing
Leventhal, Gayle B.	Design	'61	Brooklyn
Lewis, Eugene	Design	'58	Brooklyn
Lewis, George T.	Eng.	'59	Rushville
Liberman, Nelson	Eng.	Spec.	Rochester
Lignell, B. Gwynne	Design	'61	Huntington
Lim, Heng-Yung	Eng.	'58	Java, Indonesia
Linn, Robert J.	Design	'59	Bronx
Little, Jack R.	Eng.	Grad.	Fairport
Loesel, Robert E.	Glass	'59	Garden City
Loree, John P.	Design	Grad.	Hornell
Louy, Darrell E.	Glass	'59	Campbell
Lower, David H.	Eng.	'59	New Bethlehem, Pa.
Luhrs, Frederick K.	Eng.	'59	Mamaroneck
Lyke, Harold F.	Eng.	'61	North Hornell
McDonough, William J., Jr.	Eng.	'60	Buffalo
McGraw, Gaye E.	Design	'61	Wellsville
McKinley, Robert F.	Eng.	'59	Evanston, Ill.
McLarney, Joseph C.	Eng.	'61	Portville
McMurtry, Everett L.	Eng.	'59	Wellsville
McNamara, Edward P., Jr.	Eng.	Grad.	Wyoming, Ohio
McNeilly, Clyde E.	Eng.	Grad.	Onconta
MacCrea, William R.	Design	'58	Alfred Station
Maguire, Andrew H.	Eng.	'58	Trenton, N. J.
Malick, Herbert C.	Eng.	Spec.	Olean
Mandell, Marjorie R.	Design	'61	Great Neck
Manne, Steven J.	Eng.	'60	Rochester
Markert, Kay	Eng.	'61	Olean
Maroney, Doris M.	Eng.	'58	Poughkeepsie
Maroney, Dorothy M.	Eng.	'58	Poughkeepsie
Martling, Chester	Eng.	'59	East Norwich
Marvin, Charles G.	Eng.	'58	Fillmore
Masse, Norman G.	Eng.	Grad.	Manchester, N. H.
Masullo, Robert A.	Eng.	'61	New York
Mathews, Lou F.	Eng.	'61	East Randolph
Meredith, Susan J.	Design	'60	Newburgh
Messier, Donald R.	Eng.	'59	Hudson Falls
Messier, Thomas P.	Eng.	'61	Hudson Falls
Mills, Walter H.	Eng.	'59	Hornell
Mistler, Richard E.	Eng.	'59	Medford
Molloy, Edward P.	Eng.	'60	Schuylerville
Moore, Parker A.	Eng.	'61	Scotia

Name	Classification		Residence
Morris, David P.	Design	'58	Dunellen, N. J.
Morris, Stephen M.	Eng.	'59	Woodmere
Moskowitz, Joel P.	Eng.	'61	Troy
Nagen, Raymond M.	Eng.	'58	Rochester
Narde, Carmen J., Jr.	Eng.	'61	Corning
Nester, Henry H.	Eng.	'60	Utica
Neudeck, George W.	Eng.	'60	West Valley
Oberlender, George W.	Eng.	'61	Marcellus
Odinov, Lloyd D.	Eng.	'58	Great Neck
Ohnsorg, Roger W.	Eng.	'58	New York
Olsen, D. Theodore	Eng.	'58	Jamestown
Orcoff, Joan R.	Design	Grad	Nunda
Ott, John J.	Eng.	'61	Floral Park
Ottman, Richard B.	Eng.	'61	Howe Cave
Owen, Lynn B.	Eng.	'59	East Branch
Palmer, Howard E.	Eng.	'61	Allentown
Parke, Robert F.	Eng.	'60	Endicott
Partington, Philip A.	Eng.	'58	Culpeper, Virginia
Patel, Chandrakant J.	Eng.	Spec.	Bombay, India
Patrick, Clifford C.	Eng.	'60	Almond
Pavlica, Stanley R.	Eng.	'59	Yorktown Heights
Pearl, Richard L.	Eng.	'59	North Bellmore
Perry, W. David	Eng.	'61	Corning
Peterson, David P.	Eng.	'61	Corning
Petticrew, Richard W.	Glass	'60	Tioga, Pa.
Pfitzenmaier, Robert W.	Eng.	'61	Canisteo
Philbrick, Kenneth D.	Eng.	'59	Hornell
Phillips, George G., Jr.	Eng.	'61	Hornell
Platts, Dennis R.	Eng.	'60	Wellsville
Plusch, John A., Jr.	Eng.	'59	Westfield, Mass.
Pollinger, Dale R.	Eng.	'60	Hornell
Post, Charles R.	Eng.	'59	Alfred
Post, Glenn I.	Eng.	Grad	Bethlehem, Pa.
Potter, Barbara A.	Design	'60	Royal Oak, Mich.
Powhida, Gregory T.	Eng.	'61	Hudson Falls
Pye, Lenwood D.	Eng.	'59	Dolgeville
Quinn, James B.	Eng.	'61	Troy
Rahl, Linda G.	Design	'58	Washingtonville
Randolph, Anne F.	Design	'60	Milton, Wis.
Rath, Robert B.	Eng.	'61	Williamsville
Reagan, James G.	Eng.	'59	Canisteo
Reents, John A.	Eng.	'61	Troy

Name	Classification		Residence
Reintsema, Robert A.	Design	'59	Brooklyn
Restrepo, Ramiro	Tech.	Spec.	Columbia, S. America
Rich, Diane N.	Design	'61	Canaadea
Richman, Peter D.	Eng.	'58	Brooklyn
Rittler, Jack C.	Eng.	'60	Rochester
Rochford, David S.	Eng.	'58	Schenectady
Rodemoyer, William E.	Eng.	'58	Zelienople, Pa.
Roll, Alice L.	Eng.	'61	Lancaster
Romero, Jorge	Design	Spec.	Mexico City, Mexico
Rosenberg, Rochelle J.	Design	'60	Yonkers
Rossi, Frank D.	Eng.	'60	Ellwood City, Pa.
Rossi, Ronald C.	Eng.	'60	N. Tonawanda
Rossing, Barry R.	Eng.	'59	Falconer
Rothfuss, John A.	Eng.	'61	Collins Center
Rowlands, Richard R.	Design	'58	W. Winfield
Rowlinson, Carolyn A.	Design	'61	Islip
Ruggles, Robert W., Jr.	Eng.	'58	Pine City
Ryan, Norman T.	Eng.	'61	Corning
Saccone, Carl J.	Eng.	'60	Almond
Sadler, Walter L.	Eng.	'60	Falconer
Salisbury, Mathew L.	Eng.	'60	Penn Yan
Salkind, Mark	Eng.	'60	Kingston
Sanford, David P.	Eng.	'61	Roseville, Ohio
Sanford, Robert E.	Eng.	'60	Tucson, Arizona
Saunders, Stephen G.	Eng.	'58	Wakefield, Mass.
Schaub, Robert E., Jr.	Eng.	'60	Massapequa
Scherbner, Paul H.	Eng.	'61	Mt. Vernon
Schmid, Robert L., Jr.	Eng.	'59	Cornwall
Schreiber, Edward	Eng.	Grad	Alfred Station
Schultz, Christian F.	Eng.	'59	Hornell
Schulman, Norman	Design	Grad	Alfred
Schuyler, Peter M.	Eng.	'60	Cuba
Sciorra, Charles P.	Glass	'61	Elmira
Scroger, Clifford R.	Glass	'60	Batavia
Secrist, Duane R.	Eng.	'59	Niagara Falls
Selsley, Michael J.	Eng.	'59	Ithaca
Severin, Norman W.	Eng.	'61	Cologne, Germany
Shaner, George D.	Design	Grad	Pottstown, Pa.
Sherwood, Charles L.	Eng.	'61	Hornell
Sherwood, DeWitt M.	Eng.	'58	Hornell
Shremp, Linda A.	Design	'60	Zelienople, Pa.
Slack, Lyle H.	Eng.	'58	Whitesville
Smith, Dennis M.	Eng.	'60	Springville
Smith, Diana J.	Design	'58	Norwich
Smith, Donald L.	Eng.	'61	Cattaraugus
Smith, Gary G.	Eng.	'61	Rochester

Name	*Classification*	*Residence*
Smith, Ronald J.	Eng. '58	Carmel
Smith, Sidney L.	Eng. '58	LeRoy
Sobie, Merril	Eng. '61	Brooklyn
Sobon, Leon E.	Eng. '58	Lackawanna
Sommersdorf, Donald L.	Eng. '61	Buffalo
Sonne, Charles R.	Eng. '59	Scarsdale
Sood, Shiv P.	Glass Spec.	Hoshiarpur, India
Soxman, Edwin J.	Eng. Grad.	Kansas City, Mo.
Spader, Peter H.	Eng. '61	Kingston
Spitz, Joseph F.	Eng. '60	Branchport
Sproul, James D., Jr.	Eng. '58	Delevan
Sproule, Richard T.	Eng. '58	Corning
Stanley, David E.	Eng. '59	Salamanca
Stanton, Francis W., Jr.	Eng. '59	Pine Plains
Stanton, John O.	Eng. '61	Canisteo
Stein, Joseph L.	Eng. '58	Buchanan
Stekl, James A.	Eng. '61	Fillmore
Sterett, Evadna E.	Design '59	Beaver Falls, Pa.
Stettinius, John G.	Eng. '61	LeRoy
Stewart, Donald O.	Eng. '61	Hornell
Stewart, Robert J., Jr.	Eng. '61	Niagara Falls
Stirrup, John T.	Glass '58	Corning
Stoll, John L.	Eng. Grad.	Hornell
Sturm, William F.	Eng. '59	Gloversville
Sturzebecher, Richard J.	Eng. '58	Perry
Swain, Eugene A.	Eng. '61	Scottsville
Swartz, John M.	Eng. '58	Sherman
Sweeney, John R.	Eng. '61	Adams, Mass.
Sweet, Larrie H.	Eng. '60	Buffalo
Swica, Joseph J.	Eng. Grad.	Dunkirk
Szczepanski, Daniel A.	Eng. '58	Buffalo
Szejd, Gregory	Eng. '61	Auburn
Szwarc, Ralph	Eng. '59	Syracuse
Taggart, Alexander	Eng. '61	Broadalbin
Tallan, Norman M.	Eng. Grad.	Newark, N. J.
Tatnall, Rodman F.	Eng. '58	Palmer, Mass.
Tesserna, Mamo	Eng. Spec.	Addis Ababa, Ethiopia
Teter, Alton R.	Eng. '59	Altamont
Teter, Richard L.	Eng. '61	Altamont
Theis, Ronald L.	Eng. '60	Kenmore
Thomas, Richard L.	Design '59	Hornell
Thomas, Robert B.	Glass Spec.	Alma
Thompson, David E.	Eng. '59	Savona
Thorell, David C.	Eng. '61	White Plains
Thwin, Maung O.	Tech. '60	Rangoon, Burma
Tisdale, Richard L.	Eng. '61	Canaseraga

Name	*Classification*	*Residence*
Titc, Robert C.	Design '61	Spencerport
Topping, Stanley M.	Eng. '59	North Hornell
Treiling, Linda L.	Design '59	Yorktown Heights
Triguba, Marvin E.	Design '59	New York
Truesdale, Richard S.	Eng. Grad.	Geneva
Tunison, David W.	Eng. '60	Rahway, N. J.
Turk, Harold L.	Eng. '59	Brooklyn
Tuska, John R.	Design '59	Lindenhurst
Ulmer, Donald J.	Eng. '59	Phelps
Urode, Raymond J.	Eng. '58	Cheektowaga
Vaccaro, Grace A.	Eng. '60	Rome
VanGaasbeek, Donald H.	Glass '59	Elmira
Veeder, Richard K.	Eng. '61	Cohocton
Vine, Raymond W.	Eng. '61	Savona
Wabnik, Fred S.	Glass '60	East Meadow
Wadsworth, Bruce C.	Eng. '60	Clark Mills
Waksman, David	Eng. '59	New York
Wales, Wayne F.	Eng. '58	Sherburne
Wang, Yien-Kno	Design '58	New York
Ward, Robert C.	Eng. '61	Wellsville
Washburn, Ryan F.	Eng. '61	Saranac Lake
Watkins, Wade A.	Eng. '60	Massapequa Park
Waufle, Harold E.	Eng. '59	Hornell
Waugh, Arthur	Eng. '59	E. Patchogue
Weiss, Carol A.	Design '61	White Plains
Weiss, Janet A.	Design '59	New York
Wescott, James A.	Glass '59	Elmira
Weston, Peter L.	Eng. '61	Maspeth
Whang, Tack J.	Glass '60	Seoul, Korea
White, David A.	Eng. '61	Painted Post
Whiting, Harvey W.	Eng. '59	Larona
Whiting, M. Gwendolyn	Design '58	Canisteo
Wickwire, Charles E.	Eng. '59	Corning
Wiedeman, Lyle P., Jr.	Eng. '59	Springville
Wiggins, Robert R.	Eng. '61	Endwell
Wilcox, David L.	Eng. '58	Morrisville
Wilklow, Donald C.	Eng. '59	Voorheesville
Williams, Charles E.	Eng. '60	Slaterville Springs
Winch, James O., Jr.	Eng. '59	Hudson Falls
Winokur, Robert M.	Design Grad.	Brooklyn
Wise, Douglas C.	Eng. '58	Alden
Witherell, William F.	Eng. '58	Depew
Wonnacott, Thomas W.	Eng. '61	Buffalo

Name	*Classification*		*Residence*
Woodruff, Roger W.	Eng.	'59	Albany
Woods, David C.	Design	'60	Rome
Worthington, Carole A.	Design	'60	East Hampton
Wuttke, Gerard W.	Design	'59	New York
Yokoi, Rita S. L.	Design	'61	Almond
Young, Carolyn M.	Design	'59	Wellsville
Young, James E.	Eng.	Grad.	Chicago, Ill.
Yunus, A. B. Md. Ghulam	Glass	Spec.	Karachi, Pakistan
Zimmerman, Sandra M.	Design	'60	Susquehanna, Pa.