

State University of New York College at Buffalo - Buffalo State University

Digital Commons at Buffalo State

Academic Catalogs, 1871-2018

Buffalo State Archives: History of the Institution

1969

College Catalog, 1969-1970, Graduate

Buffalo State College

Follow this and additional works at: <https://digitalcommons.buffalostate.edu/buffstatecatalogs>



Part of the [History Commons](#)

Recommended Citation

"College Catalog, 1969-1970, Graduate." Academic Catalogs, 1871-2018. Archives & Special Collections Department, E. H. Butler Library, SUNY Buffalo State.

<https://digitalcommons.buffalostate.edu/buffstatecatalogs/182>

This Book is brought to you for free and open access by the Buffalo State Archives: History of the Institution at Digital Commons at Buffalo State. It has been accepted for inclusion in Academic Catalogs, 1871-2018 by an authorized administrator of Digital Commons at Buffalo State. For more information, please contact digitalcommons@buffalostate.edu.

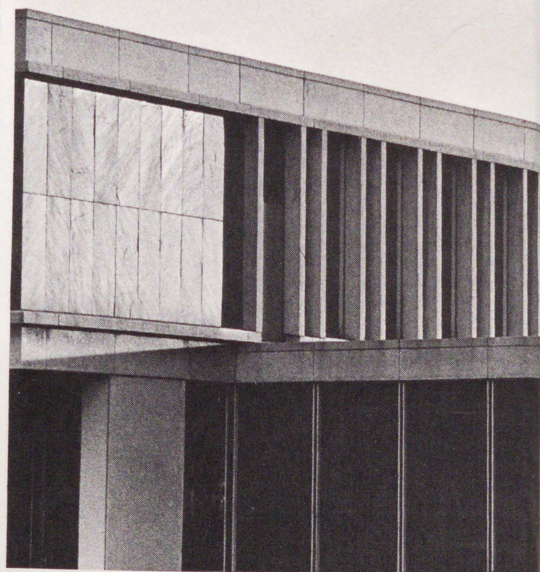
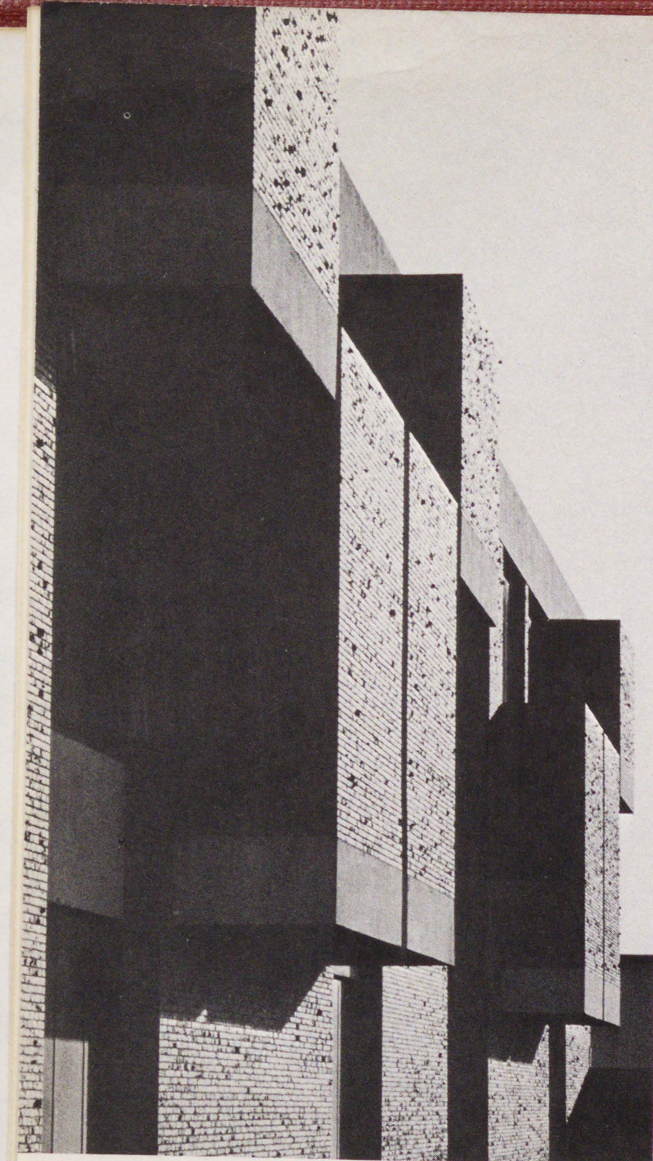
STATE UNIVERSITY OF NEW YORK

College at Buffalo

1969-70 Graduate Catalog



STATE UNIVERSITY LIBRARY
STATE UNIVERSITY COLLEGE
BUFFALO, N. Y.



STATE UNIVERSITY
OF
NEW YORK
College at Buffalo
1969-70 Graduate Catalog

STATE UNIVERSITY LIBRARY
STATE UNIVERSITY COLLEGE
BUFFALO, N. Y.

GRADUATE CALENDAR FOR 1969 - 70

Fall Semester—1969

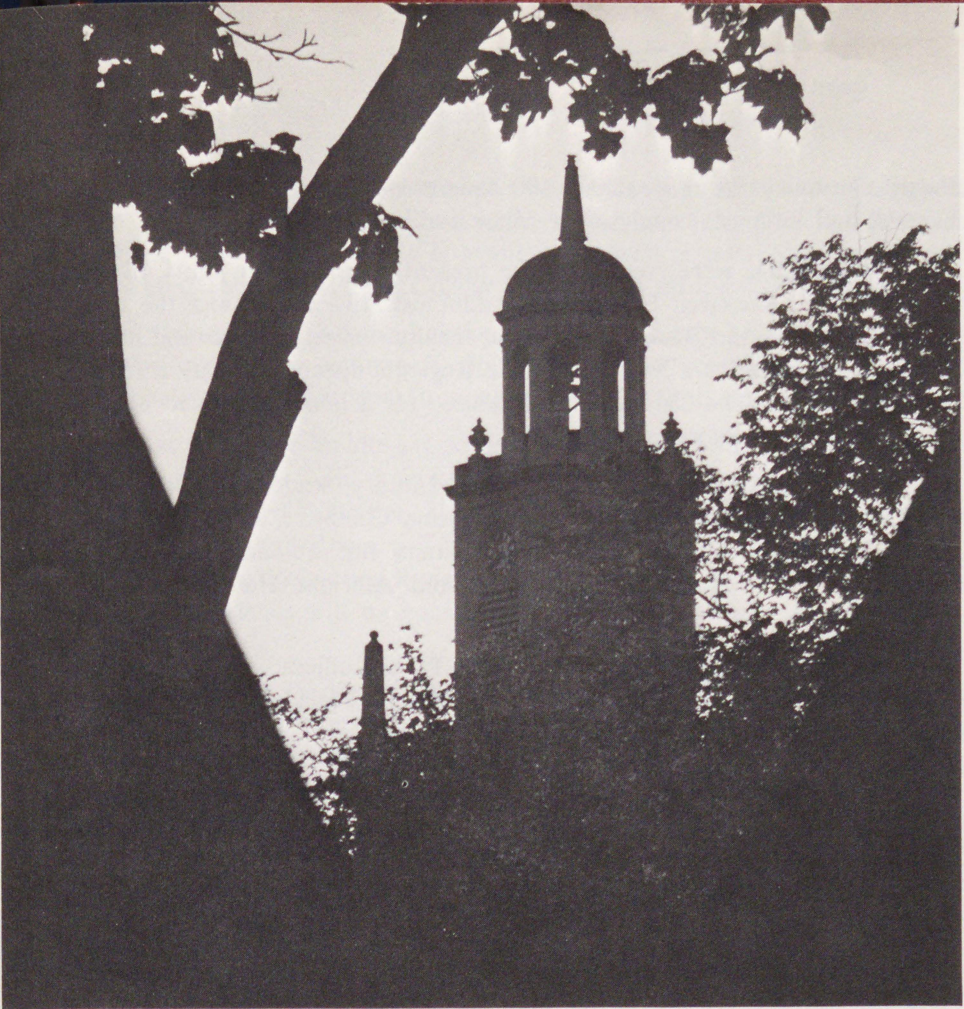
September	6	Saturday, Registration, Moot Hall 8:30 A.M. - 1:00 P.M.			
		T-Z	8:30- 9:00	L-M	10:30-11:00
		A-C	9:00- 9:30	N-R	11:00-11:30
		D-G	9:30-10:00	S	11:30-12:00
		H-K	10:00-10:30		
September	8	Monday, Instruction Begins			
November	22	Saturday, Last Day of Classes Before Thanksgiving Recess			
December	1	Monday, Classes Resume			
December	20	Saturday, Last Day of Classes Before Christmas Recess			
January	5	Monday, Classes Resume			
January	10	Saturday, Semester Ends			

Spring Semester—1970

January	17	Saturday, Registration, Moot Hall 8:30 A.M. - 1:00 P.M.			
		A-C	8:30- 9:00	N-R	10:30-11:00
		D-G	9:00- 9:30	S	11:00-11:30
		H-K	9:30-10:00	T-Z	11:30-12:00
		L-M	10:00-10:30		
January	22	Thursday, Instruction Begins			
February	1	Sunday, Midyear Commencement			
March	25	Wednesday, Last Day of Classes Before Spring Recess			
April	6	Monday, Classes Resume			
May	16	Saturday, Semester Ends			
May	24	Sunday, Commencement			

Summer Session—1970 Day and Evening Classes

First Session	Monday, June 1—Friday, July 10
Middle Session	Monday, June 22—Friday, July 31
Last Session	Monday, July 13—Friday, August 21
Post Session	Monday, August 3—Friday, August 21



GENERAL INFORMATION

The Campus and Buildings

The College has an urban setting of 110 acres on Elmwood Avenue in the Delaware Park area of the second largest city in the Empire State. This location, at the hub of a varied complex of arterial expressways leading to all sections of Buffalo, nearby counties and other areas of the State, gives ready access to the cultural, historical and scientific facilities which surround the campus.

In addition to the campus site on Elmwood Avenue, the College also operates the Great Lakes Laboratory on a nine acre site at the foot of Porter Avenue. The Laboratory is less than seven minutes from the State College Campus via the

Niagara Thruway. A renovated 2,200 square foot building contains facilities for chemical and biological analyses of water and sediments.

Five buildings were erected on the present campus when the College moved there in 1931. Rockwell Hall contains administrative offices and the main auditorium. Ketchum and Bacon Halls house faculty offices, seminar and class rooms. The Old Gym contains a New York State Regional Special Education Instructional Materials Center. The Campus House is used for a home management course for home economics seniors.

New buildings are the Edward H. Butler Library, Student Union, New Science, New Gym, Campus School and Communication Center. Caudell Hall houses the Home Economics Division; Upton Hall contains the art and industrial arts divisions; Moot Hall houses dining facilities and Albright Hall houses the music department.

Chase, Cassety and Perry Halls contain faculty offices. Bishop and Neumann Halls, High Rise, North Wing, South Wing, Scajaquada Halls and Towers, furnish resident accommodations for men and women.

Library Facilities

Over 225,000 books and periodical volumes are available on open shelves in the Edward H. Butler Library. Current subscriptions include over 2000 periodicals, and daily newspapers from some 20 American and foreign cities.

Now in the final stages of furnishing and equipping, the Library should be ready for total occupancy by autumn, 1969. The southeast quadrant, with an entrance door on the south side, now houses all library departments.



The Reference collection, all periodicals and indexes, and the card catalog are in the main hall on floor two. The Reserve Room is west of the main hall where a copying service (10 cents per copy) is available, as well as microfilm readers and other microfilms. The office of the College Librarian is on the second floor.

All circulating books and the Laboratory of Curriculum Materials which are non-circulating are in the main hall, floor three. Rest rooms, water fountain, public telephones, and the Student Lounge are on the third floor.

As soon as the whole building is occupied, all library facilities and collections will move into new areas. The main entrance will be on the west side facing the Student Union and the Circulation Desk will be near the main entrance in the lower lobby. The Reserve Room will be to the right of the main entrance (south side of the foyer); the Reference Room will be on the first floor, in the northeast quadrant, and Periodicals will be housed north of the Circulation Desk which is off the lower lobby.

The Laboratory of Curriculum Materials will be on the second floor, in the southwest quadrant, with the Creative Studies Library and the Music Listening Room. The general book collection will be found in open stacks on the second and third floors, along with carrels, study areas, and typing rooms. Seminar room will be available on all three floors, and the Student Lounge will be on the second floor.

For additional information, see the Library Handbook, available at the Circulation and Reference Desks. Directory boards listing locations of facilities, library personnel, and book-subject classifications will be installed on all three floors near the main lobby staircase.

Creative Studies

The Creative Studies program is offered by the College in conjunction with the Creative Education Foundation offices on campus. The offerings are appropriate for all levels of educators, training and development personnel, administrators, managers and supervisors. They are designed for persons concerned with nurturing creative thought and behavior in their classrooms or organizations,—for those who wish to translate research findings into educational and managerial practice. Two inter-departmental courses are offered during the summer session: Workshop in Nurturing Creative Behavior and Seminar in Creative Studies; in addition, a one-week Creative Problem-Solving Institute is held each June. The comprehensive Creative Studies Library and Seminar Room in the Curriculum Laboratory of Butler Library contains book collections, microfilms of dissertations, articles, abstracts, clippings, programs, tapes and other curriculum materials.



GRADUATE CURRICULA

Graduate courses lead to the Master of Science in Education degree with majors in Art Education, Secondary Education, Elementary Education, Elementary Administration or Supervision, Exceptional Children Education, Home Economics Education, Industrial Arts Education, and Vocational Technical Education. Guidance and Student Personnel programs are being planned.

The Master of Arts degree is offered in Chemistry, English, History and Mathematics. It is anticipated that Master of Arts programs in Biology and Philosophy will be added during the year.

Class Schedules

Graduate students may register for courses in the late afternoon, evening and Saturday morning classes, and during the Summer Session in accordance with schedules issued by the Graduate Office. Some graduate courses may be scheduled during the day session.

Admission

Admission to this College and to all other colleges of the State University of New York is based on the academic qualifications of the respective applicant, and is made without regard to the race, color, creed, or national origin of individuals.

Applicants meeting the following requirements are eligible for admission to graduate degree programs:

1. An approved baccalaureate degree, i.e., one granted by a college or university which is accredited by an appropriate regional or national accrediting agency or by a State University.
2. An acceptable academic record. An applicant must present an official transcript showing the minimum cumulative average required by the degree program. The Master of Science degree in Education requires a minimum of 2.30 on a 4.00 scale. The minimum required in the Master of Arts degree programs varies with the program and is listed with the other program requirements in the curriculum section of this catalog.
3. Applicants for admission to degree programs in Education must present an acceptable teaching or professional employment record attested by a confidential statement from the administrator of the school or other institution wherein employed and recommendations concerning academic and personal qualifications supplied by three persons in a position to make valid statements.

Procedure Before Registration

1. Secure an Application for Admission blank from the Director of Graduate Studies.
2. Return application, with all data required, to the Graduate Office as early in the semester preceding first registration as possible. Applications will not be accepted after July 1 for the fall semester, November 1 for the spring semester and April 1 for the summer session.
3. Furnish the Graduate Office with an official transcript from the college which granted the bachelor's degree. Transcript is not necessary for graduates of this College.

Registration

Preregistration materials will be mailed out each semester to active graduate students who have been registered during the previous year and to new applicants for the next semester. The mailing list is processed by computer and change of name, address, or program, or mechanical errors may result in an omission from the mailing list. Every effort will be made to include all active graduate students but there can be no guarantee that a student will be able to preregister. All those who cannot complete preregistration by mail must register in person on the regular registration day.

Admission To Full Graduate Status

Full graduate status is dependent upon: (a) completion of all credentials required for admission to Graduate Studies, and (b) approval of the Director of Graduate Studies and of the appropriate Dean, Division Director or Department Chairman.

Appointment Of An Adviser

An adviser will be appointed after graduate status is granted. Therefore, the student should complete credentials and secure full graduate status as soon as possible after application for admission to Graduate Studies is filed.

Admission To Candidacy

Filing an application for admission to candidacy for the master's degree is the personal responsibility of each student after he has completed a minimum of six hours. At the completion of *twelve* semester hours of graduate work, he *must* apply for candidacy *or* file with the Director of Graduate Studies a statement that he does not intend to become a candidate for a degree. If, subsequently, he decides to file for candidacy, he must, at that time, have an evaluation made of all work

completed for the purpose of formulating a program leading to the master's degree. Admission to Candidacy depends upon:

1. A cumulative average of B or better in *all* courses taken for graduate credit. No work of D grade will be accepted.
2. A recommendation from the adviser of the candidate to the Director of Graduate Studies.
3. The Graduate Record Examination Aptitude Test is required. Appropriate advanced tests in the area of specialization are usually required in the Master of Arts programs. Information on the Graduate Record Examination may be secured at the Graduate Office.

Requirements For Master's Degree

1. Completion of a thirty semester hour program of graduate courses. The master's program permits a maximum of twelve hours in 400-level courses, usually in elective areas. Requirements in major areas must be taken in 500-600- or 700-level courses. A graduate student must consult with his division director or department chairman before registering for a 400-level course in his major area.
2. A cumulative average of B or better in *all* graduate courses completed in this College. Some programs may require a minimum average in the subject area. Not more than nine hours of C, and no work of D grade, will be accepted toward the master's degree.
3. Completion of residence requirements. A course shall satisfy the requirements for residence if it is offered on the campus, within the City of Buffalo, at the College Camp, or at a branch established by the College. Residence credit may be granted for courses completed at another unit of the State University.
 - A. For a graduate of this College—a minimum of twenty hours *in residence* is required out of the total thirty.
 - B. For graduates of another college—a minimum of twenty-four credit hours in residence is required out of the total thirty.
4. Non-resident credit. Non-resident credit is defined as transfer credit earned at another college or university or credits earned in off-campus courses in this College. Transfer credits can be accepted for courses taken at another college:
 - A. If they are evaluated as being equal in scope and content to those offered by this College.
 - B. If they form a coherent part of the required program of study.

- C. If they have been completed within seven years prior to registration at this College.
 - D. If they are of A or B grade. Credits earned at another college with grade of C or D are not accepted for transfer to this College. Transfer credits are not included in the cumulative average.
5. Completion of all course work within six years of registration in first course.
 6. Student must file an application for the degree immediately after registration in the last course or last semester.

Maximum Student Load

- A. Students holding full-time teaching positions are limited to a maximum of six credits per semester, or nine credits per academic year.
- B. During Summer Session, students are permitted to earn a maximum of one credit per week of attendance, that is, two credits for a two-week program; three credits for a three-week program; six credits for a six-week program, etc.
- C. Maximum load for full-time students is twelve hours per semester.
- D. No credit will be granted toward a degree for work taken beyond these limits at this College or elsewhere.

Special Students

1. Students not intending to apply for admission to candidacy for the master's degree may be permitted to register for graduate courses as *special students* with the understanding that credits earned will not necessarily count toward fulfillment of master's degree requirements.
2. A special student deciding to matriculate for the master's degree must request an evaluation of all graduate credits earned, complete the credentials required for full graduate status, and follow a program of graduate study planned by the Director of Graduate Studies to meet curriculum, grade and time-limit requirements. This includes the rule that all course work must be completed within six years from the date of registration in the first graduate course.
3. Not more than twelve semester hours may be earned by a special student unless a statement that he does not intend to become a candidate for the master's degree is filed with the Director of Graduate Studies.
4. An application must be secured and filed in the Office of Graduate Studies before registration as a special student.

GRADUATE ACADEMIC REGULATIONS

Attendance Regulations

Attendance regulations are established by each instructor for his section(s) and must be distributed to his classes at the beginning of each semester or summer session. Students are responsible for knowing and observing the regulations.

Withdrawal From Courses

Dropping a course means cancelling registration in one or more courses but short of full withdrawal from the College. A student may drop a course before the end of the first half of a course and receive a "W" for that course, provided that he has consulted with the instructor concerned. A student who drops a course after the end of the first half of a course will receive the grade of "E" for that course. If a student does not process an official drop and fails to continue with the course, his grade will be "E".

An exception may be made for unusual circumstances beyond the control of the student. In such cases the student may petition the appropriate Dean in whose division the course is being offered for permission to drop the course without penalty. After the Dean consults with the instructor involved he may or may not approve the dropping of the course. If he approves, a "W" will be entered on the record.

Grading System

A	4 quality points	E	0 quality points
B	3 quality points	I	No points, work incomplete
C	2 quality points	W	Official withdrawal
D	1 quality point		

Incompletes

1. An instructor may grant a status of "incomplete" only when:
 - A. The circumstances which have led to a student's failure to complete course requirements are known to be beyond the student's control, viz., serious illness; unavailability of material; has been planned for educational reasons; etc.
 - B. Chairman/Director of department/division involved has received notice of granting of incomplete containing a brief description of nature of unfinished work.
2. An "incomplete" must be made up within the following semester, not including the summer session.

STATE UNIVERSITY COLLEGE
 BUFFALO, N. Y.

3. The Registrar is authorized to record a grade of E for a student who has not within the stipulated time period, fulfilled course requirements.
4. In the event the Instructor who had granted an "incomplete" is not available to evaluate the work done by the student in fulfillment of course requirements during the stipulated time period, any recommendation for change from the "incomplete" to a letter grade may be made by the Chairman/Director of the absent Instructor.
5. Appeals from any of these regulations may be made through the Office of the Vice-President for Academic Affairs, the latter being empowered to issue waivers.

Cumulative Average

A cumulative average of "B" or better in *all* graduate courses completed at this College is required for the master's degree. The cumulative average is determined by dividing the total number of quality points earned by the total number of semester hours attempted. If a student has not earned a cumulative "B" average upon completion of the total semester hours required for his program, he *may* be permitted to enroll for additional courses to the maximum number of 6 semester hours to attempt to make up his deficiency.

Graduate Curricula Requirements

The present requirements for the master's degree in all divisions became effective September 1, 1969. All students who begin graduate work after that date will meet these requirements. Students who began graduate work prior to September 1, 1969 have the option of completing the requirements of the curricula in effect when they began or of completing the new requirements.

Course Numbering System

As of September 1, 1963 the course number system was revised as follows;*

- 400 courses—open to upper division undergraduate students and to graduate students if so designated in the catalog description or approved by Division Director or department Chairman. Additional work is required for graduate credit.
- 500 courses—open to graduate students only.
- 600 courses—open to graduate students only—generally limited to majors in the area or to others with sufficient preparation.
- 700 courses—advanced courses requiring greater preparation.

*Prior to Sept. 1, 1963, all graduate courses were numbered 500 and were limited to graduate students only.

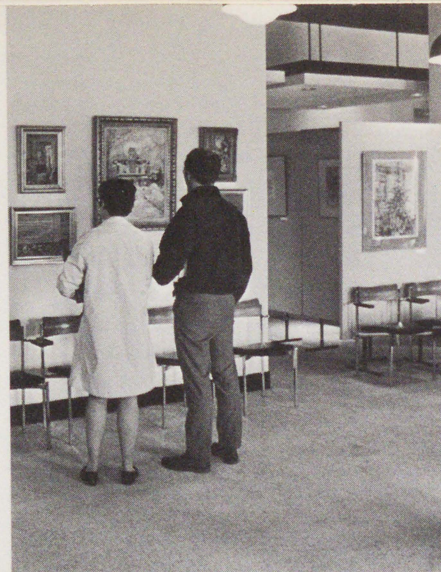


Credit and Eligibility

Credit hours for courses listed will be indicated only for special workshops and seminars or in laboratory courses. In all other cases, credit will be three semester hours in the summer session and two or three hours in fall and spring sessions. For exact credit to be earned, consult the fall, spring or summer session schedules.

Courses at the 400 level are listed only by number and title; course descriptions may be found in the general college catalog. Graduate students should consult their Division Director or Department Chairman before registering in 400 courses in their major area or in 400 courses not listed in the graduate bulletin. A maximum of twelve hours may be taken in the total master's program.

Eligibility for all graduate courses is determined by the instructor.



TUITION AND FEES

The State University of New York has authorized the collection of tuition and fees at a uniform rate. These are subject to change.

Fall and Spring Semesters

Graduate Students

Full-time Tuition	\$300.00 per semester
College Fee	\$ 12.50 per semester
Part-time Tuition	\$ 20.00 per sem. hour
College Fee	\$.85 per sem. hour

Undergraduate Students

New York State Residents

Tuition	\$ 13.50 per sem. hour
College Fee	\$.85 per sem. hour

Out-of-State Students

Tuition	\$ 20.00 per sem. hour
College Fee	\$.85 per sem. hour

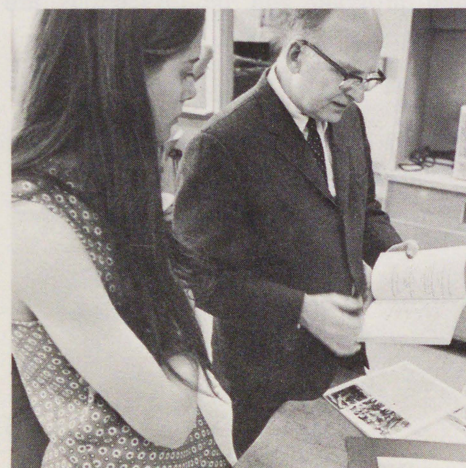
Summer Sessions

The schedule of tuition and fees listed above will also be in effect during the Summer Sessions plus the collection of a Student Activity Fee of \$.25 per semester hour. Students whose entire summer session program will be off-campus are exempt from the Student Activity Fee.

Refunds

A student who is given permission to cancel his registration shall be liable for payment of tuition in accordance with the following schedule:

Liability During	Semester	8 Week Term	6 Week Term
1st Week	0	0	0
2nd Week	30%	60%	70%
3rd Week	50%	80%	100%
4th Week	70%	100%	
5th Week	100%		



ART DIVISION

The Art Division offers courses in the fields of Art Education, Design and Fine Arts to meet the program requirements of Art Education majors as well as elective courses for other graduate programs.

ART EDUCATION PROGRAM

	<i>Credit Hours</i>
Technical and Related Fields	12-15
Expressional Skills	9-15
Art 513 Summer Art Camp	2-6
Art 592 Independent Studio in (Specified Area)	2-4
Art 610 Graduate Studio in Drawing	3-6
Art 611 Graduate Studio in Painting	3-6
Art 612 Outdoor Drawing and Painting	3-6
Art 613 Graduate Studio in Graphic Arts	3-6
Art 614 Graphic Arts Relief Processes	3
Art 615 Graphic Arts Intaglio Processes	3
Art 616 Graphic Arts Planographic Processes	3
Art 617 Graphic Arts Serigraphic Processes	3
Art 618 Advanced Life Modeling	3
Art 619 Graduate Studio in Sculpture	3-6
Art 620 Sculpture in Synthetic Materials	3
Art 621 Stone and Wood Sculpture	3
Art 622 Bronze Casting and Welded Sculpture	3
Art 623 Graduate Studio in Photography	3-6
Art 640 Graduate Studio in Design	3-6
Art 641 Graduate Studio in Product Design	3-6
Art 642 Graduate Studio in Wood Design	3-6
Art 643 Graduate Studio in Textile Design	3-6
Art 644 Graduate Studio in Metalsmithing	3-6
Art 645 Enameling on Metal	3
Art 646 Graduate Studio in Jewelry	3-6
Art 647 Casting Techniques in Jewelry	3
Art 648 Design Workshop in Leather	3
Art 649 Graduate Studio in Pottery	3-6
Art 650 Graduate Studio in Graphic Design	3-6
Art 651 Home and Community Design	3-6
Art 652 Seminar Studio in Scenography	3
Art 653 Seminar Studio in Light Design	3
Art 654 Seminar Studio in Puppetry	3

Art 655	Seminar Studio in Stage Costume	3
Art 656	Seminar Studio in Technical Production	3
Art 657	Seminar Studio in Theater Planning	3

Critical Evaluation

Art 520	Field Study of Mexican Art	3
Art 521	Field Study of European Art	6
Art 522	Field Study of Mediterranean Art	6
Art 523	Field Study of Art in Great Lakes Cities	2
Art 524	Field Study of Art in New York City	2
Art 525	Field Study of Art in New England	2
Art 526	Field Study of Art in Washington and Philadelphia	2
Art 527	Field Study of Oriental Art	6

(See General Catalog for available 400 Series Art History courses)

Related Technical Disciplines

With approval of *both* divisions involved, the student may elect graduate courses for which he has the necessary prerequisites in Industrial Arts, Home Economics, Exceptional Education, Audio-Visual Education, and other related areas.

Dynamics of Teaching

Art 503	Art for the Culturally-Disadvantaged	3
Art 504	The Role of Art in Our Society	3
Art 505	The Folk Arts in Education	3
Art 506	Colloquium in the Arts	3
Art 510	Art Materials Workshop	3
Art 600	Program Planning in Art Education	3
Art 601	Administration in Art Education	3
Art 603	Teaching Internship in Art	3-6
*Art 605	Seminar in Art Education	3

Innovation Research

Art 591	Special Research in (Specified Area)	3-6
	Each candidate, after a conference with his adviser, must select one of the following requirements:	2-4
Ed. 595	Research Methods and Techniques	3
Art 602	Research Workshop in Art Education	3

*Required for Master's Degree in Art Education.

Credit
Hours

Art 690	Master's Project	4
Art 695	Master's Thesis	6

Required Courses in Arts and Sciences

Chosen by advisement from English, Geography, Mathematics, Music, Philosophy, Science and Social Studies.

Unrestricted Electives

Total Requirements

Art courses at the 400 level may be taken for graduate credit with the approval of the Art Division Director.

ART 500. Art in the Elementary School

The use of art materials, processes, and procedures in the elementary school; individual experience in various media appropriate at different grade levels; consideration of the role of the classroom teacher in self-contained, supervised, or art specialist programs; related problems of the school curriculum. Elective for Elementary and Exceptional Children students.

ART 501. Art for the Pre-School Child

The intellectual, emotional, physical, perceptual, and creative development of the young child from birth through the kindergarten; roles of parent and teacher in the creative growth of the child; implications for the choice of materials, processes, and procedures appropriate at the pre-school level. Elective for Elementary and Exceptional Children students.

ART 502. Art for the Exceptional Child

Special problems in the teaching of art to children who vary markedly from their peers in emotional, physical, mental, or other conditions; ranging from the handicapped and retarded through the specially gifted child; implications for the choice of materials, processes, and procedures in individual cases. Elective for Elementary and Exceptional Children students.

*Acceptable as Arts and Sciences electives in all curricula except Art Education; acceptable in Art Education curriculum in Related Areas.

ART 503. Art for the Culturally-Disadvantaged

Special problems in the teaching of art to children who vary markedly from others of the same age because of deprivations in home and community experiences; art as a contributing factor in equalizing experiences, opportunities, personal development; implications for choice of activities and procedures.

*ART 504. The Role of Art in Our Society

Art as a dynamic force in the life of an individual and society; creative activity as a way of clarifying thought, sensitizing feelings, propagating individual and group attitudes, implementing ceremonials, improving living; unique role of art in development of a culture; reports, class discussions.

*ART 505. The Folk Arts in Education

A study of the folk arts of music, dance, drama, crafts, and folk lore of various countries; the relationship to history, geography and culture; organization of folk art studies in school programs and community activities; role of art in related programs dealing with the folk arts; reports and discussions.

*ART 506. Colloquium in the Arts

Common and related concerns, experiences, and activities in the various arts; including visual and plastic arts, music, drama, dance, poetry, and other acts of personal or group expression; seminar reports, discussions;

Credit
Hours

plans for integrated activities involving several arts, carried out jointly as practical.

ART 510. Art Materials Workshop

Studio experiences in various materials appropriate for use with younger children under typical classroom situations; activities such as powder tempera painting, mural painting, simple screen printing, cardboard printing, clay modeling, frame weaving, stitchery, extra class studio hours. Elective for Art, Elementary, and Exceptional Children majors.

ART 511. General Crafts Workshop

Studio experience in various crafts suitable for both adult leisure-time activity and use with older children; individualized work in wood, metal, clay, textiles, leather, plastics, and other materials; designing for the crafts; visits to crafts exhibitions; extra class studio hours equal to class hours. Elective for all students, except Art majors. Art majors by advisement.

ART 512. Design, Principles and Practices

A study of general design principles and applications for *non-art* majors; the elements of design in space organization; theoretical abstract and functional applications to individual plans and projects; tutorial relationship with instructor; extra class assignments, including studio hours equal to class hours. Elective for all students, except Art majors.

ART 513. Summer Art Camp

A resident summer art camp, emphasizing landscape painting in watercolor and oil, sketching in various media; work in other media with approval of instructor; critiques, demonstrations, discussions; location, travel, food and housing arrangements, and cooperating organizations to be announced.

***ART 520. Field Study of Mexican Art**

A conducted study tour of historic and contemporary art in Mexico; including painting, sculpture, crafts, architecture, and archeological sites; visits to major art and craft centers, museums, historical examples, and

*Acceptable as Arts and Sciences electives in all curricula except Art Education; acceptable in Art Education curriculum in Related Areas.

contemporary works; individual reports; itinerary, travel, living plans to be announced.

***ART 521. Field Study of European Art**

A conducted study tour of historic and contemporary art in Europe; including painting, sculpture, crafts, architecture, and city planning; visits to major European museums, historic examples, and outstanding contemporary works; individual reports; itinerary, travel, living plans to be announced.

***ART 522. Field Study of Mediterranean Art**

A conducted study tour of historic and contemporary art in Mediterranean countries; including painting, sculpture, architecture, archeological sites; visits to major museums and historical examples; related cultural studies and individual reports; itinerary, travel, living plans to be announced.

***ART 523. Field Study of Art in Great Lakes Cities**

A conducted study tour of art in cities of the Great Lakes region; including Buffalo, Rochester, Toronto, Detroit, and Cleveland; visits to museums and principal examples of traditional and contemporary art, city planning; related studies and reports; itinerary, travel, living arrangements to be announced.

***ART 524. Field Study of Art in New York City**

A conducted study tour of art in New York City; including painting, sculpture, community planning, architecture, industrial design, interior design; seen at museums, art galleries, selected buildings, stores, and showrooms; individual reports; itinerary, travel, living arrangements to be announced.

***ART 525. Field Study of Art in New England**

A conducted study tour of art in Boston and the New England region; including painting, sculpture, architecture, industrial design, interior design; seen at museums, art galleries, selected buildings, stores, showrooms, craft centers; individual reports; itinerary, travel, living arrangements to be announced.

***ART 526. Field Study of Art in Washington and Philadelphia**

A conducted study tour of art in Washington, Philadelphia, and environs; including painting, sculpture, architecture, industrial design, interior design; seen at museums, and redevelopment; visits to museums, art galleries, selected buildings; reports; travel, living arrangements to be announced.

***ART 527. Field Study of Oriental Art**

A conducted study tour of historic and contemporary art in Oriental countries; including painting, sculpture, architecture, prints, crafts, archeological sites; visits to major museums and historical examples; related cultural studies and reports; itinerary, travel, living plans to be announced.

ART 590. Special Project

Research or investigation of a particular problem, to be planned and carried out by student; with consultation and advice from instructor.

ART 591. Special Research Study in (Specified Area)

Research or investigation of a particular problem, to be planned and carried out by student; with consultation and advice from an instructor who agrees to supervise the study; aimed at making a general contribution to art as contrasted with personal improvement and understanding; reported in a document and/or exhibition. Specified area included in all college records.

ART 592. Independent Studio in (Specified Area)

Independent studio experience by a student, with consultation and advice from an instructor related to area of study who agrees to supervise the study; involving studio experiments and experiences not otherwise available in regular course offerings. Specified area included in all college records.

ART 600. Program Planning in Art Education

Planning the special art room for various school levels and purposes, and facilities for art in the self-contained classroom; interdependence of art program and facilities; organizing curriculum activities in re-

*Acceptable as Arts and Sciences electives in all curricula except Art Education; acceptable in Art Education curriculum in Related Areas.

lation to educational philosophy and research in the area; extra class assignments.

ART 601. Administration in Art Education

The role of the supervisor of art in relation of the community, school administration, classroom teacher, and special art teacher; functions of art consultant and special art teacher in elementary schools; preparing budgets, procuring equipment and ordering supplies; extra class reports and discussions.

ART 602. Research Workshop in Art Education

Individual and group research in problems of art education; reports and discussions of current research activity in art education; techniques of research as applied to unique problems in art education and in evaluating the effects of unlike influences upon unlike individuals; extra class research problems.

ART 603. Teaching Internship in Art

Supervised student teaching internship in various levels according to needs of the student; including elected experiences on the junior college and college level; teaching experiences in summer programs on the elementary and secondary level, in summer camps, special classes; teaching assistantships.

ART 605. Semester in Art Education

Problems in teaching and supervising art in various types of communities and schools; contemporary philosophy, psychology, principles and practices in art and education; relationship of current research to programs, policies and procedures for the teacher and supervisor; extra class reports and discussions. Required of all Art Education majors.

ART 610. Graduate Studio in Drawing

Individual concentration in drawing for advanced students; emphasis on growing facility of expression, application to painting and graphic arts; tutorial relationship with instructor; use of model; related study and gallery visits; extraclass assignments, including minimum studio hours equal to class hours.

ART 611. Graduate Studio in Painting

Individual activities in painting for advanced students; emphasis on personal growth and mastery of chosen media; tutorial relationship with instructor; studio and outdoor problems; use of model; related study and gallery visits; extraclass assignments, including minimum studio hours equal to class hours.

ART 612. Outdoor Drawing and Painting

Direct drawing and painting in and out-of-doors; landscape, city and industrial themes; minimum use of studio for demonstrations and critiques or during inclement weather; daily transportation to be arranged; work in oil, watercolor, pastel, and other media with approval of instructor.

ART 613. Graduate Studio in Graphic Arts

Advanced work in printmaking; relief, intaglio, planographic, serigraphic processes; related drawing and design considerations; parallel studies of graphic artists; care of equipment; tutorial relationship with instructor; extraclass assignments, including minimum studio hours equal to class hours.

ART 614. Graphic Arts Relief Processes

A comprehensive exploration of the relief process in graphic arts; including such possibilities as linoleum and wood blocks, wood engravings, and experimental techniques in relief printing; tutorial relationship with instructor; extraclass assignments; including minimum studio hours equal to class hours.

ART 615. Graphic Arts Intaglio Processes

A comprehensive exploration of the intaglio process in graphic arts; including such possibilities as etching, dry point, metal engraving, and experimental techniques in intaglio printing; tutorial relationship with instructor; extraclass assignments, including minimum studio hours equal to class hours.

ART 616. Graphic Arts Planographic Processes

A comprehensive exploration of the planographic process in graphic arts; including such possibilities as stone and metal lithography, and experimental techniques in

planographic printing; tutorial relationship with instructor; extraclass assignments, including minimum studio hours equal to class hours.

ART 617. Graphic Arts Serigraphic Processes

A comprehensive exploration of the serigraphic process in graphic arts; including such possibilities as silk screen and substitutes, with stencils of paper, film, lacquer, tusche-glue; tutorial relationship with instructor; extraclass assignments, including minimum studio hours equal to class hours.

ART 618. Advanced Life Modeling

Modeling the human figure from the life model; emphasizing sculptural discipline, expression, and interpretation; advanced practice in use of armatures, clay, plaster; casting from clay forms; tutorial relationship with instructor; extraclass assignments, including minimum studio hours equal to class hours.

ART 619. Graduate Studio in Sculpture

A general studio in advanced sculpture; utilizing additive, subtractive, and constructive methods; continued personal development in such media as clay, plaster, wood, stone, metal; tutorial relationship with instructor; extraclass assignments including minimum studio hours equal to class hours.

ART 620. Sculpture in Synthetic Materials

Casting, additive and subtractive methods in sculpture; utilizing plaster, concrete, plastics, related materials; development of personal expressions and architectural problems in sculpture; tutorial relationship with instructor; extraclass assignments, including minimum studio hours equal to class hours.

ART 621. Stone and Wood Sculpture

Techniques and sculptural concepts in stone and wood carving; forging, tempering, sharpening stone carving tools; personal and architectural problems, related readings and gallery visits; tutorial relationship with instructor; extraclass assignments, including minimum studio hours equal to class hours.

ART 622. Bronze Casting and Welded Sculpture

Lost-wax investment casting; plastics and

plaster model casting in sand; metal casting in other materials; foundry practice, finishing and chemical patination of bronze sculpture; oxyacetylene welding of steel and brass constructions; extraclass assignments, studio hours equal to class hours.

ART 623. Graduate Studio in Photography

Advanced black-and-white and color photography; as a form of expression, as illustration, as event-recording; as used in the making of teaching aids and as used in the planning of publications; tutorial relationship with instructor; extraclass assignments, including minimum studio hours equal to class hours.

ART 640. Graduate Studio in Design

The organization of space with paint and materials; the designed form in theoretical, abstract, and functional applications; designing for the home, commerce, industry, theater, crafts; tutorial relationship with instructor; extraclass assignments, including minimum studio hours equal to class hours.

ART 641. Graduate Studio in Product Design

A concentrated study of product design, on an advanced level; functional and aesthetic problems in the design of useful products; experience with common and newly-developed materials; tutorial relationship with instructor; extraclass assignments, including minimum studio hours equal to class hours.

ART 642. Graduate Studio in Wood Design

The designer-craftsman approach to advanced projects in wood; hand, power and machine tool practice; aesthetic and functional considerations in design; finishing methods, care of equipment; tutorial relationship with instructor; extraclass assignments, including minimum studio hours equal to class hours.

ART 643. Graduate Studio in Textile Design

Advanced work in textile design and processes; weaving, printing, applique; traditional and experimental techniques; individual projects and explorations; studies of work of designer-craftsmen; tutorial relationship with instructor; extraclass assign-

ments, including minimum studio hours equal to class hours.

ART 644. Graduate Studio in Metalsmithing

Advanced practice in metalsmithing techniques; raising, forging, welding, riveting, casting, spinning, other forming methods; parallel studies of the work of leading designer-craftsmen; tutorial relationship with instructor; extraclass assignments, including minimum studio hours equal to class hours.

ART 645. Enameling of Metal

Preparation and firing of enamels on metal; traditional and contemporary processes; champlevé cloisonné, basse tillé, limoges, plique à jour, grisaille, experimental techniques; tutorial relationship with instructor; extraclass assignments, including minimum studio hours equal to class hours.

ART 646. Graduate Studio in Jewelry

Practical and aesthetic aspects of jewelry design and construction; advanced experience in fabrication techniques, casting, gem polishing, and stone setting according to student experience level; tutorial relationship with instructor; extraclass assignments, minimum studio hours equal to class hours.

ART 647. Casting Techniques in Jewelry

Preparing wax models, molds, burning out, and lost-wax casting of jewelry in silver and gold; utilizing the centrifugal casting machine; related steam casting, cuttlefish casting, open-mold casting, associated techniques, extraclass assignments, including studio hours equal to class hours.

ART 648. Design Workshop in Leather

Advanced experiment and research in practical and aesthetic problems involved in the design and construction of leather products; approached from the viewpoint of the contemporary designer-craftsman; the use of traditional techniques in modern forms, and the invention of new solutions appropriate to today.

ART 649. Graduate Studio in Pottery

Creative problems in design for market production of pottery; practice in forming

clay and plaster; mold and model making; slip and solid clay production; color, glaze, kiln operation; tutorial relationship with instructor; extraclass assignments, including minimum studio hours equal to class hours.

ART 650. Graduate Studio in Graphic Design
Developing effective communications in illustration and design; realistic, experimental, and expressive approaches; preparation for single and multicolor reproduction; planning publications; tutorial relationship with instructor; extraclass assignments, including minimum studio hours equal to class hours.

ART 651. Home and Community Design
Functional, aesthetic, geographic, economic, social and political factors affecting the design of home, school, and community; designing and redesigning homes; planning new cities and redeveloping older communities and facilities; extraclass assignments, including minimum studio hours equal to class hours.

ART 652. Seminar Studio in Scenography
Advanced projects in stage design, with interim seminar discussions and project reports; historical research on stage design; integration of visual design components in contemporary productions; theoretical and practical applications of original designs; problems in the construction and painting of stage sets.

ART 653. Seminar Studio in Light Design
Advanced experiments, research, and practice in light design, with integrated seminar discussions and reports on individual projects; theoretical and practical experience in the use of light as an art form; light as an aspect of theater design; practical experience in plays under production whenever possible.

ART 654. Seminar Studio in Puppetry
Advanced experience in puppet conception, construction, staging, and performance; research in all forms of puppetry, with individual seminar reports and demonstrations integrated with studio and research activities; individual and group study; actual experience in puppet production whenever practical.

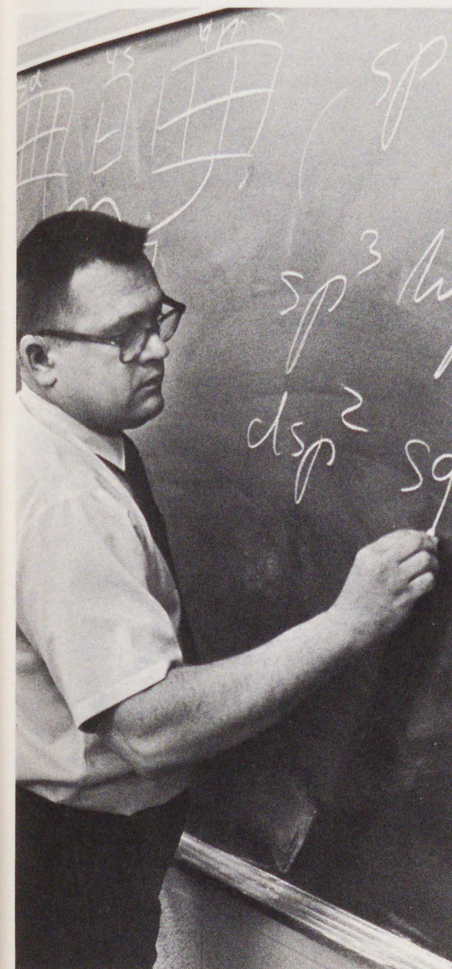
ART 655. Seminar Studio in Stage Costume
Costume design and construction for the stage; costumes from antiquity to the present day, with emphasis on the relationship between stage costume and theatrical style; research in costume, studio experience in creating costumes for particular periods and contemporary productions; seminar discussions.

ART 656. Seminar Studio in Technical Production
Advanced research, studio practice, and integrated seminar reports on the visual aspects of the theater; historical research on stage machinery, stage crafts, and techniques; play production problems; investigation and experiments related to contemporary production problems and creative solutions.

ART 657. Seminar Studio in Theater Planning
Integrated seminar and studio experiences in theater planning and architecture; educational, community, and professional theater problems; research and reports relative to theater organization and management; forces affecting actor-audience spatial relationships; historical and contemporary problems.

ART 690. Master's Project
A study undertaken by one or more individuals on a problem of special interest; aimed at making a special contribution to art or art education, as contrasted with normal class or studio activity; may be presented, in part, as an exhibit of materials collected or prepared — including a major exhibit of art work related to study — with theories and findings reported to an acceptable form according to directions given by the Graduate Office.

ART 695. Master's Thesis
An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division; representing a significant contribution to the literature of art or art education, acceptable to the student's adviser and chairman of the appropriate area of specialization.



ARTS AND SCIENCE

Arts and Science includes departments of Biology, Chemistry, Economics, English, Foreign Languages, General Science, Geography, Geosciences, Health, Physical Education and Recreation, History, Mathematics, Music, Philosophy, Physics, Political Science, Psychology, Speech and Theatre Arts, and Sociology-Anthropology. Details concerning the degree programs and courses offered in these departments are provided under the appropriate headings in this section of the catalog.

BIOLOGY DEPARTMENT

- BIOL. 402. Vertebrate Physiology (g)
 BIOL. 403. Economic Biology and Conservation (g)
 BIOL. 404. Plant Morphology (g)
 BIOL. 405. Organic Evolution (g)
 BIOL. 406. Biometrics I (g)
 BIOL. 408. Plant Physiology (g)
 BIOL. 409. Field Biology (g)
 BIOL. 410. Soil Biology (g)
 BIOL. 411. Parasitology (g)
 BIOL. 413. Ornithology (g)
 BIOL. 414. Mammalogy (g)
 BIOL. 415. Radiation Biology (g)
 BIOL. 416. Advanced Genetics (g)
 BIOL. 417. Field Mycology (g)
 BIOL. 418. Limnology (g)
 BIOL. 420. Field Studies in the Conservation of Biological Resources (g)

BIOL. 521. General Ecology

The physical environment and its effects on the living organism; plant-animal relationships; interspecific and intraspecific relationships; problems in human ecology. Offered for graduate students with limited backgrounds in biology. *Prerequisite:* General Biology. *Special Note:* Not open to Biology Majors.

BIOL. 522. Human Genetics

Biological basis of human genetics; study of the incidence, nature, and understanding of various genetic conditions. *Prerequisite:* None. *Special Note:* Intended as a graduate service for non-biology majors. Not open to Biology Majors.

BIOL. 590. Special Project

Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

BIOL. 604. Morphogenesis in Vascular Plants

A study of the structural anatomy and morphogenesis of the vascular plants, with special emphasis on the angiosperms. Two one-hour lectures, one three-hour laboratory per week. *Prerequisite:* General Botany.

BIOL. 605. Mycology

Study of the taxonomy, morphology, reproduction, physiology, ecology, and economic importance of selected groups of fungi. *Prerequisite:* General Biology. *Credit:* Four (4) semester hours. Six hours per week including laboratory.

BIOL. 607. Biometrics II

Analysis of variance with emphasis on experimental design. Analysis of covariance, bioassay, matrices, and non-parametric methods. *Prerequisite:* Biometrics I, or equivalent.

BIOL. 608. Molecular Genetics

Molecular basis for genetic analysis; a study of currently accepted models for DNA self-replication, RNA and protein synthesis, genetic coding and mutation. *Prerequisites:* General Genetics and Organic Chemistry.

BIOL. 610. Protozoology

Morphology, physiology, and taxonomy of the protozoa; life cycles of selected free-living and parasitic species; importance in environmental inter-relationships and significance in human problems. Four hours per week, including laboratory. *Prerequisite:* Microbiology.

BIOL. 614. Taxonomy of Vascular Plants

Principles and techniques of vascular plant identification and classification. Major emphasis on plant families of Northeastern United States and adjacent Canada. *Prerequisites:* Genetics, Physiology and Ecology.

BIOL. 615. Advanced Bacteriology

Study of the various groups of bacteria, particularly those common in nature and affecting the health and welfare of man. Four hours per week including laboratory. *Prerequisite:* 12 Sem. Hrs. in biological sciences including Microbiology, General Chemistry.

BIOL. 616. Topics in Animal Physiology

Special topics in animal physiology. *Prerequisites:* General Physics, Organic Chemistry, one year of physiology. Four hours per week. *Special Note:* May be taken twice since different topics will be offered.



BIOL. 617. Seminar

Investigations and discussions of topics of current interest to biologists. Topics to be announced. Two hours per week. Graduate Biology Majors may enroll with permission of the instructor. *Special Note:* May be taken twice if different topics are planned. *Credit:* One semester hour.

BIOL. 618. Ethology

Causation, function, and biological significance of instinctive behavior and learning in animals, and their application to ecology and evolution. Three hours per week. *Prerequisite:* Three hours of psychology.

BIOL. 619. Plant Ecology

Trophic relations of plant communities in ecosystems, environmental factors, influencing vegetation, theory and practice of sampling and analyzing data, and interpretation of the dynamics of pattern, distribution, and sequential development of plant communities. *Prerequisite:* A course in biometrics or

statistics and a course in taxonomy of vascular plants. *Credit:* Three semester hours; two 1-hour lectures and one 3-hour laboratory or field session per week. Additional all-day field trips may be required.

BIOL. 665. Algology

Taxonomy, ecology, morphology, ultrastructure, physiology, and economic importance of selected species of freshwater algae. *Prerequisite:* Ecology, or the equivalent. Four hours per week including laboratory.

BIOL. 690. Research Project in Biology

A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Office.

BIOL. 695. Research Thesis in Biology

An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Office.

CHEMISTRY DEPARTMENT

MASTER OF ARTS IN CHEMISTRY

Prerequisites:

Bachelor's degree from accredited college or university. Undergraduate cumulative average in Chemistry of 2.60 on a 4.00 scale. One year of general physics and college mathematics through differential and integral calculus and a minimum of twenty-four (24) credits of undergraduate chemistry. Acceptable scores on Graduate Record Examinations.

Language and other Special Requirements:

Demonstrated competence in one foreign language. Satisfactory scores on Undergraduate Comprehensive Examinations given by the Department.

Required Areas of Study:

	Credit Hours
Chemistry 605 Kinetics and Reaction Mechanisms	3
Chemistry 625 Structure Analysis—I Spectroscopic Methods	3
Chemistry 626 Structure Analysis—II Non-spectroscopic Methods	3
Chemistry 660 Advanced Laboratory Techniques	3
Chemistry 695 Research Thesis in Chemistry	6
Electives under advisement	12
Total requirements	30



CHEM. 400. Inorganic Chemistry (g)

CHEM. 401. Biochemistry (g)

CHEM. 403. Instrumental Chemistry (g)

CHEM. 404. Chemistry Seminar (g)

CHEM. 405. Theoretical Chemistry (g)

CHEM. 420. Nuclear Chemistry (g)

CHEM. 500. Chemistry: Its History,
Philosophy and Role in Society

The historical development of chemistry as a science and an aspect of culture; its philosophy, its technological role in society. *Prerequisite:* One year of college chemistry.

CHEM. 505. Chemistry for Elementary Teachers

A discussion of general chemistry in line with the suggested State Education Department syllabus for grades K through 9; practice and performance of chemical demonstrations. *Prerequisite:* None. *Credit:* Three semester hours; four hours of lecture-demonstration and laboratory per week.

CHEM. 507. Industrial Chemistry

The application of chemical principles and laboratory techniques to industrial processes, including production operations and economics. *Prerequisite:* Four semesters of college chemistry.

CHEM. 590. Special Project

Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

CHEM. 605. Kinetics and Reaction Mechanisms

A study of the methods of determining mechanisms of chemical processes. *Prerequisites:* Chemistry 202 and 306.

CHEM. 607. Chemical Thermodynamics

Theory of chemical thermodynamics with particular emphasis on measurable properties, solution and phase equilibria, phase equilibria in the critical region, transport phenomena, statistical thermodynamics, and the application of these principles to chemical problems. *Prerequisites:* Chemistry 202 and 306.

CHEM. 608. Quantum Chemistry

Quantum Mechanics and its application to chemical problems. *Prerequisite:* Chemistry 306.

CHEM. 610. Special Topics in Inorganic
Chemistry

One of the following courses will be presented: Coordination chemistry; non-aqueous solvents; the representative elements and the lanthanides; synthetic inorganic chemistry. These topics are essentially independent of each other and the student may enroll more than once provided he has not received prior credit in this course for the same topics. *Prerequisite:* Chemistry 400.

CHEM. 625. Structure Analysis I
Spectroscopic Methods

A study of the absorption and emission of electro-magnetic radiation. *Prerequisites:* Chemistry 202 and 306.

CHEM. 626. Structure Analysis II
Non-Spectroscopic Methods

Use of non-spectroscopic physical methods such as x-ray crystallography, polarimetry, and mass spectrometry to elucidate the structures of compounds. *Prerequisites:* Chemistry 202 and 306.

CHEM. 635. Special Topics in Organic Chemistry

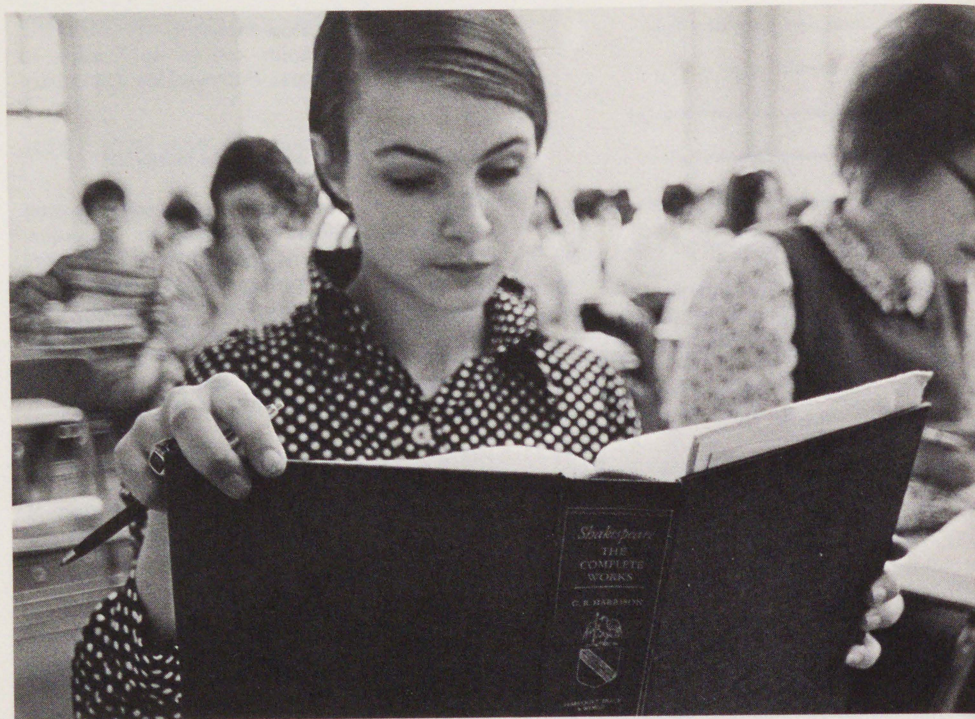
Advanced topics of a reasonably broad nature will be discussed in some detail with emphasis on the current state of our knowledge. These topics are essentially independent of each other and the student may enroll for this course as often as possible provided that he has not received credit in this course for the same topic. *Prerequisite:* Chemistry 202.

CHEM. 642. Biochemistry II

Selected topics in biochemistry (e.g. bioenergetics, cellular controls, intermediary metabolism, origin of life, feedback, chemical genetics). *Prerequisite:* Chemistry 401.

CHEM. 660. Advanced Laboratory Techniques

Individualized laboratory technique instruction to prepare students for graduate research. *Prerequisite:* Chemistry 403. *Credit:* Three semester hours; one 1-hour lecture and two 3-hour laboratory periods.



CHEM. 690. Research Project in Chemistry

A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Office.

CHEM. 695. Research Thesis in Chemistry

An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Office.

ECONOMICS DEPARTMENT

ECON. 401. International Economic Relations of the United States (g)

ECON. 403. Comparative Economics Systems (g)

ECON. 502. Workshop in Economics
Considerations of economic concepts in the curriculum; American economic system; role

30

of government in free enterprise economy; money, banking, and credit; selected group projects in areas of investments, labor-management relations, agriculture aspects of foreign policy, economy of the Niagara Frontier, and government regulatory agencies.

ECON. 503. Government and the American Economy

Economic and political background of the rise, nature, and extent of government aid, promotion, and regulation of the American Economy; economic impact of the Federal Government on business, agriculture, labor, conservation, and world trade; current policies to promote economic growth and stability.

ECON. 505. Studies in Contemporary Economic Problems

International trade; international finance; inflation; labor legislation; problems of labor and management; price levels.

ENGLISH DEPARTMENT

MASTER OF ARTS IN ENGLISH

*Credit
Hours*

Prerequisites

36

Bachelor's degree from accredited college or university. Undergraduate cumulative average of 2.75 and average of 3.00 in English on a 4.00 scale. Acceptable scores on the Graduate Record Examination. Thirty-six (36) semester hours in English exclusive of freshman English.

Language Requirement

Demonstrated competence in one foreign language. Demonstrated competence in written and oral English. These competencies must be established prior to the completion of eighteen (18) semester hours.

Required Areas of Study

18-24

Courses to be chosen, under advisement, in the following areas so that the student will have in his combined undergraduate and graduate record *at least* one course in each area.

Linguistics or history of the English language

Chaucer or Milton

Shakespeare or Elizabethan writers

Seventeenth or eighteenth century

Nineteenth century

American literature

World literature

Twentieth century literature

Criticism

Research methods

Thesis

0-6

A student may elect, under advisement, English 695 Thesis (6 semester hours) or English 690 Project (4 semester hours).

Electives under advisement

6

Total requirements

30

31

- ENG. 401. Literature of the Bible (g)
 ENG. 402. The Early English Novel (g)
 ENG. 403. The World Novel (g)
 ENG. 404. The American Novel Before 1900 (g)
 ENG. 405. Chaucer and His Age (g)
 ENG. 406. The Later English Novel (g)
 ENG. 407. The Modern Novel (g)
 ENG. 409. Milton (g)
 ENG. 411. Seventeenth Century English Poetry (g)
 ENG. 413. Seminar Tour in American Literature (g)
 ENG. 414. Realism in American Literature (g)
 ENG. 415. Philosophy in Literature (g)
 ENG. 416. Study-Tour of Western Europe (g)
 ENG. 422. Victorian Poetry (g)
 ENG. 423. Victorian Prose (g)
 ENG. 424. Late Nineteenth Century English Literature (g)
 ENG. 426. Eighteenth Century English Literature (g)
 ENG. 427. Foundations of Language (g)
 ENG. 430. Literature of Ireland (g)
 ENG. 440. Writing for the Professions (g)
 ENG. 441. Comparative Drama: Tragedy (g)
 ENG. 455. Children's Literature and Mass Media (g)

ENG. 502. **Studies in American Literature**
 Seminar in selected aspects of literary culture in the United States from the Colonial Period to the twentieth century. Literary movements and periods, intercultural relationships, and the influence of religious and philosophic areas upon literature; focus of course upon selected areas and key figures.

ENG. 503. **Regional American Literature**
 Literature of certain geographical and cultural areas of the United States: New England and Eastern, Southern, Western; folkways in American letters; local color and use of regional materials, particularly in fiction.

ENG. 504. **Origin and Development of English Drama**
 Liturgical beginnings of English drama; miracle and morality plays, interludes; rise of English comedy and tragedy; forerunners and contemporaries of Shakespeare.

ENG. 505. **Seventeenth and Eighteenth Century English Drama**

Stuart successors of Shakespeare; Restoration comedy and tragedy; Neo-classical and sentimental drama; Webster, Dryden, Wycherley, Congreve, Sheridan, and others.

ENG. 506. **Studies in Modern Drama**
 Renaissance of drama in Europe and America; Ibsen and the play of ideas; realism, naturalism, symbolism, sociological drama.

ENG. 508. **Literature of Greece and Rome**
 Reading in English translation and discussion of selected masterpieces; relationship to later literature in English and other modern languages.

ENG. 510. **Emerson and Thoreau**
 Writing of Emerson and Thoreau against the background of European and American transcendentalism.

ENG. 514. **Studies in Children's Literature**
 Types of children's literature; criteria of book selection; reading interests of children; preparation of bibliography. May not be taken for credit by students who have taken Eng. 210.

ENG. 518. **Major American Poets**
 Nineteenth century poets of first rank and their contributions to a national literature.

ENG. 519. **Literature and the World Today**
 Current ideas expressed through novels, plays, and critical reports; contribution of the magazine, newspaper and motion picture of the world's view of America.

ENG. 520. **Shakespearean Tragedy**
 Esthetic and philosophic qualities of Shakespeare tragedy studied in the playwright's mature plays; readings in Shakespeare criticism.

ENG. 521. **Studies in Modern English Poetry**
 Significant trends and figures in English poetry since 1900; close study of two or three writers from the following list: Hardy,

Housman, de la Mare, Masfield, Eliot, Auden, and Thomas.

ENG. 522. **Studies in Modern American Poetry**
 Significant trends and figures in American poetry since 1912; close study of two or three writers from the following list: Robinson, Frost, Stevens, Jeffers, Millay, Cummings, Benet, Crane, Nicholl, and Lowell.

ENG. 523. **Shakespearean Comedy**
 Principal comedies from *Love's Labour's Lost* to *The Tempest*; backgrounds of Elizabethan comedy; Shakespeare's early and experimental work; later mature, achievements and the comic idea in farce, high comedy, bitter comedy, and idealistic romance.

ENG. 531. **Studies in Comparative Romanticism**
 Nature of Romanticism; historical backgrounds of nineteenth century English and American Romanticism; Continental Romanticism; study of a limited number of English and American writers such as Wordsworth, Byron, Shelley, Hawthorne, Poe.

ENG. 532. **Literature of Continental Europe: Seventeenth and Eighteenth Centuries**
 Reading in English translation of selected novels, plays, and essays illustrating neo-classical and pre-revolutionary tendencies in France, Germany, and other European countries.

ENG. 533. **Literature of Continental Europe: The Middle Ages**
 Reading in English translation of representative works of the Middle Ages; importance of this literature as source material for later writers.

ENG. 534. **Literature of Continental Europe: The Renaissance**
 Petrarch, Boccaccio, Machiavelli, Castiglione, Ariosto, and others in English translation and their relation to the literature of England.

ENG. 535. **Literature of Continental Europe: The Nineteenth Century**
 Reading in English translation of selected masterpieces; Rousseau and his disciples; romantic poetry, fiction, and drama; realism, naturalism, symbolism in the various types of literature.

ENG. 536. **Literature of Continental Europe: The Twentieth Century**

Trends in continental literature from the turn of the century to post World War II. Particular attention to the reading in translation of French, German, Italian, and Russian works.

ENG. 545. **Spenser and His Age**
 Survey of the non-dramatic literature of the sixteenth century, with emphasis on the works of Spenser; development of the lyric and prose styles; nature and influences of the Renaissance and Reformation.

ENG. 551. **The Heroic Tradition in Children's Literature**
 Traditional heroic works of literature as they have been interpreted for children. *Prerequisite:* Eng. 210 or 514.

ENG. 552. **Historical Backgrounds of Children's Literature**
 Historical survey of children's literature and of the writers, illustrators, and social forces which have shaped it. *Prerequisite:* Eng. 210 or 514.

ENG. 553. **Classics of Children's Literature**
 Study in depth of several literary classics in children's literature. *Prerequisite:* Eng. 210 or 514.

ENG. 554. **Fantasy and the Modern Literary Fairy Tale**
 Survey and evaluation of the significant writers of fantasy for children from Hans Christian Andersen to the present. *Prerequisite:* Eng. 210 or 514.

ENG. 555. **Realistic Fiction for Children**
 Realistic fiction for children; regionalism, ethnic and religious groups, children of other lands. *Prerequisite:* Eng. 210 or 514.

ENG. 556. **Non-Fiction in Children's Books**
 Readings for children in such fields as history, science, and mathematics. *Prerequisite:* Eng. 210 or 514.

ENG. 557. **Poetry for Children**
 Adult poetry of interest to children; poetry written specifically for children. *Prerequisite:* Eng. 210 or 514.

ENG. 558. Biography and Historical Literature for Children

Selected writings in biography and historical fiction for children. *Prerequisite:* Eng. 210 or 514.

ENG. 559. Folklore in Children's Literature

A critical analysis of the traditional elements in children's literature. *Prerequisite:* Eng. 210 or 514.

ENG. 561. Folklore and History

Relationships between history and oral tradition; folklore as an aspect of area and social studies in history; contributions of historians to folklore. *Prerequisite:* Twelve hours of undergraduate or graduate courses in literature.

ENG. 562. Folklore and Literature

Uses of folklore, in terms of both content and style, in major literary works and periods, with emphasis on English and American literature. *Prerequisite:* Twelve hours of undergraduate or graduate courses in literature.

ENG. 563. British Folklore

Collection and research in English, Scottish, and Irish folk traditions, with emphasis on developmental work in the nineteenth and twentieth centuries; relationship between British and American folklore scholarship. *Prerequisite:* Twelve hours of undergraduate or graduate courses in literature and an introductory course in folklore.

ENG. 564. Major Genres of Folklore

Major forms in which folk traditions are found: tales, ballads and songs, proverbs and riddles, customs and rituals, games; their interrelationships and universal scope. *Prerequisite:* English 340.

ENG. 590. Special Project

Research or investigation of a particular problem, to be planned and carried out with guidance of instructor.

ENG. 600. Studies in the Structure and Function of Language

Fundamental principles basic to all languages; theories of the origin of language;

the nature and psychology of language; phonetics and phonemics; alphabets and systems of writing; language types and families; word origins and changes in meaning; emphasis upon practical applications of linguistic principles. *Prerequisite:* Eng. 427.

ENG. 602. Literary Criticism

A survey of literary criticism past and present, with exercises in applying the student's critical skill to the study of specific works; individual student emphasis upon the study of a period, author, idea, or form.

ENG. 607. Secondary School Literature

Readings in prose and poetry appropriate to the secondary school; examination of the function of "literature for adolescents" in the secondary English program. May not be taken for credit by students who have taken Eng. 213.

ENG. 609. The English Language

Historical development of the English language; political and social influences for change; growth of grammatical science and lexicography; contemporary problems of usage; semantics; trends in American English. *Prerequisite:* Eng. 427.

ENG. 610. English Grammars

Different approaches to the analysis of the English language; brief history of the development of the English language; historical survey of the study of language; detailed study of the contemporary scientific approaches to the study of English including the Fries (word order), Chomsky (transformational-generative), Trager-Smith (aspectual), Pike (tagmemic-generative), and Lamb (stratificational) grammars. *Prerequisite:* Eng. 427.

ENG. 613. Studies in Seventeenth Century English Literature

Selected authors or literary movements of seventeenth-century England.

ENG. 614. Studies in Eighteenth Century English Literature

Selected authors or literary movements of eighteenth-century England.

ENG. 615. Seminar in Nineteenth Century English Literature

Seminar in selected literary figures or aspects of the literary culture of England in the nineteenth century. *Prerequisite:* will vary according to the specific subject of the seminar.

ENG. 620. Anglo-American Folk Lyric

Study of the forms of folksong other than narrative forms: lyric, game and play-party, religious; an examination of both content and form, as well as manner of performance. *Prerequisite:* Nine hours of undergraduate or graduate courses in literature and six hours of courses in folklore.

ENG. 621. Research Problems in Folklore

Intensive study of a particular area of research in folklore, approved by the graduate committee and carried out under the direction of an adviser. *Prerequisite:* Fifteen hours of graduate courses in folklore.

ENG. 622. The Folktale and Other Traditional Narrative Forms

Different forms of narrative folklore; history of folktale studies; scholarly tools of folk narrative research and their use. *Prerequisite:* Twelve hours of undergraduate or graduate courses in literature and six hours of courses in folklore.

ENG. 623. The Folk Ballad

Study of the folk ballad through the canon of *The English and Scottish Popular Ballads*; relationships with Scandinavian and other European forms; brief examination of broadsides and other semi-traditional forms. *Prerequisite:* Fifteen hours of undergraduate or graduate courses in literature.

ENG. 624. Folklore Field Work

Practical experience in the field collection of folklore, with coordinated discussion of problems and techniques; evaluation and annotation of collected materials, leading to presentation in potentially publishable form. *Prerequisite:* Fifteen hours of undergraduate or graduate courses in literature and nine hours of graduate courses in folklore.

ENG. 625. Folklore Theory

Examination and discussion of the major theories of folklore studies. *Prerequisite:* Nine hours of graduate courses in folklore.

ENG. 626. Folklore and Culture

Relationships between folklore and cultural studies, with emphasis on the American and British anthropological schools. *Prerequisite:* Twelve hours of undergraduate and graduate courses in literature and three hours of courses in folklore or anthropology.

ENG. 630. Seminar in Comedy

Practice and theory of comedy from Aristophanes to the present. *Prerequisite:* A major or its equivalent in English, comparative literature, foreign language, or speech and theatre.

ENG. 631. The Medieval Romance

Romance literature, with special attention to the Arthurian cycle of romances and its influence on the history of English literature. *Prerequisite:* A major or its equivalent in English, folklore, comparative literature, or foreign language and literature.

ENG. 635. The Symbolist Poets: A Comparative Study

A comparative study of the symbolist movement in America and Europe, with emphasis upon such major figures as Wallace Stevens, W. B. Yeats, Charles Baudelaire, Arthur Rimbaud, Paul Verlaine, Stephane Mallarme, Rainer Marie Rilke, and Federico Garcia Lorca.

ENG. 690. Project

Study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Office.

ENG. 694. Research in Literature and Language

A study of the basic materials, methods, and problems relevant to research in English literature and language.

ENG. 695. Thesis

An individual investigation of an original problem to be submitted according to directions given by the Graduate Office.

FOREIGN LANGUAGE DEPARTMENT

- FRENCH 401.** Classical French Drama (g)
FRENCH 403. Survey of the French Novel (g)
FRENCH 404. Contemporary French Novel (g)
FRENCH 406. Literature of the Middle Ages (g)
FRENCH 407. The French Enlightenment (g)
FRENCH 408. Contemporary French Theater (g)
FRENCH 409. Nineteenth Century French Drama (g)
FRENCH 410. Nineteenth Century French Poetry (g)
FRENCH 415. Advanced Grammar and Composition (g)
FRENCH 421. Structure of Modern French (g)
SPANISH 400. Medieval Spanish Literature (g)
SPANISH 402. Spanish Classical Drama (g)
SPANISH 404. Cervantes (g)
SPANISH 406. Nineteenth Century Spanish Literature (g)
SPANISH 408. Twentieth Century Spanish Literature; Poetry and Theater (g)
SPANISH 409. Twentieth Century Spanish Literature; Novel, Short Story and Essay (g)
SPANISH 410. Survey of Latin American Literature (g)
SPANISH 411. Latin American Literature of the Nineteenth and Twentieth Centuries: Novel, Short Story, Essay (g)
SPANISH 412. Latin American Literature of the Nineteenth and Twentieth Centuries: Theater, Poetry (g)
SPANISH 415. Advanced Grammar and Composition (g)
SPANISH 421. Structure of Modern Spanish (g)

FRENCH 501. Old French Language and Literature

Intensive reading of the major works of Old French literature, with discussion of the important literary and linguistic features of the works read. Oral and written reports in French on the readings assigned.

FRENCH 502. Advanced French Composition

Further guidance and practice in the acquisition of a good French style of writing, the selected stylistic examples from major contemporary French authors. Frequent written assignments in French.

FRENCH 503. The New Novel in France

Reading and extensive discussion of representative novels of authors of the "nouvelle vague" (Robbe-Grillet, Butor, Sarraute, Duras, etc.) Frequent oral and written reports.

FRENCH 504. Readings in French Literature

A reading course whose content will be varied to conform to the specific needs of individual students, aimed at filling in any outstanding gaps in the student's linguistic and literary preparation.

SPANISH 501. Early Spanish Literature

Readings in the major genre prior to the Golden Age. Emphasis on the epic and the Cid, the poetry of Juan Ruiz and the origins of the drama and novel. Collateral readings to illustrate cultural background of the period. Reports and discussions in Spanish.

SPANISH 502. Early Spanish

Intensive oral practice through diction and conversation. Analysis of adequate written style through study of a variety of contemporary sources. Oral and written presentations will be required in Spanish.

SPANISH 503. The Latin American Novel

Representative novels from major Latin American nations illustrative of literary, social and political developments in the hemisphere. Collateral readings, reports and discussions in Spanish.

SPANISH 504. Readings in Spanish Literature

Directed readings in areas of Spanish Literature and literary criticism in which the student requires further work. Intended to provide greater breadth or depth of study of Spanish literature as the individual's needs and interests may dictate.

GENERAL SCIENCE DEPARTMENT

- SCI. 409.** History of Science (g)
SCI. 410. Science in the Elementary School Curriculum (g)
SCI. 415. Basic Science of Radiation and Radioisotopes (g)

SCI. 523. Science in Transportation

The science needed to understand various methods of transportation, including the science involved in such problems as safety, comfort, and governmental aid and regulation.

SCI. 527. Current Research in Science

Study of current research in the various sciences; implications of such research for present and future living; implications of research in science for the secondary school science curriculum. *Prerequisites:* Six semester hours in each of two sciences.

SCI. 528. Seminar in Science Education

Current trends in science education in the public schools; recent research in science education; problems of individual students. *Prerequisite:* Two years experience teaching science as a special subject.

SCI. 530. Curricular Trends in Science Teaching

An examination of recent curriculum developments through a study of philosophies, objectives, and materials; current understandings of the psychology of inquiry; historical events leading to changes in curriculum. *Prerequisites:* One year of teaching science as a subject, or assignment in an administrative position having responsibility for science curriculum, or permission of the instructor.

SCI. 590. Special Project

Research or investigation of a particular problem, to be planned and carried out by the student, with consultation and guidance from instructor.

SCI. 690. Project

A study undertaken by one or more individuals on a problem of special interest;

must be submitted in acceptable form according to directions given by the Graduate Office.

SCI. 695. Thesis

An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Office.

GEOGRAPHY DEPARTMENT

- GEOG. 402.** Map Interpretation (g)
GEOG. 404. Geography of the Soviet Union (g)
GEOG. 405. Geography of the Mediterranean World (g)
GEOG. 410. Resource Use and Urban Planning (g)

GEOG. 500. Geography of Eastern Asia

Physical and cultural geography of China, Japan, Korea, Mongolia, and the countries of southeast Asia; emphasis on the major economies and their relationships to the natural environment.

GEOG. 501. Studies in Industrial Geography

Study of man's major occupations and their relationships to the natural environment; emphasis on selected topics in agriculture, manufacturing, and mining that are of world-wide significance.

GEOG. 502. Geography in the Secondary Schools

Methods and techniques of teaching geography in the secondary schools with emphasis on the 9th grade level; elements of the natural and cultural environments that should be emphasized in secondary school geography; and the general geography of Eastern Asia, South and Southeast Asia, and Subsaharan Africa.

GEOG. 503. Studies in Resource Conservation
Principles of natural resources conservation; select problems in resource conservation, soil erosion, water pollution, destruction of forests, grasslands, and wildlife, flood control, and depletion of minerals; emphasis on conservation in the United States and New York State.

GEOG. 504. Studies in the Geography of Anglo-America
Regional divisions: landforms, climates, soils, natural vegetation, drainage, major economies; emphasis on the leading economies of each region and their relationships to the natural environment.

GEOG. 505. Studies in the Geography of Middle America
The physical and cultural geography of Mexico, Central America, and the West Indies with emphasis on the problems man has encountered in his attempts to adjust to the natural environment.

GEOG. 590. Special Project
Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

GEOG. 601. Seminar in Urban-Metropolitan Area Problems
Spatial aspects of urban-metropolitan area problems; urban land use; dynamics of change in urban areas; role of urban geography in finding solutions to urban problems. *Prerequisites:* Six hours of geography or three hours of urban sociology or urban affairs studies.

GEOSCIENCES DEPARTMENT

GEOS. 401. Petrology (g)
GEOS. 402. Structural Geology (g)
GEOS. 403. Glacial Geology (g)
GEOS. 404. Field Geology (g)
GEOS. 405. Geology of North America (g)

GEOS. 406. Geology of New York State (g)
GEOS. 411. Advanced Oceanography (g)
GEOS. 431. Planetarium Seminar (g)
GEOS. 451. Geochemistry (g)
GEOS. 461. Geophysics (g)

GEOS. 501. Petrography
Microscopic study of igneous, sedimentary, and metamorphic rocks; textures and their interpretation; classification of rocks. *Prerequisite:* Geos. 401.

GEOS. 511. Marine Geology
Descriptive and analytical approach to the sedimentation, stratigraphy, and structure of the ocean basins. *Prerequisite:* Geos. 302 and 303, or Geos. 411.

GEOS. 601. Economic Geology
Origin, composition, alteration, and enrichment of ores; origin of fossil fuels and other non-metalliferous deposits; conservation of geologic resources. *Prerequisite:* 18 Sem. Hrs. geology and one year of chemistry. Occasional field trips.

GEOS. 603. Advanced General Geology
Current topics and recent literature involving geologic research. *Prerequisite:* 18 Sem. Hrs. geology. *Credit:* Lecture and laboratory; occasional field trips.

GEOS. 605. Geosciences Seminar
Readings, reports, and discussion of current geoscience problems and research. *Prerequisite:* 24 Sem. Hrs. geosciences. Lecture and laboratory; occasional field trips.

GEOS. 690. Research Project in Geosciences
A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Office.

GEOS. 695. Research Thesis in Geosciences
An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Office.

HISTORY DEPARTMENT

MASTER OF ARTS IN HISTORY

*Credit
Hours*
30

Prerequisites
Bachelor's degree from accredited college or university. Undergraduate cumulative average of 2.75 on 4.00 scale and average of 3.00 in History. Acceptable scores on the Graduate Record Examination, including the advanced examination in History. Thirty (30) semester hours in History.

Language Requirement
Demonstrated competence in one foreign language, through examination by the department. This competency must be established prior to the completion of eighteen (18) semester hours.

Required Courses 18
Courses to be chosen, under advisement, in American, European, or World History. Six (6) hours may be taken in related fields, such as Political Science, Geography, English, etc. with the expressed approval of the student's adviser.

Seminars 6
Students working for a degree in American History should elect History 600 and History 609 or History 611.
Students working for a degree in European History should elect History 601 and History 602, History 603, or History 610.

Thesis 6
Comprehensive Examination — administered by the department.
Total requirements 30

HIST. 400. Twentieth Century European Diplomacy (g)	HIST. 412. History of East Central Europe (g)
HIST. 401. American Expansion Since 1783 (g)	HIST. 414. History of the Balkans Since 1453 (g)
HIST. 402. History of the Soviet Union (g)	HIST. 415. History of Iberia from the Reconquest to 1815 (g)
HIST. 403. American Diplomatic History to 1898 (g)	HIST. 416. Seminar in Principles and Techniques of Operating an Historical Agency (g)
HIST. 404. The South, Sectionalism, and the Civil War (g)	HIST. 417. American Diplomatic History Since 1898 (g)
HIST. 405. The Renaissance and Reformation (g)	HIST. 418. The History Museum and Its Presentation of History (g)
HIST. 406. The French Revolution and Napoleon (g)	HIST. 419. Seminar in Curatorship (g)
HIST. 407. Germany Since 1871 (g)	HIST. 420. Seminar in the Administration of the Historical Agency or Museum (g)
HIST. 408. History of American Thought (g)	

HIST. 500. Studies in Twentieth Century American History

Aspects of American life since 1900; significant trends, policies, and ideas in politics, diplomacy, and national culture; topics for study dictated by student needs and interests.

HIST. 501. Studies in Twentieth Century European History

Study of a central theme selected by instructor and class, such as: modern political ideologies; international relations; individual country, region or period.

HIST. 502. The United States and Its Inter-American Relations

American policies toward the Latin American Republics and the Dominion of Canada; recognition; Monroe Doctrine; imperialism; peaceful settlement; cultural interchange; hemisphere security; regionalism.

HIST. 503. Social and Intellectual History of the United States

Social roots of systems of thought; effect of ideas upon American society; continuing patterns of thought, such as Puritanism, liberalism, democracy; contributions of intellectual leaders.

HIST. 504. History of the American Frontier
Westward movement of settlement in terms of trader-trapper, farmer, cattle and mining frontiers; analysis of myth and interpretations, with emphasis upon the edenic and heroic conceptions in contemporary accounts, both fiction and non-fiction.

HIST. 505. Studies in American Colonial History
Comparison of colonial policies pursued by European powers in the New World; modification in a new environment of such transplanted elements as the family, church, schools, economy, and government.

HIST. 506. Problems in British History
An examination of major constitutional, political, social and intellectual factors which shaped England during one of the following periods: (1) Medieval England; (2) Tudor Stuart; (3) eighteenth century; (4) Victorian; (5) twentieth century.

HIST. 507. The United States in Contemporary World Affairs

United States foreign policy; United States and the United Nations; Atlantic and Pacific commitments; internal problems such as defense, production, inflation, and taxation.

HIST. 508. Reform and Reformers in American Civilization

Economic and social *milieu* creating need for reform; personality characteristics of reform leaders; structure and operations of reform movements; selected reform movements and periods of widely-sponsored reform sentiment; changes wrought in American society.

HIST. 509. History of Russian Diplomacy
Problems of Russian and Soviet foreign policy, with special emphasis on the post-revolutionary period.

HIST. 600. Seminar in the Bibliography of American History

Sources, monographs and general histories in the bibliography of American history; collections of historical materials; historical organizations and services; analysis of selected topics and authors.

HIST. 601. Seminar in the Bibliography of European History

Sources, monographs, and general histories in the historical bibliography of selected European countries; collections of historical materials; historical organizations; problems of research; analysis of selected topics and authors.

HIST. 602. Seminar in Modern Russian History

Research in the problems of the Soviet Union, from the establishment of Marxism on Russian soil to the present, emphasizing ideological problems and Russian foreign policy, particularly toward Europe.

HIST. 603. Seminar in Modern East Central European History

Research in the problems of the nations located between Russia and Germany, and

between the Baltic Sea and Turkey, from the middle of the nineteenth century to the present with special emphasis on ideological conflicts and foreign policy.

HIST. 609. Local History: Research Methods and Techniques

Preparation of individual research papers on some undeveloped aspect of local history; guidance in historical research and writing techniques.

HIST. 610. Seminar in Contemporary European History

Problems of Contemporary Europe from the unification of Italy and Germany to the present; nationalism, imperialism and communism; the struggle for domination of Europe after World War I and World War II.

HIST. 611. Seminar in American History
Problems in American social, intellectual, or diplomatic history as determined by student needs and staff; historical methodology, the philosophy of history and historical writing; individual projects and seminar discussion.

HIST. 695. Thesis
An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Office.

LATIN AMERICAN STUDIES

L.A.S. 410. Twentieth Century Latin American Problems (g)

MATHEMATICS DEPARTMENT

MASTER OF ARTS IN MATHEMATICS

Prerequisites

1. Bachelor's degree from accredited college or university.
2. Completion of at least 24 semester hours of undergraduate mathematics beyond the calculus, including a full year of algebra (our present Math. 301, 303); a full year of analysis (our present Math. 417, 418), and at least one semester of geometry or topology (our present Math. 323 or 471).
3. An average of B or better (3.0 on a 4 point grading scale) in undergraduate mathematics.
4. Written acceptance as a graduate student in the M.A. program by the Graduate Faculty of the Mathematics Department and the Director of Graduate Studies.
5. A student deficient in items 2 or 3 above may remove the deficiency while pursuing graduate study. This can be done only upon a written statement from the student's advisor or the Graduate Faculty of the Mathematics Department. The statement will indicate what deficiency is to be removed and specifically how.

Requirement for Master of Arts Degree

The student must complete successfully the requirements listed in either (a) or (b).

- 30 semester hours of graduate mathematics and a comprehensive examination in mathematics. A student may elect up to 6 semester hours of graduate work in related fields in lieu of the same number of semester hours of the required mathematics upon the written approval of his advisor.
- 24 semester hours of graduate mathematics, a thesis in mathematics for 6 semester hours and a comprehensive examination in mathematics.

The purposes of the comprehensive examination are:

- To measure how much subject matter of the graduate mathematics courses the candidate has acquired and retained.
- To determine whether or not he has achieved an insight into the meaning and nature of mathematics, especially the discernment structure and abstract form, and the unifying aspects of the different mathematical subjects.
- To examine his ability to approach problems new and different from those in his graduate courses, that is, his research ability.

In evaluating the results of this examination the Graduate Mathematics Faculty will decide how adequately the candidate has met the foregoing objectives. If the Faculty feels the student shows weaknesses in these areas, it may recommend further study for the candidate or it may disqualify him from the program.

The comprehensive examination will be written and will be taken when the course work is virtually complete. This examination will be administered by the student's committee which will consist of not fewer than three nor more than five members of the faculty. A favorable decision by three-fifths of the members of the committee is required for passing. The examination will be given in three of the following subjects:

(a) Algebra (b) Topology (c) Real Analysis (d) Complex Analysis; and it will also normally cover any other course work submitted by the student for credit toward the degree. The student must notify his advisor and Chairman of the department of his intention to take the comprehensive examination of his choice of three subjects indicated above. This must be done no later than two months prior to the convocation at which he expects to receive his degree.

- MATH. 413. Applied Analysis (g)
 MATH. 415. Mathematical Methods in Applied Mathematics (g)
 MATH. 417. Advanced Calculus I (g)
 MATH. 418. Advanced Calculus II (g)
 MATH. 431. Mathematical Logic (g)
 MATH. 461. Numerical Analysis (g)
 MATH. 471. Topology (g)

The above mathematics courses at the 400 level may be taken for graduate credit providing no such course work duplicates work completed for undergraduate credit. (See further restrictions under Master of Science in Education and Master of Arts Degree requirements.)

The 500 level courses are, in general, for students in elementary or exceptional children education or electives.

All 600 level courses and 700 level courses are, in general, designed for students earning degrees in mathematics or science or students with a concentration in mathematics.

(See prerequisites for each course with course descriptions.)

MATH. 590. Special Project

Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

MATH. 591. Mathematics in the Elementary Curriculum

Development of the real number system; analysis of and reports on current trends in elementary school mathematics. *Prerequisite:* Math. 122 or equivalent.

MATH. 603. Theory of Matrices

The algebra of matrices and determinants; equivalence, similarity and congruence relations on matrices; vector spaces, linear transformations; characteristic roots and vectors; applications. *Prerequisite:* 12 Sem. Hrs. of Math. beyond the Calculus.

MATH. 611. Theory of Sets

Sets; relations; functions; order and Zorn's lemma; ordinal numbers and their arithmetic;

cardinal numbers and their arithmetic. *Prerequisite:* 12 Sem. Hrs. of Math. beyond the Calculus.

MATH. 621. Non-Euclidean Geometry

Historical development; hyperbolic plane geometry; elliptic plane geometry; topics from hyperbolic and elliptic trigonometry; consistency of non-Euclidean geometries. *Prerequisite:* 12 Sem. Hrs. of Math. beyond the Calculus.

MATH. 631. Foundations of Mathematics

The axiomatic method; theory of sets and infinite sets; real number system and linear continuum; the complex number system; groups and their significance for the foundations; development of various viewpoints on foundations. *Prerequisite:* 12 Sem. Hrs. of Math. beyond the Calculus.

MATH. 651. Theory of Numbers

Counting and recording of numbers; properties of numbers; Euclid's algorithm; prime numbers; the aliquot parts; indeterminate problems and their theory; Diophantine problems; congruences; analysis of congruences; Wilson's theorem; Euler's theorem; theory of decimal expansions; the converse of Fermat's theorem; the classical construction problems. *Prerequisite:* 12 Sem. Hrs. of Math. beyond the Calculus.

MATH. 690. Project (M.S.Ed. Candidates Only)

A research study or an investigation of a mathematical problem or topic under the guidance of a qualified member of the graduate faculty. Written approval by the faculty member and the Chairman of the Department is necessary before registration is permitted.

MATH. 696. History of Mathematics

Chronological study of the development of elementary mathematics; contributions of nations, ages or periods; selected biographies; appraisals and critiques; problem studies. *Prerequisite:* 12 Sem. Hrs. of Math. beyond the Calculus.

MATH. 701. Modern Algebra I

Cyclic groups; transformation groups; factor groups; groups with operators; isomor-

phism theorems; composition series; direct products of groups; Sylow theorems; residue class rings; operations on ideals; extensions of rings. *Prerequisite:* Math. 301 or equivalent.

MATH. 702. Modern Algebra II

Polynomial rings; factorization in polynomial domains; maximal, prime, and primary ideals; Noetherian rings; prime fields; extensions of fields; splitting fields; separability; irreducibility; Galois theory. *Prerequisite:* Math. 701 or equivalent.

MATH. 711. Theory of Functions of a Complex Variable I

Complex numbers; analytic functions; elementary functions; some topological concepts; contour integration; calculus of residues. *Prerequisite:* Math. 417 or equivalent.

MATH. 712. Theory of Functions of a Complex Variable II

Transformations; conformal mapping; sequences; uniform convergence; Taylor series; Laurent series; partial fractions; gamma functions; multiple-valued functions. *Prerequisite:* Math. 711 or equivalent.

MATH. 717. Theory of Functions of a Real Variable I

Abstract measure theory; outer measure; metric outer measure; measurable functions; operations on measurable functions; Lebesgue-Stieltjes measure. *Prerequisite:* Math. 417 or equivalent.

MATH. 718. Theory of Functions of a Real Variable II

Integrable functions; Lebesgue-Stieltjes integrals; L_p Spaces, Hilbert and Banach spaces; orthogonal expansions; regular and strong derivatives; metric density; Fubini's theorem. *Prerequisite:* Math. 717 or equivalent.

MATH. 723. Differential Geometry

The differential geometry of curves and surfaces with the use of vector and tensor methods; curvature and tension; moving

frames; curvilinear coordinates; the fundamental differential forms; intrinsic geometry; curves on a surface; applications to problems in dynamics, mechanics, and elasticity. *Prerequisite:* Math. 417 or equivalent.

MATH. 731. Mathematical Logic

Validity, deducibility, and completeness in propositional and predicate logics; model theory, recursive functions, incompleteness, and undecidability. *Prerequisite:* Math. 431.

MATH. 771. Topology I

Introductory set theory; transformations; topological equivalence; topological spaces; metric spaces. *Prerequisite:* Math. 417, Math. 471, or Math. 717.

MATH. 772. Topology II

Regular, normal, and completely regular spaces; Hilbert space; space of continuous functions; complete metric spaces; product spaces, metrization and paracompactness; uniform spaces. *Prerequisite:* Math. 771.

MATH. 795. Thesis

An individual investigation into an area of mathematics under the guidance of a faculty member.

MUSIC DEPARTMENT

MUS. 500. Music in Education

Lectures, listening and reading on the history of Music Education in the United States. *Classification:* Elective.

MUS. 501. Survey of Music Literature

Survey of music from antiquity to the present; examination of scores, book reviews from texts in library on development of vocal and instrumental music. *Classification:* Elective.

MUS. 502. American Folk Music

Lectures, readings and listening experience in the various idioms of American folk music. *Classification:* Elective.

MUS. 503. Latin American Music

A survey of the ethnic and European heritage of Latin American Music from early aboriginal sources to contemporary composition. *Classification:* Elective. *Prerequisite:* Music 125 Basic Music Participation, or equivalent.

MUS. 504. Introduction to Symphonic Literature

The art of enjoying symphony orchestra music; the understanding of the masterpieces of Classic, Romantic and Contemporary composers; attendance at selected concerts. *Classification:* Elective.

PHILOSOPHY DEPARTMENT

PHIL. 402. Philosophy of Psychology (g)

PHIL. 403. 17th-18th Century Rationalists (g)

PHIL. 404. British Empiricism (g)

PHIL. 405. Plato and Aristotle (g)

PHIL. 406. Theory of Logic and Mathematics (g)

PHIL. 407. Theory of Value (g)

PHYSICS DEPARTMENT

PHY. 603. Advanced Thermodynamics and Statistical Physics

Thermodynamics, its laws, some elementary applications; kinetic theory, some elementary applications; statistical mechanics, classical and quantum statistics, ensembles. *Prerequisite:* Phy. 303 and Math. 202 or Phy. 414, or the equivalent. *Credit:* Three semester hours; three 1-hour lectures.

PHY. 606. Advanced Quantum Theory I

Quantum formalism and its interpretations, origins of the theory, Schrodinger equation, one-dimensional systems, statistical interpretations, WKB approximation; applications to simple systems, separation of variables, central potential, scattering problem, hydrogen problem, Rutherford scattering, the harmonic oscillator. *Prerequisite:* Phy. 406, Phy. 414, Phy. 415 and Phy. 417

or Phy. 616, or the equivalent. *Credit:* Three semester hours; three 1-hour lectures.

PHY. 607. Advanced Quantum Theory II

Quantum mechanical symmetries and invariance, angular momentum, identical particles and the exclusion principle, conservation laws, time reversal, methods of approximation, stationary perturbations, variational method, collision theory; introduction to relativistic quantum mechanics and to quantization of the electromagnetic field. *Prerequisite:* Phy. 418, Phy. 419, Phy. 606 and Phy. 616, or the equivalent. *Credit:* Three semester hours; three 1-hour lectures.

PHY. 608. Nuclear Physics

Properties of atomic nuclei and related phenomena; nuclear models, binding energy, nuclear forces. *Prerequisite:* Phy. 406 and Phy. 415, or the equivalent. *Credit:* Three semester hours; three 1-hour lectures.

PHY. 609. Advanced Spectroscopy

A study of selected complex spectra and the evidence they have provided for the development of atomic theory. *Prerequisite:* Phy. 406 and Phy. 409, or the equivalent. *Credit:* Three semester hours; three 1-hour lectures.

PHY. 611. Advanced Solid State Physics

Crystal structure; classification of solids according to binding; propagation of waves in solids; thermal properties; dielectric properties; paramagnetism and diamagnetism; free electron theory of metals; band theory of solids; semiconductors. *Prerequisite:* Phy. 406 and Phy. 415, or the equivalent. *Credit:* Three semester hours; three 1-hour lectures.

PHY. 616. Advanced Dynamics

Review of vectorial particle dynamics; Lagrangian formulation of mechanics; the two-body central force problem; rigid body motion in three dimensions; special relativity in classical mechanics; Hamilton's equations of motion; canonical transformations; Hamilton-Jacobi theory; theory of small oscillations; Lagrangian and Hamiltonian functions for continuous systems and fields.

Prerequisite: Phy. 414, Phy. 415, Phy. 417 or equivalent. *Credit:* Three semester hours; three 1-hour lectures.

PHY. 618. Advanced Electricity and Magnetism I

Theory, boundary value problems, and dielectrics in electrostatics; magnetostatics; time varying fields and Maxwell's equations; plane electromagnetic waves; wave guides and resonant cavities; radiating systems and diffraction. *Prerequisite:* Phy. 414, Phy. 415, Phy. 416, Phy. 418 and Phy. 419, or the equivalent. *Credit:* Three semester hours; three 1-hour lectures.

PHY. 619. Advanced Electricity and Magnetism II

Continuation of Phy. 618; magnetohydrodynamics and plasma physics; special relativity; relativistic particle mechanics; collisions between charged particles; radiation by moving charged particles; radiation by moving charges; bremsstrahlung; multipole fields; radiation damping, scattering, and absorption. *Prerequisite:* Phy. 618, or the equivalent. *Credit:* Three semester hours; three 1-hour lectures.

PHY. 625. Physics Seminar

Selected reading, reports, discussion and evaluation of research in physics and the teaching of physics. *Credit:* One to three semester hours.

PHY. 690. Research Project in Physics

A study undertaken by one or more individuals on a problem of special interest; the problem must be approved by the Graduate Committee of the Department of Physics before the project is begun; a report on the project must be submitted in acceptable form according to directions given by the Graduate Office.

PHY. 695. Research Thesis in Physics

An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Office, the problem and procedure must be approved by the Graduate Committee of the Department of Physics before the investigation is begun.

POLITICAL SCIENCE DEPARTMENT

P.S. 401. International Organization (g)

P.S. 403. History of Political Theory (g)

P.S.-SOC. 406. Political Behavior and Public Opinion (g)

P.S. 505. Contemporary Africa

An examination of the dimensions, dilemmas, and directions of the emerging African states; examples of interaction with the Western world; discussion of the social and economic changes underway.

P.S. 506. International Relations in the World Today

Topics such as international organization, international law, regionalism, economic development, role of ideologies, or relationship of domestic and international politics.

P.S. 508. Contemporary European Political Movements

Party ideologies, organization, parliamentary tactics, propaganda, campaigns, electoral geography, and social composition; party systems, individual parties, and pressure groups.

P.S. 509. Case Studies in Local Government and Politics

Structure and practice; revenues and expenditures; public housing, health, and welfare; planning and zoning; educational-political relationships; topics selected in accordance with student needs and interests.

SOCIAL STUDIES

S.S. 502. Teaching Social Studies

Nature of the Social Studies, its content, its methodology; survey of proposals and trends in curriculum, evaluation and instructional resources.

S.S. 504. Studies in Non-Western Cultures: The Middle East

An area study of characteristic cultural features of the countries; examples of inter-

action with Western world; cultural and social changes underway; examples of problems typical of the underdeveloped nations in the world today.

S.S. 590. Special Project

Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

S.S. 613. Seminar in Secondary Social Studies Teaching and its Curriculum

Designed to provide discussion and research of the problems and innovations of the secondary school social studies. Emphasis will be placed upon philosophy, curriculum and methodology of the social studies program required by our changing society.

S.S. 690. Project

A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Office.

S.S. 695. Thesis

An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Office.

SOCIOLOGY - ANTHROPOLOGY DEPARTMENT

SOC. 401. Juvenile Delinquency (g)

SOC. 403. Contemporary Sociological Theory (g)

SOC. 404. Sociology of Religion (g)

SOC. 405. Foundations of Sociological Thought (g)

SOC.-P.S. 406. Political Behavior and Public Opinion (g)

SOC. 408. Sociology of Crime (g)

SOC. 410. Seminar on Alcoholism (g)

SOC. 411. Sociology of Aging (Social Gerontology) (g)

SOC. 412. Soviet Society (g)

SOC. 501. Contemporary Social Problems

Problem areas of American society; sources of information; techniques for discovering and analyzing social problems; analysis of several major problems, selected in accordance with student needs and interests.

SOC. 505. Population Analysis and Problems

United States and world populations; quantity increase and decrease, distribution, migration, and composition of population; bearing of these factors upon economic, political, and social problems and upon social values, action, and structure.

SOC. 506. Minority Groups in American Culture

Major racial, nationality, and religious minority groups in America treated from the cultural, historical, and familial point of view; current anthropological and psychological data on uniformities, differences, prejudices, and discrimination.

SOC. 512. Seminar on Narcotic Addiction

Narcotic addiction as a social problem and a sociological phenomenon. The nature of narcotic addiction, the situations in which this behavior occurs, the characteristics of addicts. Legal, medical, and other efforts made to influence addicts.

ANTH. 402. Cultural Anthropology (g)

ANTH. 403. Language and Culture (g)

ANTH. 404. Peasant (Underdeveloped) Societies (g)

ANTH. 405. History of Anthropological Thought (g)

SPEECH AND THEATRE ARTS DEPARTMENT

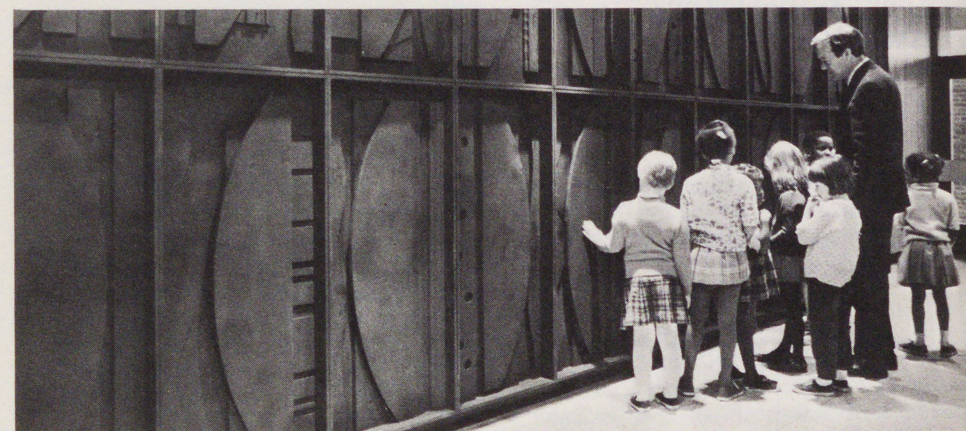
SP. & T.A. 406. Secondary School Speech Activities (g)

SP. & T.A. 418. Creative Dramatics (g)

SP. & T.A. 419. Speech Activities in the Elementary School (g)

SP. & T.A. 450. Directing (g)

SP. & T.A. 528. Seminar in Creative Dramatics
Philosophy, methods, and materials of informal playmaking with children; attention to special interests and creative projects.



PROFESSIONAL STUDIES

Professional Studies includes the Division of Education, including Elementary and Secondary Education, and the Division of Exceptional Children Education. Details concerning the programs and courses offered are provided under these headings in this Catalogue.

ELEMENTARY EDUCATION AND EARLY SECONDARY EDUCATION

Depending on his undergraduate preparation and certification, the student may earn a master's degree in Elementary Education or in Elementary and Early Secondary Education. Appropriate courses to each program should be selected from Group A and Group B as well as the choice of Education 601 or 532.

*Credit
Hours*
9

Required Professional Courses

(Select one course from Group A and one course from Group B and one course from either A or B.)

GROUP A

Ed. 411, 605 Evaluation Techniques in the Elementary School
or

Ed. 537 Evaluation in the Secondary School

Ed. 415 Seminar in Early Childhood Education

Ed. 527 Problems in Education Services for Young Children

Ed. 420, 620 Teaching the Language Arts in the Elementary School

Ed. 414, 614 The Teaching of Reading

or

Ed. 545 The Teaching of Reading in the Secondary School

Ed. 621 The Elementary School Curriculum

or

Ed. 542 Seminar in Secondary School Curriculum

Ed. 418, 518 Media in Education

Ed. 419 Methods and Materials in the Elementary School

Ed. 502 Programmed Learning

GROUP B

Ed. 509	Personality Adjustment in the Elementary School
Ed. 519	Applied Mental Hygiene
Ed. 410, 606	Philosophy of Education
Ed. 541	Social Foundation of Education
Ed. 556	Group Dynamics
Ed. 540	Studies in Human Growth and Development
Ed. 529	Adolescent Psychology
Ed. 503	Educational Psychology
Ed. 523	Principles and Practices of Guidance
Ed. 412	Comparative Education

Required Courses in Arts and Sciences

Chosen by advisement from Art, English, Geography, Mathematics, Music, Philosophy, Science and Social Sciences. Those extending certification to grades 7, 8, or 9 must complete at least six hours in their major discipline.

Research

Ed. 595	Research Methods and Techniques	3
	(Required of all candidates)	
	(In addition, each candidate, after a conference with his adviser, must select <i>one</i> of the following requirements.)	
Ed. 601	Seminar in Elementary Education	3
or		
Ed. 532	Secondary School Education	3
Ed. 690	Project	3
Ed. 695	Master's Thesis	6

Unrestricted Electives

Total Requirements

Credit
Hours

12

6-9

3

3

3

3

6

3

30

ELEMENTARY PRINCIPALSHIP AND/OR SUPERVISION

Experienced teachers desiring the elementary school principal's provisional certificate should complete the bachelor's degree and six semester hours in Ed. 603 and 604. Candidates for the permanent certificate must complete the bachelor's degree and thirty hours in approved graduate courses including, in addition to Ed. 603 and 604, three to six hours in Ed. 607, 615, 621, or 552.

Experienced teachers desiring the elementary school supervisor's provisional certificate should complete the bachelor's degree and six semester hours in Ed. 630 and 631. Candidates for the permanent certificate must complete an additional twenty-four semester hours in approved graduate courses, six of which should be in Ed. 621 and 651.

These programs are offered *only* for provisionally certified students who are seeking to complete permanent certification under old (former) requirements. Applications will be accepted from students after September 1, 1969 who desire permanent certifications within 60 hour institutional programs.

Required Professional Courses

Ed. 603	Organization of the Elementary School	3
Ed. 604	Administration of the Elementary School	3
or		
Ed. 630	Principles of Supervision	3
Ed. 631	Supervision of Teaching	3

Education Electives

Required Courses in Arts and Sciences

Chosen by advisement from Art, English, Geography, Mathematics, Music, Philosophy, Science, and Social Sciences.

Research

Ed. 595	Research Methods and Techniques	3
Ed. 690	Project	4
Ed. 695	Master's Thesis	6
	(Each candidate, after conference with his adviser must select <i>one</i> of the above requirements.)	

Unrestricted Electives

Total Requirements

Credit
Hours

12

3

3

3

3

6

8-10

3-6

3

4

6

4-7

30

SECONDARY EDUCATION

The State University College at Buffalo offers graduate study leading to the degree of Master of Science in Secondary Education with majors in English, Mathematics, Science, or Social Studies. Science areas include Biology, Physics, General Science, Chemistry and Geoscience.

The student may take a major in mathematics and a minor in science, a major in science and a minor in mathematics, or a major and minor in two areas in science.

The student who completes the requirements for a Bachelor of Science degree in Secondary Education with a major and a minor in science or mathematics

receives provisional certification until he completes the additional thirty hours for his master of science degree. The completion of the work provides permanent certification; however, the student may obtain permanent certification by completing thirty hours of prescribed graduate courses. This work must be completed within a period of five years after receiving the bachelor's degree.

The Teaching of English in Secondary (Junior and Senior High) School

Prerequisites	<i>Credit Hours</i> 42
Undergraduate preparation including six hours in composition and/or communication and preparation in linguistics, literature for adolescents, English literature, American literature, world literature, speech and/or oral interpretation, and advanced writing.	
Required English Courses	18
To be specified by adviser after review of the student's previous preparation.	
Research	3-6
Required of all students who are candidates for the master's degree. Each candidate, after a conference with his adviser, must select one of the following:	
Ed. 595 Research Methods and Techniques	3
Eng. 694 Research in Literature and Language	3
Eng. 690 Project	4
Eng. 695 Master's Thesis	6
Professional Education	3
Either Ed. 545 Teaching Reading in the Secondary School or one course in education chosen under advisement.	
Unrestricted Electives	3-6
<i>Total Requirements</i>	30

The Teaching of Mathematics in Secondary (Junior and Senior High) School

Prerequisites

1. Completion of at least 18 semester hours of undergraduate mathematics beyond calculus, including one semester of algebra (our present Math. 301, 303), a semester of analysis (our present Math. 417, 418 or Complex Variables), at

least one semester of geometry (our present Math. 222, 323), and at least one semester of statistics, topology or applied mathematics (our present Math. 381, 382, 471, 413 or 415).

2. An average of 2.5 on a 4.0 scale in all undergraduate mathematics courses.
3. Acceptance as a graduate student by the Chairman of the Graduate Faculty of the Mathematics Department and the Director of Graduate Study.
4. A deficiency in items 1 or 2 above may be removed while pursuing graduate study with a written statement from the student's advisor or the Chairman of the Graduate Faculty of the Mathematics Department. A copy of this statement will be filed in the mathematics office and with the graduate office.

Required Courses	<i>Credit Hours</i> 21
-------------------------------	-------------------------------

At least one course from each of the following categories and at least two from two of these categories:

1. *Algebra*
603, 651, 701, 702
2. *Analysis*
418, 461, 711, 712, 717, 718, 723
3. *Geometry/Topology*
471, 621, 723, 771, 772
4. *Miscellaneous*
413, 415, 431, 611, 631, 696, 731

Research	3-6
Required of all students who are candidates for the Master of Science degree. Each candidate, after conference with his adviser, must select one of the following requirements:	
Ed. 595 Research Methods and Techniques	3
Math. 690 Project	4
Math. 795 Master's Thesis	6

Unrestricted Electives	6
<i>Total Requirements</i>	30

A 2.7 average is required in all graduate mathematics.

Satisfaction of these requirements will be verified by the Graduate Faculty of the Mathematics Department.

The Teaching of Science in Secondary (Junior and Senior High) School

	<i>Credit Hours</i>
Prerequisites	48
Major Area of Specialization	24
Chemistry and Physics majors require, in addition, Differential and Integral Calculus. Also required, one year in each of the other sciences and in mathematics.	
Required Courses	18
18 semester hours are required in graduate science and mathematics courses selected by advisement.	
Research: Required of all students who are candidates for the master's degree. Each candidate, after a conference with his adviser, must select one of the following requirements:	
Ed. 595 Research Methods and Techniques	3
Biol., Ch., Geos., Phy. or Sci. 690 Project	4
Biol., Ch., Geos., Phy. or Sci. 695 Master's Thesis	6
Professional Education	3
Secondary Education Elective (Student may elect a course in science in lieu of this requirement.)	
Unrestricted Electives	6
<i>Total Requirements</i>	30

The Teaching of Social Studies in Secondary (Junior and Senior High) School

Prerequisites	42
Undergraduate preparation including at least six hours in United States History; six hours in European History; and the Social Science core of at least 24 hours, including a full year's work in four of the following 6 areas: Anthropology, Economics, Geography, History other than United States or European, Political Sciences, Sociology.	
Required Courses	18
Research: Required of all students who are candidates for the master's degree. Each candidate, after a conference with his adviser, must select <i>one</i> of the following requirements:	

Ed. 595 Research Methods and Techniques	3
S.S. 690 Project	4
S.S. 695 Master's Thesis	6
Professional Education	3
Secondary Education Elective (Student may elect a course in Social Studies in lieu of this requirement.)	
Unrestricted Electives	6
<i>Total Requirements</i>	30

DIVISION OF EDUCATION

ED. 400. Elementary Statistics (g)	ED. 502. Practicum in Programmed Instruction The use of teaching machines and programmed instruction, programming techniques and means of evaluating programs. Laboratory experiences.
ED. 403. Historical and Philosophical Forces Influencing Secondary Education (g)	ED. 503. Educational Psychology Study of various theories of learning; history of educational psychology; measurements of learning; variables and their interpretation; application of learning theory to the teaching situation.
ED. 410. Philosophy of Education (g)	ED. 504. The Community Junior College Purposes, functions, and characteristics of the Community Junior College; historical and philosophical backgrounds; current issues in higher education; the improvement of instruction; administration and organization; student personnel services; school and community relations; related research.
ED. 411. Evaluation in the Elementary School (g)	ED. 508. Supervision of Student Teaching Clarifying responsibilities of sponsor teachers; planning effective conferences with students; developing ways of helping students evaluate their own growth; keeping diversified records; clarifying long and short term planning; helping students plan learning experiences.
ED. 412. Comparative Education (g)	ED. 509. Personality Adjustment in the Elementary School Dynamics of human behavior; prevention of maladjustment; corrective programs; formation of habits and attitudes; recent clinical research.
ED. 414. The Teaching of Reading (g)	
ED. 415. Seminar in Early Childhood Education (g)	
ED. 418. Media in Education (g)	
ED. 419. Methods and Materials in the Elementary School (g)	
ED. 420. Teaching the Language Arts in the Elementary School (g)	
ED. 423. Comparative Educational Systems: Western Europe (g)	
ED. 425. The Family and the Elementary School (g)	
ED. 427. Community Services for Young Children (g)	
ED. 428. Sociodrama and Role Playing in Education (g)	
ED. 435. Advanced Statistics: Inference and Prediction (g)	

ED. 515. Laboratory Experiences in the Study of Young Children

Observing children in various learning situations; joint teacher-student planning of learning situation; review of teaching media for young children; emphasis on stimulating intellectual curiosity through discovery; recording, interpreting and reporting childhood behavior.

ED. 518. Selected Topics in Media Utilization

Topics of common concern explored in depth; individual investigation of a specific problem; recent developments in the field of instructional media. *Prerequisite:* Ed. 418 or equivalent.

ED. 519. Applied Mental Hygiene

Principles of mental hygiene and their application to personality development, emotional and social adjustment, and human relationships; application of mental hygiene principles to processes of teaching, pupil learning, classroom management, and conduct of the teacher in lay and professional relationships.

ED. 523. Principles and Practices of Guidance

The philosophy of guidance, its place in present education; identifying interests, and attitudes, and understanding problems of the age group and individuals; techniques of counseling and methods of investigation; the role of the teacher, specialist and administrator in guidance; school, home, community resources in a guidance program.

ED. 527. Problems in Educational Services for Young Children

Current social and economic trends affecting the lives of young children; curriculum contributions for developing individual and group living; educational problems confronting teachers in this specialized field.

ED. 528. Human Relations

Inter-group problems relating to race, religion, or national origin; slow and rapid learners; old and new residents; "fringers" and participants; competitive practices in school; dividing and integrating factors affecting learning.

ED. 529. Adolescent Psychology

Characteristics and problems of adolescents in our society; relationship of adolescent behavior to earlier development; special provisions of the early secondary school for this age group. *Prerequisite:* Six semester hours in Human Growth and Development or its equivalent.

ED. 532. Secondary School Education

Origin and functions of secondary education; curriculum patterns; guidance and exploratory programs; articulation between elementary school and senior high school; extra-curricular activities; evaluation in the secondary school; research methods in solving problems listed above and others suggested by students.

ED. 535. Methods of Teaching Secondary School Science

Objectives of science teaching; methods of reaching those objectives; evaluation of the results of science teaching. Not for students who have credit for Ed. 318, Ed. 328, or equivalent. Otherwise required for persons who wish to be certified to teach sciences. Lectures, discussions, and role experience.

ED. 536. Secondary School Problems and Methods

Objectives of secondary school education; basic principles of learning and motivation; curriculum concepts; organizing learning experiences; providing for individual differences; teacher-pupil planning; selecting and organizing learning materials; audio-visual aids to learning; utilizing school, civic, and community resources; status and practice of the core-curriculum; nature and purposes of resource units; evaluating pupil growth.

ED. 537. Evaluation in the Secondary School

Relationship of evaluation to instructional objectives; selecting, administering, scoring, recording and interpreting standardized and teacher-made instruments for evaluating mental abilities, educational achievements, personality characteristics, interests and attitudes; diagnosis, guidance counseling and improving instruction; organizing programs to provide for individual differences; modern practices in recording pupil progress; statistical concepts and methods of collecting, tabulating, and interpreting data.

ED. 539. Workshop in Teaching Spanish in the Elementary Grades

Spanish conversation; Spanish civilization; observation and participation in a Spanish demonstration class in the Campus School; evaluation of text materials and other teaching aids.

ED. 540. Studies in Human Growth and Development

Research in child and adolescent growth; changing concepts in mental, emotional, social, and personality growth; planning, executing and evaluating "action research."

ED. 541. Social Foundations of Education

Relationships of school to society; contemporary social problems affecting education, social groups and institutions; school and community relations; nations; national, state and community organizations affecting educational programs and the development of social understandings in pupils.

ED. 542. Seminar in Secondary School Curriculum

Curricular and extra-curricular programs related to social, economic, and community changes; relationship of principles and procedures of curriculum development to educational objectives; relationship of extra-curricular activities to curriculum areas; adaptation of the curriculum to adolescent abilities, needs, and interests; various patterns of curriculum development; financing, organizing, scheduling, and supervising extra-curricular activities; bases for determining extent and type of student participation in school management.

ED. 545. Teaching Reading in the Secondary School

Need of reading instruction in secondary school; nature of reading process; types of reading programs; reading instruction; planning an effective Secondary Reading Program.

ED. 547. Core Programs in the Early Secondary School

Nature of block-of-time and core programs,

teacher-pupil planning, preparation of resource units, guidance and evaluation procedures.

ED. 548. Workshop in Teaching French in the Elementary Grades

French conversation; observation and participation in a French demonstration class in the Campus School; evaluation of text materials and other teaching aids.

ED. 552. Legal Problems of Education

Foundations of Public School Law; legal problems arising out of the operation of the public school system; New York State Education Law; selected cases from state and federal courts; common law principles.

ED. 556. Group Dynamics in Education

Theory and practice of group procedures in the school; development of understandings, skills and attitudes conducive to successful group leadership and participation; group study and evaluation; the school group in its sociological, psychological and philosophical setting. Laboratory experience.

ED. 557. Teaching Mathematics in the Junior High School

Methods and materials relating to selected topics in the field of early secondary mathematics; analysis and evaluation of research and experimental materials; individual study of a problem and written report of findings; committee study and reports on problems.

ED. 558. Seminar in Teaching the Disadvantaged Child

Study, analysis and evaluation of classroom procedures relevant to the disadvantaged child. The purpose of the course will be to afford participants to re-think and reconstruct the educational program in his classroom in relationship to research, methods and materials, and characteristics of the child. Major topics to be considered are: self-concept, learning and the disadvantaged, curriculum materials, role of parents, community agencies, research findings related to the disadvantaged.

ED. 590. Special Project

Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

ED. 595. Research Methods and Techniques

The scientific method, including various methods of research; an analysis of different types of research studies; procedures in developing a research paper; elementary statistical terminology; collecting, classifying, and evaluating data. Required of candidates for master of science degree not writing a thesis or completing a research project.

ED. 601. Seminar in Elementary Education

The use of scientific educational research methods in studying problems in Elementary Education; the selection and discussion of current educational problems; the selection and development of a significant problem in student's area of interest and submission of a research paper. Required of Elementary Education candidates for the master of science degree. *Prerequisite:* Ed. 595.

ED. 603. Organization of the Elementary School

Major concepts in Elementary Education; administration of the elementary school; the curriculum; grouping of students; the school plant; trends in school building design; co-curricular activities; pupil safety measures. Required for principal's provisional and permanent certification. *Prerequisites:* Elementary Provisional or Permanent Certification and two years of successful elementary school experience.

ED. 604. Administration of the Elementary School

New York State educational system; legal aspects; school board, educational finance; responsibilities of the principal; business management, school plant management; pupil maintenance; pupil transportation; pupil accounting; pupil counseling; teacher recruitment, selection, employment, assignment, orientation, evaluation, tenure and dismissal. Required for principal's provisional and permanent certification. *Prerequisites:* Elementary Provisional or Permanent Certi-

fication and two years of successful elementary school experience.

ED. 605. Evaluation in the Elementary School

Evaluating growth of pupils; evaluation related to teaching objectives; informal, objective, and essay type tests; selection, administration and scoring of measuring instruments; study and use of different kinds of evaluation procedures; statistical methods in handling and interpreting data. *Prerequisite:* Ed. 411.

ED. 606. Philosophy of Education

Principles underlying educational practices; changing concepts of education; education in a democratic society; teaching procedures as determined by a democratic concept of education. *Prerequisite:* Ed. 410.

ED. 607. General School Administration

Principles of school administration; historical beginnings; national, state, and local responsibilities for education; district, township, and county administrative units; boards of education; school services: health, supervision, research, library, and attendance; teacher selection, salary, tenure, in-service education; school building programs. *Prerequisites:* Ed. 603, 604.

ED. 614. The Teaching of Reading

Importance of reading in present day society, research in child development and learning and its implication in the teaching of reading; trends in the teaching of reading; developmental levels of reading; reading in the content areas; methods and materials; evaluation and guidance of pupil growth in reading. *Prerequisite:* Ed. 414.

ED. 615. Workshop in Elementary School Administration

Selection, induction and guidance of new teachers; development of school-community relations; curriculum improvement; adjustment of school facilities to increasing enrollments; in-service education of staff personnel; elementary school problems suggested by the group. *Prerequisites:* Ed. 603, 604.

ED. 620. Teaching the Language Arts in the Elementary School

Factors that influence language growth; interrelationship of the language arts skills of spelling, reading, speaking, writing, handwriting, listening; factors affecting creative writing, creative dramatics, choral speaking, and leisure reading; recent research in the areas of the language arts; developmental language arts program. *Prerequisite:* Ed. 420.

ED. 621. The Elementary School Curriculum

Review of child nature, learning processes, purposes of the elementary school; conflicting philosophies and principles of curriculum development; types of curriculum organization; transitional steps; methods and materials; creative activities; mental health; community resources; individual differences.

ED. 630. Principles of Supervision

Historical developments and changing concepts of supervision; principles of effective supervisory programs; types of administrative organization; maintaining staff morale. *Prerequisites:* Elementary Provisional or Permanent Certification and two years of successful elementary school experience.

ED. 631. Supervision of Teaching

Principles of supervision; classroom observation; evaluating teaching; effect of teachers' purposes and research on choice of subject matter and teaching procedures; teacher-pupil relationships; group and individual conferences; induction of new teachers; intervisitation; demonstration teaching; teachers' meetings; bulletins; workshops; evaluation of program. *Prerequisites:* Ed. 630; Elementary Provisional or Permanent Certification and two years of successful elementary school experience.

ED. 651. Problems in Elementary School Supervision

Advanced study of special problems of supervision; the roles of the teacher and supervisor in the total school program; human relations; group dynamics; creative teaching; in-service education; teacher selec-

tion and evaluation; self-evaluation by teachers; educational leadership; role of special teachers. Required for permanent certificate in Elementary School supervision. *Prerequisites:* Ed. 630, 631.

ED. 690. Project

A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Office.

ED. 695. Thesis

An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Office.

ED. 701. Fundamentals of Administration

Principles and theories which influence decision-making processes in education; implications of philosophical, psychological, sociological, scientific and technological factors; the study and application of research in group organization, leadership, communication and related concepts of power and authority. *Prerequisite:* Thirty hours of approved graduate studies, to be reviewed by Committee.

ED. 702. Fundamentals of Administration II

The school in its societal setting; principles of school organization and resulting patterns at national, state and local levels; the bases of curriculum development and supportive administrative/supervisory functions; analysis of legal structures; problems of community relationships; aspects of staff recruitment, orientation, evaluation and negotiations. *Prerequisite:* Ed. 701.

ED. 703. Internship in Administration (Principal)

Full time experience in administration (curriculum-principal); planning and directing appropriate educational experiences under guidance and supervision of experienced administrator; seminar to run concurrently. *Prerequisite:* Ed. 701.

ED. 704. Internship Seminar

Problems of beginning administrators and supervisors; crucial issues in elementary education; function of theory and philosophy in problem solving and decision making. *Prerequisite:* Ed. 701 and approval of instructor.



**ED. 705. Internship in Supervision
(Curriculum)**

Full time experience in supervision (curriculum); planning and directing appropriate educational experiences under guidance of experienced supervisor; seminar to run concurrently. *Prerequisite:* Ed. 701.



**EXCEPTIONAL CHILDREN EDUCATION
MENTAL RETARDATION**

*Credit
Hours*
12-18

Required Courses

By advisement from the following:

- *Ex.Ed. 403 Mental and Educational Measurements
- *Ex.Ed. 404 Curriculum Practices for Children with Mental Retardation
- *Ex.Ed. 408 Creative Arts for Mentally Retarded
- *Ex.Ed. 413 Nature and Needs of Exceptional Children
- *Ex.Ed. 418 Practicum in Mental Retardation
- Ex.Ed. 419 Teaching the Severely Retarded (Trainable)
- Ex.Ed. 420 Speech Problems of Children
- Ex.Ed. 500 The Trainable Mentally Retarded: Trends, Problems and Issues
- Ex.Ed. 501 Psychological and Social Aspects of Mental Retardation
- Ex.Ed. 502 Administration and Supervision of Programs for Exceptional Children
- Ex.Ed. 503 Internship Program in Mental Retardation
- Ex.Ed. 504 Seminar in Mental Retardation

*These courses meet New York State certification requirements. Students seeking certification should consult with the Division Director before first registration.

Ex.Ed. 506	Supervision of Student Teachers in Mental Retardation
Ex.Ed. 507	Secondary Work-Study Programs for the Mentally Retarded
Ex.Ed. 508	Understanding the Problem Child in the Classroom
Ex.Ed. 509	The Gifted Child
Ex.Ed. 527	Guidance of Children who are Exceptional
Ex.Ed. 590	Special Project
Ex.Ed. 621	Communication Problems of the Mentally Retarded

Required Courses in Arts and Sciences	3-9
Chosen by advisement from Art, English, Geography, Mathematics, Music, Philosophy, Science and Social Sciences.	

Research	3-6
Ed. 595 Research Methods and Techniques	3
Ex.Ed. 690 Project	4
Ex.Ed. 695 Master's Thesis	6
(Each candidate, after conference with his adviser, must select <i>one</i> of the above requirements.)	

Unrestricted Electives	3-12
<i>Total Requirements</i>	30

PHYSICAL HANDICAP

Required Courses	Credit Hours	12
By advisement from the following:		
Ex.Ed. 403	Mental and Educational Measurement	
*Ex.Ed. 413	Nature and Needs of Exceptional Children	
*Ex.Ed. 417	Curriculum Practices for Children with Orthopedic Handicap	
Ex.Ed. 420	Speech Problems of Children	
*Ex.Ed. 421	Practicum in Teaching Children with Orthopedic Handicap	
Ex.Ed. 505	Survey of Specific Learning Disabilities	
Ex.Ed. 508	Understanding the Problem Child in the Classroom	
Ex.Ed. 509	The Gifted Child	
*Ex.Ed. 527	Guidance of Children Who Are Exceptional	
Ex.Ed. 590	Special Project	

*These courses meet New York State certification requirements. Students seeking certification should consult with the Division Director before first registration.

Required Courses in Arts and Sciences	9
Chosen by advisement from Art, English, Geography, Mathematics, Music, Philosophy, Science and Social Sciences.	

Research		3-6
Ed. 595	Research Methods and Techniques	3
Ex.Ed. 690	Project	4
Ex.Ed. 695	Master's Thesis	6
(Each candidate, after conference with his adviser, must select <i>one</i> of the above requirements.)		

Unrestricted Electives	3-6
<i>Total Requirements</i>	30

COMMUNICATION DISORDERS

Required Courses	15-18
-------------------------	-------

By advisement from the following:		
Ex.Ed. 412	Audiometry and Hearing Aids	
Ex.Ed. 415	Speech Reading and Auditory Training	
Ex.Ed. 416	Stuttering	
Ex.Ed. 524	Seminar in Audiology	
Ex.Ed. 559	Seminar in Stuttering: Theory and Research	
Ex.Ed. 590	Special Project	
Ex.Ed. 609	Seminar in Voice and Articulation	
Ex.Ed. 612	Neuropathologies of Speech	
Ex.Ed. 616	Diagnostic Principles and Procedures	
Ex.Ed. 617	Seminar in Cleft Palate	
Ex.Ed. 621	Communication Problems of the Retarded	

Research	3-6
Ed. 595 Research Methods and Techniques	3
Ex.Ed. 690 Project	4
Ex.Ed. 695 Master's Thesis	6

Electives from other areas by advisement	6-12
<i>Total Requirements</i>	30

NOTE: Students with undergraduates degrees in arts and sciences or education may schedule a full thirty hour program in communication disorders (including the research requirement), providing minimal departmental undergraduate prerequisites have been satisfied.

- EX.ED. 403. **Mental and Educational Measurement (g)**
- EX.ED. 404. **Curriculum Practices for Children With Mental Retardation (g)**
- EX.ED. 408. **Creative Arts for Mentally Retarded (g)**
- EX.ED. 412. **Audiometry and Hearing Aids (g)**
- EX.ED. 413. **Nature and Needs of Exceptional Children (g)**
- EX.ED. 414. **Introduction to Audiology (g)**
- EX.ED. 415. **Speech Reading and Auditory Training (g)**
- EX.ED. 416. **Seminar in Stuttering (g)**
- EX.ED. 417. **Curriculum Practices for Children With Orthopedic Handicap (g)**
- EX.ED. 418. **Practicum in Mental Retardation (g)**
- EX.ED. 419. **Teaching the Severely Retarded (Trainable) (g)**
- EX.ED. 420. **Speech Problems of Children (g)**
- EX.ED. 421. **Practicum in Teaching Children with Orthopedic Handicap (g)**
- EX.ED. 430. **Practicum in Learning and Behavioral Disorders (g)**
- EX.ED. 500. **The Trainable Mentally Retarded: Trends, Problems and Issues**
An exploration of major problems, trends, and issues related to providing effective programs for the trainable mentally retarded. Changing attitudes in educational, vocational, institutional, and community planning for the trainable retarded will be studied. *Prerequisite:* Ex. Ed. 419.
- EX.ED. 501. **Psychological and Social Aspects of Mental Retardation**
A study of nature, etiology, diagnosis, classification and social implications of the condition of mental retardation to the individual, family and community. *Prerequisite:* Ex. Ed. 413.
- EX.ED. 502. **Administration and Supervision of Programs for Exceptional Children**
A study of those aspects of educational leadership necessary to formulate, organize, implement and evaluate quality public school programs and services for exceptional children. *Prerequisite:* Ex. Ed. 404 or Certification to teach the mentally retarded.

- EX.ED. 503. **Internship Program in Mental Retardation**
An opportunity to apply the theories and principles learned in cognitive courses to actual practices in administrative, diagnostic, supervisory, recreational and community service roles in programs for the retarded. *Prerequisite:* Full time graduate student in Mental Retardation.
- EX.ED. 504. **Seminar in Mental Retardation**
A study of current interests, problems, issues, practices, research, theories, methodologies and program innovation and change related to the condition of mental retardation. *Prerequisite:* Full-time graduate students majoring in mental retardation. The Seminar is required for all such students.
- EX.ED. 505. **Survey of Specific Learning Disabilities**
Survey of specific learning disabilities found in elementary school children and problems related thereto; methods of identifying and assessing the problem; theoretical bases of remediation and major educational techniques.
- EX.ED. 506. **Supervision of Student Teachers in Mental Retardation**
Clarifying responsibilities of sponsor teachers; techniques of evaluation and conferring with students; determining content of student teaching experience; ways of helping students become effective teachers of the retarded. *Prerequisite:* A fully certificated teacher of the mentally retarded with a minimum of two years of successful teaching experience.
- EX.ED. 507. **Secondary Work-Study Programs for the Mentally Retarded**
A study of basic knowledge, skills and attitudes necessary for planning, implementing and coordinating work-study programs for the retarded in the secondary school. *Prerequisite:* Ex. Ed. 404.
- EX.ED. 508. **Understanding the Problem Child in the Classroom**
Personal and social factors as related to the problem child; case study of an individual pupil and group discussion of report. Enrollment limited to fifteen. Open to graduate students in any division.

- EX.ED. 509. **The Gifted Child**
Study of the nature and needs of children who are gifted; examination of such provisions as acceleration, partial-segregation, enrichment, special classes; criteria for identifying; implications for classroom teacher.
- EX.ED. 510. **Expanding Self Awareness for Effective Teaching**
Expanding Self Awareness for Effective Teaching is a group experience structured around a variety of self confrontation experiments which facilitate self awareness as it relates to teacher behavior in the classroom.
- EX.ED. 524. **Seminar in Audiology**
Review of research and current clinical advances in Audiology. Emphasis will be given to recent areas of measurement and the relationship to diagnostic considerations. Observation and participation in advanced testing diagnostic appraisals. *Prerequisite:* Ex. Ed. 412 or equivalent.
- EX.ED. 527. **Guidance of Children Who Are Exceptional**
Education, social and vocational guidance of children who are exceptional because of intelligence, physical development, behavior, speech and hearing.
- EX.ED. 559. **Seminar in Stuttering: Theory and Research**
Review of major etiological theories of stuttering and investigations pertaining to these constructs. A review of current research related to the remediation of stuttering behavior will also be undertaken.
- EX.ED. 590. **Special Project**
Research or investigation of a particular problem to be planned and carried out by student, with consultation and guidance from instructor.
- EX.ED. 604. **Workshop in Curriculum for Cerebral Palsied Children**
Structured to encourage formulation of realistic curriculum for slow-learning cerebral palsied children in the elementary school grade range. Participants will be required to originate curricular proposals, working under guidance provided by workshop specialists. *Prerequisite:* Ex. Ed. 407 or equivalent.

- EX.ED. 609. **Advanced Seminar in Voice and Articulation Problems**
Etiology and treatment of more severe voice problems, severe articulation problems, and esophageal speech. Investigation of current research.
- EX.ED. 612. **Neuropathologies of Speech**
Study of neuropathologies related to adult aphasia, cerebral palsy and related motor speech disorders; and brain damage in childhood. Emphasis on diagnostics and therapeutic methods.
- EX.ED. 616. **Diagnostic Principles and Procedures in Speech Pathology**
Investigation and assessment of diagnostic speech and language tests with emphasis on the more recently developed. Experience in their application in the clinical evaluation of speech problems.
- EX.ED. 617. **Seminar in Cleft Palate**
Study of multiple problems and clinical management of cleft palate persons, emphasis on diagnostic and therapeutic methods; consideration of etiologic, embryologic, morphologic, psychologic, and craniofacial growth factors.
- EX.ED. 621. **Communication Problems of the Mentally Retarded**
Designed for speech clinicians and teachers of the mentally retarded. The nature and needs and condition of retardation with special emphasis on learning, speech and language, are considered. Emphasis is given the role communication plays in the personal, social and occupational adjustment of the retarded.
- EX.ED. 690. **Project**
A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Office.
- EX.ED. 695. **Thesis**
An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Office.

APPLIED SCIENCE AND TECHNOLOGY

Applied Science and Technology includes the divisions of Home Economics Education, Industrial Arts Education and Vocational Technical Education. The programs and courses offered by each division are described under the divisional headings.

HOME ECONOMICS EDUCATION

Technical

Environmental and Consumer Studies
Human Development, Family and Community Relations
Dietetics, Food and Nutrition

Professional

Evaluation
Trends in Teaching Home Economics
Home Economics Education for Adults
Curriculum Planning in Home Economics

Required Courses in Arts and Sciences

Chosen by advisement from Art, English, Geography, Mathematics, Music, Philosophy, Science and Social Sciences.

Research

- H.Ec.Ed. 600 Seminar in Home Economics Education Research (Required)
(Each candidate, after conference with her adviser, may elect to take H.Ec.Ed. 690 or H.Ec.Ed. 695 in addition to H.Ec.Ed. 600. H.Ec.Ed. 600 may serve as a basis for these.)
- H.Ec.Ed. 690 Research Study
- H.Ec.Ed. 695 Master's Thesis

Unrestricted Electives

Total Requirements

Credit
Hours
9-12

3-6

3-6

3-6

3

3

6

3-9

30

ENVIRONMENTAL AND CONSUMER STUDIES

- E.C.S. 402. Management and Family Finance (g)
E.C.S. 420. Housing and the Community (g)
E.C.S. 425. Advanced Clothing (g)
E.C.S. 427. Draping and Flat Pattern Design (8)
E.C.S. 431. Furnishing the Home (g)
E.C.S. 437. Advanced Textiles (g)
E.C.S. 447. Clothing in Relation to Human Behavior (g)
E.C.S. 457. Fashion Merchandising (g)
E.C.S. 490. Field Experience (g)
E.C.S. 509. Textiles

A study of the current developments in the field of textiles with particular emphasis on information for the consumer with regard to the selection, utilization and care of modern textiles.

E.C.S. 510. Trends in Housing and Home Furnishings

Problems related to housing and home furnishings; planning and construction; consultants, field trips.

E.C.S. 516. Family Clothing

A study of economic, psychological, and sociological factors that affect the purchase, selection, care and construction of clothing for the family; management of time, money, and energy as they relate to family problems, development of individual studies in areas of particular interest.

E.C.S. 519. Decision Making in Management

Consideration of problems of the family in relation to the management of the home; speakers and consultants; field trips, individual problems.

E.C.S. 520. Family Financial Planning

Consideration of family financial problems; alternate choices in the light of family goals and values; examination and evaluation of available materials for use in teaching.

E.C.S. 606. Trends in Home Management

Newer developments in the field of management in the home; problems met in teaching management in secondary and adult classes; individual work on problems in accordance with student needs.

E.C.S. 608. Clothing Design

Draping and flat pattern with emphasis on couturiere techniques.

E.C.S. 612. New Developments in Household Equipment

Survey and evaluation of developments in large and small equipment used in homes and schools; field trips, laboratory and demonstrations.

E.C.S. 617. Recent Trends in Clothing

Interpretation, use and evaluation of present trends in teaching clothing construction; emphasis on techniques and the importance of management in the use of time, money, energy and equipment.

E.C.S. 627. Comparative Methods in Clothing Construction

Experimental techniques in the manipulation of fabric by considering fiber, weave, finish, hand, and design; qualitative analysis of the results, use of time and effort.

HOME ECONOMICS EDUCATION

H.EC.ED. 429. Home Economics and International Education (g)

H.EC.ED. 435. Occupational Education in Home Economics (g)

H.EC.ED. 590. Special Problem

Investigation of a particular problem to be planned and carried out by student, with consultation and guidance of (1) an instructor approved by Home Economics Graduate Committee; and/or (2) a member of the Home Economics Graduate Committee.

H.EC.ED. 600. Seminar in Home Economics Education

Recent research and problems in the field of Home Economics considered; special problems selected by students investigated according to acceptable procedures in preparing, writing a research paper.

H.EC.ED. 601. Trends in Teaching Home Economics

Problems in teaching of Home Economics based upon individual needs and interests of workshop participants. Individual conferences; group discussion; joint activities.

H.EC.ED. 602. Leadership in Home Economics Supervision

Consideration of the development of home economists for leadership positions in education and in related areas within the profession including background and principles of supervision, role of the supervisor related to leadership, human relations and evaluation.

H.EC.ED. 607. Evaluation in Home Economics Education

Techniques for identifying and appraising progress toward goals in home economics; methods of teaching appropriate to the achievements of these objectives; individual work on problems of evaluation.

H.EC.ED. 615. Home Economics Education For Adults

A study of recent developments in home-making education for adults.

HUMAN DEVELOPMENT, FAMILY AND COMMUNITY RELATIONS

H.D.F.C.R. 409. Human Development and Family Relations—The Individual and Family in Society and Culture (g)

H.D.F.C.R. 418. Parent Education (g)

H.D.F.C.R. 430. Issues of the Modern American Family (g)

H.D.F.C.R. 440. Psychopathology of Parent Child Relations (g)

H.D.F.C.R. 490. Field Experience (g)

H.D.F.C.R. 502. Personality Development in the Family

Study of personality development emphasizing the role of the family in shaping the individual from infancy through adulthood; contributions of recent research in personality, child development, family relations.

H.D.F.C.R. 503. Family Relations

Basic concept of the family; current emphasis; social trends as these influence the family; research on the family.

H.D.F.C.R. 504. Achieving Human Potentiality

A seminar designed to explore the phenomena of unfulfilled potentiality among selected families, including the disadvantaged. Methods for identification of and techniques

H.EC.ED. 621. Curriculum Planning in Home Economics

Offers an opportunity to study the planning, development and evaluation of the home economics curriculum.

H.EC.ED. 690. Research Study

An undertaking engaged in by one or more students related to the area of special interests. The study must be planned cooperatively and approved by a member of the Home Economics Graduate Committee.

H.EC.ED. 695. Thesis

Individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Office.

for working with the target groups will be assessed.

H.D.F.C.R. 530. Seminar in Intergroup Relations
A case study approach to the problems of interpersonal and intergroup conflicts geared to the teacher and community worker. Participants will be expected to contribute their own experiences and group study.

H.D.F.C.R. 611. Resources for Teaching Family Relations

Techniques and media for teaching family relationships; examination and evaluation of materials for teaching at various levels. *Prerequisite or concomitant:* functional course in family relations.

H.D.F.C.R. 630. Seminar in Social Dynamics of the Contemporary Ghetto

Comprehensive review and analysis in depth of selected aspects of the social-psychological forces operation in the contemporary ghetto and the subsequent effects upon family and other human resources.

H.D.F.C.R. 635. Seminar in Research in Human Development, Family and Community Relations

The seminar will be devoted to a review and appraisal of research in selected areas of human development, family and community relations.

DIETETICS, FOOD AND NUTRITION

D.F.N. 408. Advanced Nutrition (g)

D.F.N. 426. Food Demonstration (g)

D.F.N. 428. Meal Management (g)

D.F.N. 433. Food Management for Disadvantaged Families (g)

D.F.N. 490. Field Experience (g)

D.F.N. 604. Trends and Research in Food

Recent research and trends in food preparation and technology. Some experimental work in food preparation.

D.F.N. 605. Recent Advances in Nutrition

Review of principles of nutrition. Current trends and research in nutrition. Emphasis on application of nutrition information to specific problems of individual and society.

INDUSTRIAL ARTS EDUCATION

The fifth year program in Industrial Arts Education is designed to develop, extend and enhance the technical and professional competencies of graduate students and teachers in Industrial Arts. Completion of the program provides the Master of Science in Education degree and satisfies the requirements for permanent certification in New York State.

Courses in Technical and Related Fields

Professional Education: 12

I.A. 600 Foundations in Industrial Arts 3

I.A. 601 Research Seminar in Industrial Arts 3

I.A. 628 Curriculum Development in Industrial Arts 3

I.A. 624 Evaluation in Industrial Arts 3

Technical Education 12

Chosen by advisement from the following: I.A. 608, 612, 613, 615, 617, 618, 619, 620, 621, 623, 627, 629, 630, 590.

Note: I.A. 400g courses may be selected with the approval of the advisor or department chairman.

Free Electives 6

Total Requirements 30

Evidence of mastery in the field requires fulfillment of one of the following:

A. A thesis with six semester hours credit;

B. A master study with three hours credit;

C. Satisfactory completion of a comprehensive examination (in addition to the 30 credits required.)

I.A. 402. **Graphic Reproduction Processes (g)**

I.A. 403. **Plastics Technology (g)**

I.A. 406. **Production and Research in the Forest Products Industries (g)**

I.A. 407. **Architectural Drawing (g)**

I.A. 408. **Electronics Communication (g)**

I.A. 409. **Electronic Instrumentation (g)**

I.A. 410. **Materials and Products of the Ceramic Industry (g)**

I.A. 417. **Descriptive Geometry (g)**

I.A. 418. **Research and Experimentation in Metal Technology (g)**

I.A. 419. **Electronics Frequency Modulation (g)**

I.A. 421. **Industrial Arts for Students With Special Needs (g)**

I.A. 423. **The Industrial Arts Consultant in the Elementary School (g)**

I.A. 427. **Graphic Solutions (g)**

I.A. 513. **Industrial Ceramics**

A general review and familiarization with the total field of the ceramics industries will be developed through class discussions and manipulative experiences with each material. Persons wishing to take I.A. 613, but not able to meet the prerequisites should take this course.

I.A. 523. **Industrial Arts in the Elementary School**

Opportunities for classroom teachers to promote and develop ideas for their own situations; planning, organizing and constructing activities for the elementary school; use of a variety of materials, development of IA in the elementary school and the changing industrial and technological process and their effect upon society.

I.A. 590. **Special Project**

Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

I.A. 600. **Foundations in Industrial Arts**

European and American antecedents of Industrial Arts; social and technological factors that make the Industrial Arts a major condition of culture; psychological and philosophical basis for teaching Industrial Arts.

I.A. 601. **Research Seminar in Industrial Arts**
Discussion, research, reports on individual problems, studies of current research problems. Required of Industrial Arts students registered for the degree of Master of Science in Education. *Prerequisite:* I.A. 600.

I.A. 602. **Field Studies Related to Industrial Arts Education**

Individual and group studies of industrial activities in the Niagara Frontier; the wood-working and fabrication trades; metal industries; plastic and fibre products; graphic arts; electrical, ceramic, airplane and automotive manufacturer; conferences with representatives of industry and labor organizations.

I.A. 606. **Supervision of Industrial Arts**

Problems and techniques concerning administration and supervision of elementary, secondary, and adult programs in industrial arts education at the federal, state, and local levels.

I.A. 607. **Industrial Arts Facility Planning and Management**

Problems involved in planning new industrial arts facilities or the remodeling of existing laboratories; concepts in relationship of objectives to facilities, space allocation, area development and organization, service requirement, criteria for selection and placement of equipment, analyzing available equipment and writing specifications, actual experience in evaluating an existing Industrial Arts laboratory and in proposing improvements.

I.A. 608. **Metallic Fusion and Joining Technology**

An intensive course for students interested in the improvement of technical skills in welding, using the latest equipment and knowledge. Use of both gas and electric welding equipment required. Study of the latest research into welding applications in industry will be made.

I.A. 609. **History of Industrial Arts**

European antecedents; attempts to introduce technical instruction into American education; Russian Manual Training; Swedish Sloyd System of instruction; the Arts and Crafts Movement; the Manual Arts movement; growth of the vocational concept in

America; Industrial Arts as pre-vocational training; the social-economic concept for Industrial Arts; Industrial Arts as the study of industry; Industrial Arts as the study of technology.

I.A. 612. **Plastics in the Building and Aeronautical Industries**

Study of polymer materials used in the field of home construction and aeronautical industry; machining, forming and testing of materials; materials and equipment selection for organizing in high school plastics course; research techniques applicable to the field of thermosets. *Prerequisite:* I.A. 303 or I.A. 404 or equivalent background in plastics technology.

I.A. 613. **Ceramic Technology**

A detailed investigation of industrial ceramics with emphasis on recent developments; evaluation of materials for product application and laboratory application; emphasis on industrial processes and product evaluation.

I.A. 615. **Power Technology**

Principles of operation, design, function of power systems employing various types of engines; mechanisms involved in the development, transmission and control of power with emphasis on dynamic analysis of specific units and their application.

I.A. 617. **Electronics**

Electronics in the junior and senior high school Industrial Arts program; advanced electronic theory and practice in communications; development of instructional materials, demonstration equipment, projects, and visual aids.

I.A. 618. **Electronics**

Advanced study in circuit analysis of instruments; familiarization with electronic instruments, their operation, and application.

I.A. 619. **New Techniques and Materials in Woodworking**

Consideration given to design, application, and use of power equipment; preparation and treatment of wood; exploration of adhesives, abrasives, and finishes; experiences in lamination and patternmaking; introduction to house construction; application of new techniques and materials in wood to our culture.

I.A. 620. **The Forest Products Industry**

Processes and procedures involved in the derivation of chemicals, solvents, human consumption goods and other by-products from the tree; research and experimentation to interpret industrial processes; application of bending, laminating, veneering, inlaying and production techniques; development of teaching materials to improve classroom presentations.

I.A. 621. **New Methods and Techniques in Metal Technology**

Primarily a research seminar involving investigation of recent and current experimental developments in metalworking knowledge; securing of data from primary sources, abstracts, and actual contact with the developing laboratories or industries; laboratory facilities available for original development or experimentation on part of the student.

I.A. 623. **Industrial Arts for the Elementary School**

Understanding the role of the industrial arts consultant; gain increased proficiency in teaching children to work with tools and materials; child nature and growth, his potency of experience; understanding the relationships of industrial arts to the elementary school; develop the ability to administer a program of elementary industrial arts.

I.A. 624. **Evaluation in Industrial Arts**

General principles of evaluation; construction and use of objective tests, informal devices and techniques of evaluation applicable to Industrial Arts; selection, construction, and use of appropriate instruments of evaluation; observation, rating scales, anecdotal records, personnel systems, and the Industrial Arts project; interpreting, recording and using the results of evaluation for the improvement of instruction. *Prerequisite:* I.A. 601, I.A. 628.

I.A. 627. **Television Technology**

Circuit analysis of television; use of specialized laboratory equipment.

I.A. 628. **Curriculum Development in Industrial Arts**

Philosophical foundation of Industrial Arts; current social, economic, and technological

conditions; curriculum patterns and curriculum controls; course of study construction; approaches to teaching; programs, structure and evaluation. *Prerequisite:* I.A. 600.

I.A. 629. Drafting — Problems and Techniques
Technical proficiency in specific areas of drafting; the program of drafting in the junior and senior high schools; governmental and industrial drafting standard; conventional and simplified drafting practices; evaluation of pupil progress in technical drawing.

I.A. 630. Graphic Arts
Updating content and methodology of graphic arts education as an area of industrial arts; activities and presentations emphasizing innovations brought about by recent developments in industry; instruction in techniques of copy preparation for reproduction, general, technical and graphic arts photography, current methods of stripping

and platemaking, principles of offset lithographic presswork for junior and senior high industrial arts.

I.A. 635. Supervision of Industrial Arts Student Teachers

Intensive study of the professional role of the public school teacher who supervises industrial arts student teachers; provides opportunity to develop video tapes, type scripts and other related supervisory instruments; students will develop specific supervisory skills as appropriate to the supervision of student teachers. *Prerequisites:* 15 semester hours of graduate study and 2 years of teaching experience.

I.A. 690. Master's Study

A Study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Office. *Prerequisite:* I.A. 601, I.A. 628.

VOCATIONAL TECHNICAL EDUCATION

Courses in Area of Specialization and Related Fields

Area of Specialization Education	12
Required: V.T. 601, 602, and in addition a minimum of 8 hours in V.T. 603, 610, 615, 620, 630, 640, 645, 650, 655.	
Advanced Professional Education	6
V.T. 595 Research in Vocational Technical Education (Required)	2-4
V.T. 635, 660, 665, 670, and Educational Electives.	

Required Courses in Arts and Sciences	6
Chosen by advisement from Art, English, Geography, Mathematics, Music, Philosophy, Science, Social Sciences.	

Unrestricted Electives	6
Total Requirements	30

V.T. 590. Special Project

Research or investigation of a particular problem, to be planned and carried out by the student, with consultation and guidance from the instructor.

V.T. 595. Research in Vocational Technical Education

Problems in the reorganization of vocational technical education programs in the light of changing social and industrial conditions; community and industrial surveys, curriculum content, possibilities in part-time co-operative arrangement, apprenticeship agreements. Discussions, lectures, visits to plants and schools. An opportunity for advanced students of vocational technical education to make practical field studies under supervision. Among the fields represented will be aviation, marine engineering, automobile mechanics, building trades, metal trades, service trades, and other newer developments in specialized fields.

V.T. 601. Supervision of Vocational Education

Nature and scope of supervision; surveying, studying, analyzing needs and facilities; planning, initiating, and maintaining supervisory programs; evaluating procedures and outcomes, trends in Vocational Technical Education.

V.T. 602. Administration of Vocational Education

Nature and scope of vocational technical education; administrative responsibilities for curriculum, student selection, rating, integration with industrial, advisory boards, community relationships, and liaison with state and federal authorities.

V.T. 603. Selected Topics in the Organization, Administration and Supervision of Vocational Technical Education

Problems arising in the organization, administration, and supervision of vocational technical education.

V.T. 610. Coordination in Vocational and Practical Arts Education

The course will analyze the philosophy, organization and procedures involved in adjusting the local vocational program to the current and anticipated employment requirements for youth and adults in business and industry. Particular attention will be

given to the recent reports of the National Manpower Council, Area Redevelopment Act, Manpower Development Training Act.

V.T. 615. Supervised Professional Experiences in the Administration of Vocational Education

An opportunity for a limited number of persons to secure, under guidance, experience in administrative situations in vocational programs.

V.T. 620. Organization of Programs of Vocational Technical Education for In-School Youth, Out-of-School Youth and Adults

A study of the structure of a comprehensive program of vocational technical education with particular reference to the objectives and organization of the various types of courses and services needed in preparing for and making progress in a skilled occupation or technical field. Consideration will be given to the effect that technological developments will have on existing programs.

V.T. 630. Individualizing Instruction in Vocational Technical Education

The need for individualizing instruction in trade and technical courses and the purposes to be achieved by an individualized approach. Methods and devices for such instruction, the preparation of appropriate material, and methods for evaluating the results of individualized instruction.

V.T. 635. Curriculum Problems of Vocational Schools

A course planned to fit the needs of vocational technical education instructors in the preparation and use of curriculum material for vocational technical training.

V.T. 640. Testing and Measurement in Vocational Technical Education

A study of the elements to be measured in the teaching of vocational technical subjects, together with the application of sound testing procedures to the teaching of shop subjects, technical and related technical subjects. Development of test materials to meet individual teaching situations.

V.T. 645. Current Concepts in Vocational Education

A problems course dealing with basic is-

sues in vocational technical education; studies relating to need, purpose, financial support and evaluations of vocational technical education; duties and responsibilities of specialized personnel for teaching, supervising, and administering such programs.

V.T. 650. Organization of Vocational Technical Cooperative Programs

Provides information for industrial arts or trade teachers and department chairmen or supervisors interested in establishing industrial cooperative programs. Included are procedures for promoting a new program, working with advisory boards, developing employment opportunities, arranging training outlines, planning instructional facilities and securing Regents accreditation.

V.T. 655. Operation of Vocational Technical Cooperative Programs

A course for those interested in conducting effective instruction in an industrial cooperative program, including how to interview employers, supervise trainees, interpret legal aspects, prepare records and reports, and conduct classes in related theory.

V.T. 660. Vocational Curriculum Laboratory

A laboratory course in which experienced teachers may identify and develop curriculum materials for various levels and types of vocational technical education programs. Projects may be undertaken in trade, technical, occupational extension or apprentice education. Syllabi, content outlines, basic curriculums, instructional and teacher education materials will be developed. Special attention will be given to those who wish guidance in the solution of vocational curriculum problems for their communities.

Participants will be required to submit a preliminary plan of the curriculum problem for approval in advance and carry it through to completion in the course. The major portion of the instruction will be on an individual basis. Enrollment by permission only.

V.T. 665. Seminar in Vocational Technical Education

Discussions and reports on selected major aspects of vocational technical education including relation of vocational technical education to education in general, need for and purposes of vocational technical education, types, levels and trends, evaluation,

the vocational technical teacher as a guide in the learning process, and unique functions of vocational technical teachers.

V.T. 670. Advanced Seminar in the Administration of Vocational Technical Education

Opportunities, duties and responsibilities of administrators of vocational technical programs. For persons preparing for positions as supervisors and directors of various phases of vocational technical education.

SAFETY AND DRIVER EDUCATION

S.ED. 416. Safety Education (g)

S.ED. 417. Driver Education and Traffic Safety (g)

S.ED. 426. Driver Education and Traffic Safety (g)

S.ED. 430. Fundamentals of Industrial Accident Prevention (g)

S.ED. 564. Advanced Driver Education and Safety

Course designed to fit the needs of Teachers of Driver Education courses now in practice in the secondary schools. Evaluation of Audio-Visual Aids, survey and evaluation of research studies in driver education, practice driving analysis, analysis and evaluation of diagnostic tests. Evaluation of techniques for improving practice driving instruction and project development. Teachers should have one year of teaching driving education on the secondary level before registering. *Prerequisite:* S.ED. 417.

S.ED. 565. Trends and Problems in Driver and Traffic Safety Education

Teaching, administration and supervision of driver education and traffic safety programs; methods and materials, resource people and agencies; critical analysis of existing procedures; discussion of problems; research findings; field trips and lectures by leaders in related specialized areas. *Prerequisite:* S.ED. 417 (when S.ED. 417 was completed after Sept. 1, 1966, then S.ED. 426 would also apply). *Special Note:* Required to obtain permanent approval as a Driver Education Instructor.

INTERDEPARTMENTAL

I.D. 424. Peoples and Institutions of India (g)

SIGNIFICANT DATES IN THE HISTORY OF THE COLLEGE

- 1867 Legislature created the Normal School at Buffalo
- 1871 Henry B. Buckham appointed Principal, school opened with three departments, Normal, Collegiate, Scientific
- 1873 First graduating class — 23 graduates
- 1886 James M. Cassety appointed Principal
- 1895 Three-year "Primary and Kindergarten Course" initiated
- 1906 Manual Arts department established
- 1909 Daniel Upton appointed Principal
- 1910 Household Arts Department established
- 1915 Edward H. Butler, Jr. succeeds Edward H. Butler as President of Local Board
- 1919 Harry W. Rockwell appointed Principal
- 1919 Home Economics Program became four-year course leading to Bachelor of Science in Home Economics
- 1920 Manual Arts Department changed to Industrial Arts Department
- 1925 Normal course became four-year program leading to Bachelor of Science in Education
- 1928 Name changed to New York State College for Teachers; Principal changed to President; accredited by American Association of Teachers Colleges
- 1930 Art Education Department established
- 1931 Moved to present campus
- 1939 Accredited by American Association of University Women
- 1944 Exceptional Children Education Division established
- 1945 Master of Science in Education Degree authorized
- 1948 State University of New York established; College accredited by Middle States Association of Colleges and Secondary Schools
- 1951 President Harry W. Rockwell retired; Dean Ralph Horn became Acting President; Harvey M. Rice appointed President
- 1958 President Harvey M. Rice resigned; Dean Ralph Horn became Acting President
- 1958 Approval of Secondary Teacher Education Curricula in Mathematics and Science
- 1959 Kate Butler Righter appointed Chairman of Local Council
- 1959 Dean Ralph Horn, Acting President, retired; Paul G. Bulger appointed President
- 1959 Name changed to State University College of Education at Buffalo
- 1961 Name changed to State University College at Buffalo

- 1962 Approval of Secondary Teacher Education Curriculum in English
- 1962 Approval of Secondary Teacher Education Curriculum in Social Studies
- 1963 Approval of Liberal Arts Degree Program
- 1963 Kate Butler Righter re-appointed Chairman of Local Council
- 1964 Approval of Secondary Teacher Education Curriculum in Foreign Language
- 1964 Approval of Vocational Technical baccalaureate curriculum
- 1966 Approval of Bachelor of Science curriculum with major in Home Economics
- 1967 President Paul G. Bulger resigned; Dr. Houston T. Robison, Vice-President for Academic Affairs became Acting President; E. K. Fretwell Jr. appointed President; Master of Arts Degree authorized with major in English and Mathematics
- 1968 Master of Arts Degree with major in History was authorized; Approval of Bachelor of Science curriculum with major in Industrial Technology
- 1969 Master of Arts Degree with major in Chemistry was authorized

ACCREDITATION AND MEMBERSHIP

State University College at Buffalo

accreditations

Board of Regents, University of the State of New York
 Middle State Association of Colleges and Secondary Schools
 National Council for Accreditation of Teacher Education

affiliations

American Association of Colleges for Teacher Education
 American Association of College Registrars and Admissions Officers
 American Association of State Colleges and Universities
 American Association of University Women
 American Council on Education
 American Library Association
 Association for General and Liberal Studies
 Association for Higher Education
 Association of College Unions
 Great Lakes Historical Society
 National Association of College and University Summer Session
 National Association of Elementary School Principals
 National Association of Secondary School Principals
 National Association of Student Personnel Administrators
 New York State Historical Association

STATE UNIVERSITY OF NEW YORK

The State University of New York, established by the State Legislature in 1948, comprises 70 colleges and centers. At present, 63 conduct classes: four University Centers, two Medical Centers, 11 Colleges of Arts and Science, two Specialized Colleges, six two-year Agricultural and Technical Colleges, five Statutory Colleges, and 33 locally-sponsored, two-year Community Colleges.

Three Colleges of Arts and Science are in varying stages of development. Two four-year campuses, in Westchester County at Purchase and in Nassau County at Old Westbury are under construction. Old Westbury admitted a limited number of students in September, 1968, in temporary quarters at Oyster Bay, Long Island. The third campus will be upper-divisional (junior-senior years) in concept and located in the Utica-Rome-Herkimer area. Master's level programs will be offered at all three campuses.

The University's Trustees also have approved the establishment of five additional Community Colleges. In varying stages of development, they are sponsored by Clinton, Columbia-Greene, and Schenectady Counties and two by New York City's Board of Higher Education.

The University further comprises the Ranger School, a division of the College of Forestry, which offers a 43-week technical forestry program at Wanakena; the Center for International Studies and World Affairs at Albany; and four Urban Centers administered by Community Colleges.

University-wide research programs include the Atmospheric Sciences Research Center with campus headquarters at Albany, the Institute for Theoretical Physics and the Marine Sciences Research Center at Stony Brook, and the Water Resources and Polymer Research Centers at the College of Forestry. Two research facilities headquartered at State University of New York at Buffalo are the Western New York Nuclear Research Center and the Center for Immunology.

Graduate study of the doctoral level is offered by State University at 12 of its campuses, and graduate work at the master's level at 22. The University is continuing to broaden and expand over-all opportunities for advance degree study.

Graduate study areas embrace a wide spectrum including agriculture, business administration, criminal justice, dentistry, education, engineering, forestry, law, liberal arts and science, library science, medicine, nursing, pharmacy, social work, and veterinary medicine.

Four-year programs strongly emphasize the liberal arts and science and also include specializations in teacher education, business, radio and television, forestry, maritime service, ceramics, pre-law, and the fine and performing arts.

Two-year programs include nursing and liberal arts transfer programs and a wide variety of technical curriculums such as agriculture, business, and the industrial and medical technologies.

The University's Urban Centers provide training for skilled and semi-skilled occupations and college foundation courses for youths in the inner city areas.

Governed by a Board of Trustees appointed by the Governor, State University of New York comprises all State-supported institutions of higher education, with the exception of the senior colleges of City University of New York. Each college and center of State University is locally administered. Although separated geographically, all are united in the purpose of improving and extending numerous opportunities to the youth of New York State.

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

STATE UNIVERSITY OF NEW YORK

Board of Trustees

Mrs. Maurice T. Moore, B.A., LL.D., L.H.D., <i>Chairman</i>	New York City
James J. Warren, L.H.D., <i>Vice Chairman</i>	Albany
Warren W. Clute, Jr.	Watkins Glen
Charles R. Diebold, LL.B.	Buffalo
Manly Fleischmann, A.B., LL.B.	Buffalo
George L. Hinman, A.B., LL.B., L.H.D., LL.D., L.C.D.	Binghamton
John L. S. Holloman, Jr., B.S., M.D.	New York City
Morris Iushewitz	New York City
Hugh R. Jones, A.B., LL.B.	Utica
Clifton W. Phalen, B.S., LL.D., L.H.D.	New York City
Mrs. Bronson A. Quackenbush, A.B.	Herkimer
John A. Roosevelt, A.B.	Hyde Park
Oren Root, A.B., LL.B., LL.D.	New York City
Roger J. Sinnott, B.S.	Utica
Don J. Wickham, B.S.	Hector

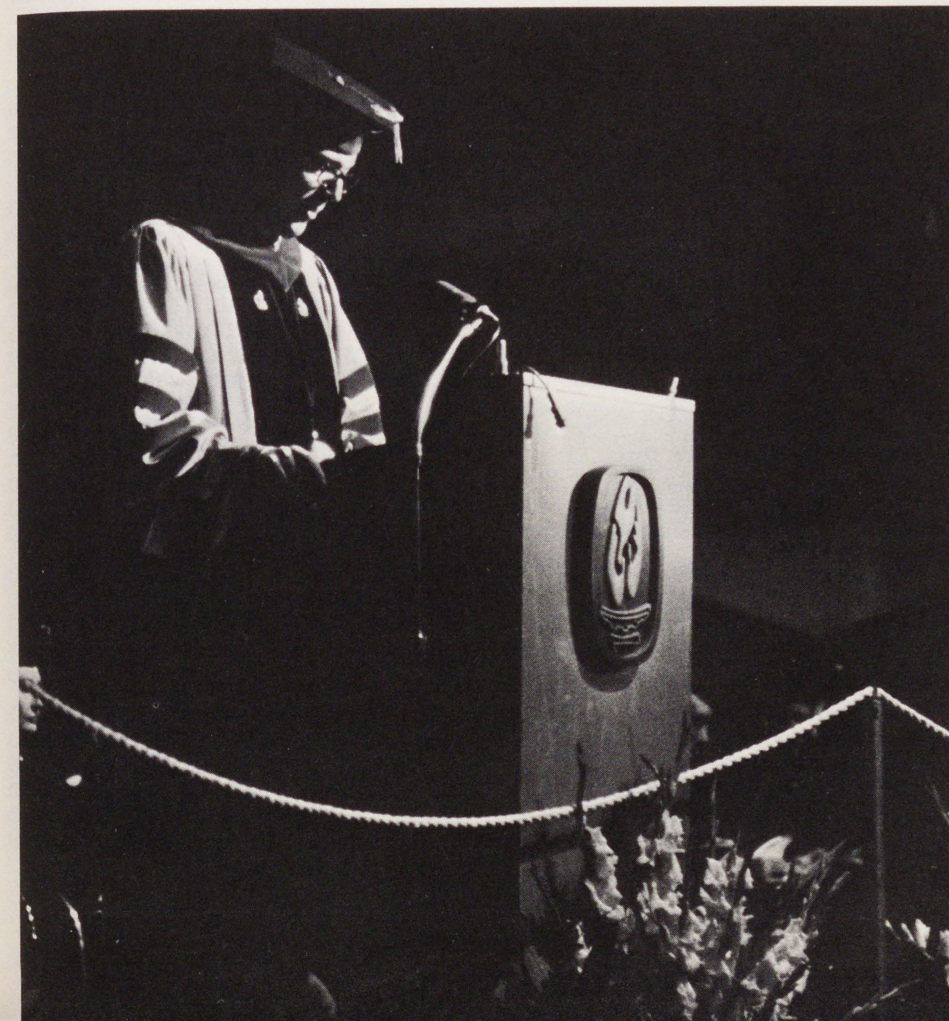
<i>Chancellor of the University</i>	Samuel B. Gould, A.B., M.A., LL.D.
<i>Vice Chancellor of the University</i>	Ernest L. Boyer, A.B., M.A., Ph.D.
<i>Provost</i>	Harry W. Porter, A.B., M.S., Ph.D.
<i>Vice Chancellor for University Colleges</i>	James A. Frost, A.B., M.A., Ph.D.
<i>Vice Chancellor for Administration</i>	J. Lawrence Murray
<i>Secretary of the University</i>	Martha J. Downey, B.S., M.A.

THE COLLEGE

Local Council

Mrs. James H. Righter, <i>Chairman</i>	
Charles G. Blaine	
Mrs. John R. Campbell	
Paul P. Cohen	
Peter Corson	
David J. Laub	
Mrs. Harlan J. Swift	
Mrs. Henry Z. Urban	
Raymond Ph. Weil	

<i>Term Expires</i>
1972
1973
1971
1967
1970
1969
1974
1968
1976



Administration

E. K. FRETWELL JR., Ph.D.	President
CARLTON E. BAUER, Ph.D.	Acting Vice-President for Academic Affairs
SIGMUND A. SMITH, Ed.D.	Vice-President for Administration
CHARLES P. LaMORTE, Ed.D.	Vice-President for Student Affairs

President of the College	E. K. FRETWELL JR., Ph.D.
Secretarial Asst. to the President	KATHRYN S. GRAHAM

Special Asst. to the President	SILAS R. MOLYNEAUX, M.A.
Dir., Public Information	ELSIE U. KAYE, B.Lit.
Dir., Publications	JOYCE E. FINK, Ed.M.
Dir., Alumni Affairs	ROSALIE TURTON, B.S.Ed.

Asst. to the President	GLENN R. NELLIS, M.A.
------------------------	-----------------------

Vice-President, Academic Affairs (Acting)	CARLTON E. BAUER, Ph.D.
Secretary to the Vice-President, Academic Affairs	FRANCES G. RAHN
Assoc. Vice-President	ROBERT E. SHOENBERG, Ph.D.
Asst. Vice-President	
Dir., Freshman Programs	RICHARD A. MEISLER, Ph.D.

Dean, Faculty of Arts and Science (Acting)	WALTER B. GREENWOOD, Ph.D.
Chm., Biology Dept.	WILLIAM C. SCHEFLER, Ed.D.
Chm., Chemistry Dept.	JOSEPH S. ZINGARO, Ph.D.
Chm., Economics Dept. (Acting)	RUPERT J. EDERER, Ph.D.
Chm., English Dept.	
Chm., Foreign Language Dept.	ERNEST S. FALBO, Ph.D.
Chm., General Science Dept.	DARRELL D. YOUNG, Ed.D.
Chm., Geography Dept.	
Chm., Geosciences Dept.	CARL K. SEYFERT, Ph.D.
Chm., Health, Physical Education & Recreation Dept.	CHESTER L. PALMER, Ed.D.
Chm., History Dept.	WALTER M. DRZEWIENIECKI, Ph.D.
Chm., Mathematics Dept.	RUDOLPH J. CHERKAUER, Ed.D.
Chm., Music Dept.	PETER B. YATES, B.A.
Chm., Philosophy Dept.	NICHOLAS G. FOTION, Ph.D.
Chm., Physics Dept.	FRANK K. HARMAN, Ph.D.
Chm., Political Science Dept.	KEITH M. HENDERSON, D.P.A.
Chm., Psychology Dept.	IRENE M. HULICKA, Ph.D.
Chm., Speech & Theatre Arts Dept.	DONALD J. SAVAGE, Ph.D.
Chm., Sociology-Anthropology Dept.	IRVING A. FOLADARE, Ph.D.

Dean, Faculty of Applied Science and Technology	SHERMAN F. DREYER, Ed.D.
Dir., Home Economics	THERESA R. HUMPHREYVILLE, Ed.D.
Dir., Industrial Arts Education Division	ROBERT E. BUXTON, Ed.D.
Dir., Industrial Technology Division (Acting)	MYRON E. LEWIS, JR., M.S.
Dir., Vocational Technical Education Division	WILLIAM S. REYNOLDS, Ed.D.

Dean, Faculty of Professional Studies	ROBERT B. SIMPSON, Ed.D.
Associate Dean	RALPH D. SOLLARS, Ph.D.
Dir., Education Division	JOHN D. MULHERN, Ph.D.
Dir., Exceptional Children Education Division	HORACE MANN, Ed.D.
Chm., Physical Handicap Dept.	MURRAY BLOUSTEIN, Ed.D.
Chm., Mental Retardation Dept.	NORMAN J. NIESEN, Ed.D.

Chm., Communication Disorders Dept.	ROLLAND J. VanHATTUM, Ph.D.
Chm., Learning and Behavioral Disorders Dept.	BERNARD B. YORMAK, Ph.D.
Dir., Child Study Center	
Coordinator, Student Teaching	NORMAN G. WALKER, M.S.Ed.
Dir., Campus School	RICHARD J. McCOWAN, Ph.D.
Principal, Elementary Division	F. PATRICK McCABE, M.S.Ed.
Principal, Secondary Division	DAVID A. DOYLE, M.S.Ed.
Principal, Exceptional Education Division	MANON B. SMITH, M.Ed.
Dir., Teacher Corps	LEONARD J. POLESZAK, Ed.D.

Dir., Art Division	
Chm., Fine Arts Dept.	ROLAND WISE, M.A.
Chm., Design Dept.	CLEMENT T. TETKOWSKI, Ed.D.
Chm., Art Education Dept.	NORMAN F. TRUESDALE, Ed.D.

Dir., Continuing Education and Summer Session	STEVEN GITTLER, Ed.D.
Coordinator of Community Services	CHARLES E. HALL, M.S.W.

Dir., Graduate Studies	DAVID A. ROGERS, Ph.D.
------------------------	------------------------

College Librarian	L. E. PALMIERI, Ph.D.
-------------------	-----------------------

Dir., Instructional Resources	H. GENE STEFFEN, Ph.D.
Coordinator of Media-Materials Integration	MINERVA J. GOLDBERG, Ed.D.

Dir., International Education	MEHDI KIZILBASH, M.B.A.
-------------------------------	-------------------------

Dir., SEEK Program	ROBERT A. HAWKES, M.S.
--------------------	------------------------

Dir., Independent Study & Evaluation Center	MARVIN J. LaHOOD, Ph.D.
---	-------------------------

Dir., Admissions and Records	FRANCIS G. STEWART, Ph.D.
Associate Dir.	JAMES R. PILKEY, Ed.M.
Registrar	JOSEPH OLIVA, M.S.Ed.
Coordinator of Registration	NEALE W. PECK, B.A.
Admissions Counselor	ROBERT W. LASKIE, M.S.Ed.
Admissions Coord. for Advanced Credit	FRANK J. CAPOZZI, M.S.
Admissions Counselor for Advanced Credit	KENNETH W. GUBALA, M.S.Ed.
Admissions Counselor for Special Programs	HENRY D. OLSEN, M.S.Ed.
Admissions Counselor	DOROTHY E. EELLS, M.A.
Admissions Counselor	MARY E. STATT, M.Ed.
Asst. Admissions Counselor	ROBERT D. BAILEY, B.A.

Dir., Development and Cultural Affairs	EDNA M. LINDEMANN, Ed.D.
--	--------------------------

Vice-President, Administration	SIGMUND A. SMITH, Ed.D.
Assoc. Vice-President	PHILIP R. BONNER, Ed.D.

Vice-President, Student Affairs	CHARLES P. LaMORTE, Ed.D.
Assoc. Vice-President	THOMAS J. QUATROCHE, M.S.
Asst. Vice-President	ANGELA R. PALMIERI, M.A.
Assoc., Office of Student Affairs	TED YOUN, M.A.



Dir., Student Activities	
Assoc. Dir.	DANIEL R. HUNTER, JR., Ed.M.
Asst. Dir.	ANTOINETTE M. BORUCKI, B.A.
Asst. Dir.	CHARLES L. JOHNSON, B.S.
Dir., Counseling	MAZIE E. WAGNER, Ph.D.
Assoc. Dir.	STANLEY E. SHEETS, Ph.D.
Counselor	LORAINÉ M. RAPS, B.S.
Counselor	THEODORE A. CHAMP, M.S.
Dir., Housing	STEPHEN J. ADORIAN, M.A.
Asst. Dir.	JERRE R. OSSONT, M.A.
Area Coord., South Complex	THOMAS J. PEPPER, Ed.M.
Area Coord., North Complex	CAROL A. ANSTETT, Ed.M.
Residence Hall Directors	JOHN F. MATA, M.Ed.
	EVELYN F. McLEAN, B.A.
	MENA B. COHN, M.A.
	KATHRYN BERST, B.A.
	WINIFRED M. McDEVITT, B.A.
	ISABEL H. HOLLANDS, B.S.Ed.
Dir., Financial Aids	WILLIAM A. TROY, Ed.M.
Assoc. Dir.	PETER J. BAGAROZZO, Ed.M.
Assoc. Dir.	ANTHONY J. BELLIA, M.S.
Counselor	GEORGE M. BINNER, Ed.M.
Counselor	JAMES D. ROTELLA, M.S.
Counselor	SUZANNE M. SOKOLOWSKI, Ed.M.
Dir., Placement	JUNE H. TRUESDALE, B.S.Ed.
Vocational Career Counselor	ROBERT T. TYLER, Ed.M.
Dir., Student Health Center	
Coord., Student Health Center	MADELINE K. TURNER, M.A.
College Physician	WINIFRED G. MERNAN, M.D.
Nurses	LORETTA A. FAHEY, M.S.; BARBARA A. McHALE, R.N.;
	LEE CALABRESE, R.N.; BARBARA A. CHAPMAN, R.N.;
	M. K. OPERA, R.N.; ANGIE PRICE, R.N.; JOAN T. JONES,
	R.N.; JOSEPHINE TERRANOVA, R.N.; MAUREEN F.
	HOGAN, R.N.

GRADUATE FACULTY*

JOHN R. AIKEN (1964)	CARLTON E. BAUER (1956)
Professor of History	Acting Vice-President of Academic Affairs
B.A., Iowa Wesleyan College; M.A., University of Iowa; Ph.D., University of Rochester.	B.S., M.A., Ph.D., New York University.
VINCENT C. ARNONE (1963)	ALFRED W. BECKER (1963)
Associate Professor of Art Education	Professor of Foreign Language
B.S.Ed., State University College at Buffalo; M.A., Teachers College, Columbia University.	B.A., M.A., Ph.D., University of Maryland.
CHARLES R. BACHMAN (1965)	NANCY B. BELFER (1960)
Assistant Professor of English	Associate Professor of Textiles
B.A., Baylor University; Ph.D., Indiana University.	B.S.Ed., State University College at Buffalo; M.F.A., School for American Craftsmen.
OSCAR W. BAILEY (1958)	THEDA E. BENNETT (1964)
Professor of Art	Professor of Biology
B.A., Wilmington College; M.F.A., Ohio University.	B.A., Radcliffe College; M.A., Ph.D., Syracuse University.
JAGJIT S. BAKSHI (1966)	ANDREW F. BERETVAS (1968)
Professor of Mathematics	Assistant Professor of Physics
B.A., M.A., Punjab University, India; M.S., University of Maryland; Ph.D., Catholic University of America.	B.S., M.S., Ph.D., University of Chicago.
CHARLES E. BALL (1956)	JOHN A. BICE (1963)
Professor of Industrial Arts	Associate Professor of Art
B.S.Ed., State University College at Buffalo; M.A., Ed.D., New York University.	B.F.A., M.A., M.F.A., University of Colorado.
JOSEPH BARBACK (1969)	MURRAY BLOUSTEIN (1955)
Associate Professor of Mathematics	Professor of Physical Handicap and Chairman of the Department
B.A., State University of New York at Buffalo; M.S., Ph.D., Rutgers University.	B.S.S., City College of New York; M.A., Ed.D., Teachers College, Columbia University.
WILLIAM J. BARNETT (1950)	JOSEPH A. BOLINSKY (1954)
Professor of Education	Professor of Art
B.Ed., State University College at Brockport; M.Ed., University of Rochester; Ed.D., State University of New York at Buffalo.	B.S.Ed., New Jersey State Teachers College; M.A., Teachers College, Columbia University; M.F.A., State University of Iowa.
SAUL BARRON (1964)	PHILIP R. BONNER (1964)
Professor of Chemistry	Associate Vice-President for Administration
B.S., Lafayette College; M.S., Ph.D., Ohio State University.	B.S., Greenville College; M.A., Ed.D., Wayne State University.
JAMES A. BATTISTONI (1965)	SILAS L. BOYD (1943)
Associate Professor of Art Education	Professor of Music
B.S.Ed., M.S.Ed., State University College at Buffalo.	A.B., St. Olaf College; B.Mus.Ed., Northwestern University; M.A., New York University; D.Mus.Ed., Indiana University.

*As of May, 1969.

ARTHUR L. BRADFORD (1946)
Professor of English
A.B., M.S., University of Missouri; Ph.D.,
George Peabody College.

WESLEY F. BRETT (1959)
Professor of Design in Wood
B.Ed., Keene Teachers College; M.Ed.,
University of New Hampshire.

MONICA C. BRINSON (1959)
Associate Professor of Home Economics
B.S., State University College at
Plattsburgh; M.S., Purdue University.

EDMUND A. BROWN (1948)
Professor of History
B.A., Amherst College; M.A., Yale
University; Ph.D., Columbia University.

KENNETH W. BROWN (1953)
Professor of Industrial Arts
B.S., M.S., Kansas State Teachers College;
Ph.D., Ohio State University.

RICHARD C. BROWN (1952)
Professor of History
B.S., Ohio State University; M.A., Colgate
University; Ph.D., University of Wisconsin.

ERIC BRUNGER (1954)
Professor of History
B.S.Ed., State University College at
Oswego; M.S.Ed., Ph.D., Syracuse
University.

JASON W. BRUNK, JR. (1966)
Professor of Education
B.S., Loyola College; M.Ed., Johns
Hopkins University; Ed.D., University
of Maryland.

JOHN J. BRUNO (1966)
Associate Professor of Education
B.S.Ed., M.S.Ed., State University
College at Buffalo; Ed.D., State
University of New York at Buffalo.

RUTH M. BUDDENHAGEN (1945)
Professor of Home Economics
B.S.Ed., State University College at
Buffalo; M.A., Teachers College,
Columbia University.

JOSEPH H. BUNZEL (1967)
Professor of Sociology-Anthropology
J.D., University of Vienna.

ROBERT C. BURKHART (1965)
Professor of Art
B.A., Colby College; M.A., University
of Pittsburgh; Ed.D., Pennsylvania State
University.

WILLIAM E. BURNS (1966)
Professor of Industrial Arts
B.S., M.S., State University College at
Oswego; Ed.D., University of Maryland.

ANNA P. BURRELL (1948)
Professor of Education
B.S., M.S., University of Pennsylvania;
Ph.D., New York University.

ROBERT E. BUXTON (1967)
Director of Industrial Arts
B.S., M.S., Oregon State College;
Ed.D., University of Maryland.

LOUIS J. CALLAN (1946)
Professor of Industrial Arts
B.S.Ed., State University College at
Buffalo; M.A., Ph.D., Ohio State
University.

DAVID A. CAPPIELLO (1948)
Professor of Industrial Arts
B.S.Ed., State University College at
Buffalo; M.S., Cornell University; Ed.D.,
State University of New York at Buffalo.

JOSEPH A. CAPUTO (1968)
Assistant Professor of Chemistry
B.S., M.S., Seton Hall University;
Ph.D., University of Houston.

JOHN C. CARBONARA (1964)
Assistant Professor of Philosophy
B.A., M.A., Ph.D., State University
of New York at Buffalo.

HELEN L. CAWLEY (1955)
Professor of Home Economics
A.B., B.S., West Virginia University;
M.S., University of Minnesota;
Ed.D., Pennsylvania State University.

FREDA A. CHALMER (1966)
Associate Professor of Education
B.S.Ed., State University College at
Buffalo; Ed.M., Ed.D., State University
of New York at Buffalo.

RUDOLPH J. CHERKAUER (1948)
*Professor of Mathematics and Chairman
of the Department*
B.S.Ed., State University College at
Buffalo; Ed.M., Ed.D., State University
of New York at Buffalo.

FRANK CHERRY (1969)
Professor of Sociology-Anthropology
B.S., Alabama State College; M.A., Fisk
University; Ph.D., University of Chicago.

F. JUNE CLARKE (1959)
Professor of Home Economics
B.S.Ed. State University College at
Buffalo; M.S., Ed.D., Cornell University.

SIDNEY COHEN (1966)
Professor of Chemistry
B.S., Northeastern University; M.S., Tufts
University; Ph.D., University of
Colorado.

FRANK E. COLE (1969)
Adjunct Assistant Professor of Physics
B.S., LeMoyne College; Ph.D.,
Washington State University.

JUNE M. COLLINS (1968)
Professor of Sociology-Anthropology
B.S., University of Washington; M.A.,
Ph.D., University of Chicago.

ORVIS F. COLLINS (1968)
Professor of Sociology-Anthropology
M.A., Ph.D., University of Chicago.

CLARENCE A. COOK (1947)
Professor of Industrial Arts
B.S.Ed., State University College at
Buffalo; M.S., Cornell University; Ed.D.,
State University of New York at Buffalo.

ELOISE N. COURTER (1966)
Professor of English
B.A., Douglass, Rutgers State University;
M.A., Teachers College, Columbia
University; Ph.D., University of
Minnesota.

SYLVIA A. CRAGUN (1949)
Associate Professor of Home Economics
B.S.Ed., M.S.Ed., State University College
at Buffalo.

STANLEY A. CZURLES (1931)
Professor of Art
B.F.A., M.F.A., Syracuse University;
Ph.D., University of Iowa.

EUGENE L-G DAKIN (1947)
Professor of Theatre Design
B.S., Wisconsin State College; M.S.,
Professional Diploma, Teachers College,
Columbia University.

MANUEL P. DE ALMEIDA (1964)
Associate Professor of Foreign Language
M.A., Ph.D., Laval University, Canada.

RAM DESAI (1963)
Professor of Political Science-Economics
B.A., University of Bombay; M.A.,
Wayne State University; Ph.D., Michigan
State University.

STANLEY DICKSON (1956)
*Professor of Speech Pathology and
Audiology*
B.A., M.A., Brooklyn College; Ed.D.,
State University of New York at Buffalo.

RICHARD C. DIEDRICH (1964)
Associate Professor of Mathematics
B.S.Ed., State University College at
Buffalo; M.S., Ph.D., Syracuse University.

MARY K. DIENST (1965)
Associate Professor of Home Economics
B.S., Iowa State University; M.S.,
Cornell University.

WILLIAM A. DONNELLY (1964)
Professor of English
B.A., University of Notre Dame; M.A.,
Ed.D., Teachers College, Columbia
University.

THOMAS A. DONOVAN (1968)
Assistant Professor of Chemistry
B.A., Knox College; Ph.D., University
of Illinois.

EDITH F. DOUGLAS (1951)
Associate Professor of Home Economics
B.S., M.Ed., University of New
Hampshire.

KENNETH J. DOWNEY (1968)
*Associate Professor of Sociology-
Anthropology*
B.S.Ed., State University College at
Buffalo; M.A., Ph.D., University of
Illinois.

NUALA M. DRESCHER (1965)
Associate Professor of History
B.A., St. Joseph's College for Women;
M.A., Ph.D., University of Delaware.

- FRASER B. DREW (1945)
Professor of English
A.B., University of Vermont; A.M., Duke University; Ph.D., State University of New York at Buffalo.
- SHERMAN F. DREYER (1964)
Dean, Faculty of Applied Science and Technology
B.S., M.S., Stout State College; Ed.D., University of Oklahoma.
- WALTER M. DRZEWIENIECKI (1963)
Professor of History and Chairman of the Department
B.S., Wisconsin State College; M.A., Ph.D., University of Chicago.
- THEODORE E. ECKERT (1953)
Professor of Biology
B.A., State University of New York at Albany; M.S., Ph.D., Cornell University.
- DORIS K. EDDINS (1947)
Professor of Education
B.S., Bowling Green State University; A.M., University of Chicago; Ed.D., Michigan State University.
- RUPERT J. EDERER (1967)
Professor of Economics and Acting Chairman of the Department
A.B., St. Bonaventure University; M.A., Ph.D., St. Louis University.
- MOHAMED EL-BEHAIRY (1963)
Professor of Political Science-Economics
B.Com., Cairo University; M.A., University of Minnesota; Ph.D., Ohio State University.
- ELEANOR B. EVENSON (1962)
Associate Professor of Home Economics
B.S., M.A., University of Minnesota.
- ERNEST S. FALBO (1968)
Professor of Foreign Language and Chairman of the Department
A.B., Reed College; Ph.D., University of Florence, Italy.
- GERHARD J. FALK (1957)
Associate Professor of Sociology-Anthropology
B.A., Cleveland College; M.A., Western Reserve University.

- VELMA J. FEBEL (1956)
Associate Professor of Education
B.Ed., Ed.M., Ed.D., State University of New York at Buffalo.
- JOSEPH A. FEKETE (1960)
Professor of Geography
B.A., Baldwin-Wallace College; M.A., Miami University; Ph.D., University of Illinois.
- WILLIAM H. FIELD (1967)
Associate Professor of Psychology
B.A., Ph.D., State University of New York at Buffalo.
- ABEL K. FINK (1956)
Professor of Education
B.A., Brooklyn College; M.A., Ed.D., Teachers College, Columbia University.
- MARY E. FIORE (1963)
Professor of Music
A.B., University of California; M.A., San Jose State College; Ph.D., Indiana University.
- MILDRED J. FISCHLE (1965)
Professor of Education
B.S.Ed., M.S.Ed., State University College at Buffalo; Ed.D., Ball State University.
- IRVING S. FOLADARE (1958)
Professor of Anthropology-Sociology and Chairman of the Department
A.B., University of Georgia; Ph.D., Columbia University.
- JOHN FONTANA (1929)
Professor of Industrial Arts
B.S.Ed., State University College at Buffalo; M.A., New York University; Ed.D., State University of New York at Buffalo.
- NICHOLAS G. FOTION (1963)
Professor of Philosophy and Chairman of the Department
B.S., Northwestern University; M.A., State University of Iowa; Ph.D., University of North Carolina.
- BERNHARD FRANK (1965)
Associate Professor of English
B.S., City College of New York; M.A., New York University; Ph.D., University of Pittsburgh.

- E. K. FRETWELL JR. (1967)
President
A.B., Wesleyan University; M.A.T., Harvard University; Ph.D., Columbia University.
- BARBARA R. FREY (1963)
Professor of Education
B.Ed., State University College at Geneseo; M.Ed., Boston University; D.Ed., Indiana University.
- MARTIN B. FRIED (1948)
Professor of English
B.S.Ed., State University College at Buffalo; M.A., Harvard University; Ph.D., University of Chicago.
- BETTY GALLAGHER (1946)
Professor of Communication Disorders
B.S.Ed., State University College at Buffalo; M.A., University of Michigan; Ph.D., University of Wisconsin.
- HERTHA S. GANEY (1934)
Professor of English
A.B., State University of New York at Albany; A.M., Columbia University.
- ROSSMAN T. GIESE (1967)
Adjunct Professor of Physics
B.A., M.A., Ph.D., Columbia University.
- STEVEN GITTLER (1955)
Director of Continuing Education and Summer Session
B.A., Lake Forest College; M.A., Washington State University; Ed.D., State University of New York at Buffalo.
- MINERVA J. GOLDBERG (1958)
Professor of Instructional Resources and Coordinator of Media-Materials Integration
B.S.Ed., M.S.Ed., State University College at Buffalo; Ed.D., State University of New York at Buffalo.
- WILSON B. GRAGG (1949)
Professor of English
A.B., University of Illinois; A.M., Ph.D., Northwestern University.
- FRED H. GREENBERG (1964)
Associate Professor of Chemistry
A.B., Berea College; M.S., Ph.D., University of Chicago.

- WALTER B. GREENWOOD (1950)
Professor of English and Acting Dean, Faculty of Arts and Science
A.B., Transylvania College; M.A., Columbia University; Ph.D., University of Cincinnati.
- BENJAMIN F. GRONEWOLD (1947)
Professor of English
B.A., North Central College; M.A., University of Wisconsin; Ph.D., New York University.
- PAUL V. HALE (1963)
Professor of English
A.B., Canisius College; A.M., Cornell University; Ph.D., New York University.
- FRANK K. HARMAN (1955)
Professor of Physics and Chairman of the Department
B.A., B.Sc., M.Sc., Ph.D., Ohio State University.
- LYLE H. HEMINK (1962)
Professor of Education
Ed.B., State University College at Fredonia; Ed.M., Ed.D., State University of New York at Buffalo.
- DONALD A. HESS (1964)
Professor of Communication Disorders
B.S.Ed., Clairion State College; M.Ed., D.Ed., Pennsylvania State University.
- PAUL A. HILAIRE (1956)
Associate Professor of Mathematics
B.S.Ed., California State Teachers College, Pennsylvania; M.Ed., University of Pittsburgh.
- JOSEPH G. HITREC (1967)
Associate Professor of English
Diploma, B.A., M.A., Royal University, Zagreb, Yugoslavia.
- FRANK A. HOFFMAN (1966)
Associate Professor of English
A.B., A.M., Bucknell University; Ph.D., Indiana University.
- FREDERICK J. HOLLISTER (1948)
Professor of Sociology
A.B., Union College; M.A., State University of New York at Albany; Ph.D., Syracuse University.

- SAUL J. HOROWITZ (1960)
Associate Professor of Art Education
Diploma, Society of Arts and Crafts;
B.S.Ed., Wayne State University; M.F.A.,
Cranbrook Academy of Art.
- JULIUS J. HUBLER (1948)
Professor of Art
B.S., Southeast Missouri State College;
M.A., Ed.D., Columbia University.
- IRENE M. HULICKA (1967)
*Professor of Psychology and Chairman of
the Department*
B.Ed., University of Alberta, Canada;
B.A., M.A., University of Saskatchewan,
Canada; Ph.D., University of Nebraska.
- THERESA R. HUMPHREYVILLE (1968)
Director of Home Economics
B.Sc., Ohio State University; M.Sc., New
York University; Ed.D., Teachers College,
Columbia University.
- IVOR ILMET (1967)
Associate Professor of Chemistry
A.B., Ph.D., New York University.
- CLEVELAND E. JAUCH, JR. (1966)
Associate Professor of English
A.B., Princeton University; M.A.,
Columbia University; M.A., Ph.D.,
Yale University.
- LAYMAN JONES, JR. (1966)
Professor of Art
B.A., M.A., University of Tulsa; D.Ed.,
Pennsylvania State University.
- GEORGE L. KALTSOUNIS (1963)
Professor of Education
B.A., M.A., Ph.D., University of
Michigan.
- ESTELLE M. KANE (1959)
Associate Professor of Home Economics
B.S., Kent State University; M.A., State
University of Iowa.
- JAMES M. KEECH, JR. (1965)
Assistant Professor of English
A.B., University of North Carolina; M.A.,
Ph.D., Louisiana State University.
- AFTAB A. KHAN (1967)
Associate Professor of Education
B. Tchg., Muslim University, India;
M.S.Ed., University of Wisconsin;
Ed.D., University of Maryland.

- ANDREW A. KING (1968)
*Assistant Professor of Speech & Theatre
Arts*
B.A., M.A., Ph.D., University of
Minnesota.
- HENRY KLOMP (1955)
Professor of English
A.B., Calvin College; A.M., Ph.D.,
University of Michigan.
- ROBERT H. KOHLER (1966)
Professor of Physics
B.S., Ph.D., Massachusetts Institute of
Technology.
- MARVIN J. LaHOOD (1964)
Professor of Individual Study
B.S., Boston College; M.A., Ph.D.,
University of Notre Dame.
- CHARLES P. LaMORTE (1955)
Vice-President for Student Affairs
B.A., M.A., Ed.D., Columbia University.
- RICHARD H. LAMPKIN (1950)
Professor of General Science
A.B., B.Ed., M.Ed., University of
Cincinnati; Ph.D., Teachers College,
Columbia University.
- LORRAINE A. LANGE (1948)
Professor of Education
B.A., Iowa State Teachers College; M.A.,
Ph.D., Ohio State University.
- GEORGE M. LAUG (1949)
Professor of Biology
B.S., M.S., Ph.D., Syracuse University.
- CHARLES R. LEFCOURT (1964)
Associate Professor of English
B.S., M.A., New York University; Doct.,
University of Paris.
- MYRON E. LEWIS, JR. (1962)
*Acting Director of Industrial Technology
Division*
B.S., M.S., State University College at
Oswego.
- WILLIAM S. LICATA (1959)
Professor of Education
B.S.Ed., State University College at
Buffalo; M.Ed., Ed.D., State University
of New York at Buffalo.

- EDNA M. LINDEMANN (1946)
*Director of Development and Cultural
Affairs*
B.S., State University of New York at
Buffalo; M.A., Northwestern University;
Ed.D., Columbia University.
- CHEN-TUNG LIU (1969)
B.Ed., Taiwan Normal University; B.S.,
University of Oregon; Ph.D., University
of Rochester.
- HAROLD R. LOFGREN (1949)
Professor of Art
B.S., Miami University; M.A., Teachers
College, Columbia University.
- FRANKLIN C. MacKNIGHT (1961)
Professor of General Science
Ph.B., Ph.D., University of Chicago.
- HORACE MANN (1953)
*Director of Exceptional Children
Education Division*
A.B., Brooklyn College; A.M., Teachers
College, Columbia University; Ph.D.,
Pennsylvania State University.
- ANNA A. MARTORANA (1946)
Professor of Education
B.S.Ed., State University College at
Buffalo; M.A., Columbia University;
Ph.D., University of Minnesota.
- KISHIO MATOBA (1965)
Associate Professor of Art
B.S., M.S., University of Wisconsin.
- G. ALLEN McFARREN (1965)
Professor of Social Studies
B.A., Muskigum College; M.Ed., Kent
State University; Ph.D., Ohio State
University.
- ROBERT F. MEHL (1966)
Associate Professor of English
B.A., College of Wooster; M.A., Ed.D.,
State University of New York at Albany.
- DANIEL T. MELOON (1966)
Associate Professor of Chemistry
B.A., M.A., Ph.D., State University of
New York at Buffalo.

- PAUL R. MEOSKY (1967)
Professor of Industrial Arts
B.S., M.A., West Virginia University;
Ed.D., University of Maryland.
- REX MILLER (1957)
Professor of Industrial Arts
B.A., Iowa State Teachers College; M.A.,
Colorado State College; Ed.D., State
University of New York at Buffalo.
- ROBERT E. MOISAND (1960)
Associate Professor of Biology
B.S., M.S., Northern Illinois University;
Ph.D., University of Kentucky.
- MABEL D. MONTGOMERY (1958)
Professor of Mathematics
A.B., Houghton College; M.A., Ph.D.,
State University of New York at Buffalo.
- THOMAS J. MORRISEY (1967)
Professor of Industrial Arts
B.S., M.S., State University College at
Oswego; C.A.S., University of Rochester;
Ed.D., University of Missouri.
- THOMAS E. MOTT (1967)
Professor of Mathematics
A.B., Union College; A.M., University of
Pennsylvania; Ph.D., Pennsylvania State
University.
- JOHN D. MULHERN (1967)
*Professor of Education and Director of
Education Division*
A.B., Boston College; M.Ed., Massa-
chusetts State College; Ph.D., University
of Wisconsin.
- EMERSON E. NEUTHARDT (1946)
Professor of Industrial Arts
B.S., State University College at Oswego;
M.A., New York University; Ed.D., State
University of New York at Buffalo.
- NORMAN J. NIESEN (1966)
*Professor of Mental Retardation and
Chairman of the Department*
B.S., Wisconsin State College; M.A.,
Columbia University; Ed.D., Colorado
State College.

- MAE O'BRIEN (1931)
Professor of Education
B.S., M.A., Ph.D., Teachers College,
Columbia University.
- KI-CHOUL OUM (1967)
Professor of Mathematics
B.S., M.S., Yonsei University, Korea;
Ph.D., Syracuse University.
- JOHN A. PALMER (1960)
Associate Professor of Education
B.S.Ed., State University College at
Buffalo; M.A., Ph.D., State University of
New York at Buffalo.
- ELIZABETH G. PENN (1947)
Professor of Education
B.S., New Jersey State Teachers College;
M.A., Ed.D., Teachers College, Columbia
University.
- JOHN R. PEO (1964)
Associate Professor of Education
A.B., University of Rochester; M.Ed.,
Ed.D., State University of New York
at Buffalo.
- HAROLD F. PETERSON (1933)
Professor of History
A.B., Knox College; M.A., University of
Minnesota; Ph.D., Duke University.
- JULIA C. PIQUETTE (1952)
Professor of Speech and Theatre Arts
B.S., M.A., Ph.D., Northwestern
University.
- ARTHUR W. PITTS, JR. (1963)
Associate Professor of English
A.B., Princeton University; A.M.,
Catholic University of America; Ph.D.,
Louisiana State University.
- LEONARD J. POLESZAK (1956)
*Professor of Industrial Arts and Director
of Teacher Corps*
B.S.Ed., State University College at
Buffalo; Ed.M., State University of New
York at Buffalo; Ed.D., Michigan State
University.
- ABDUL H. RAOOF (1967)
*Associate Professor of Political Science-
Economics*
B.A., University of Bagdad; M.P.A.,
Ph.D., New York University.

- JOHN E. REEDY (1965)
Associate Professor of English
A.B. in Th., Gordon College; B.D.,
Gordon Divinity School; M.Ed.,
University of Maine; D.Ed., Boston
University.
- WILLIAM REYNOLDS (1968)
*Director of Vocational Technical
Education*
B.S., State University College at Oswego;
M.Ed., Pennsylvania State University;
Ed.D., Cornell University.
- JOHN A. ROEDER (1962)
*Professor of Vocational Technical
Education*
B.Ed., M.Ed., State University of New
York at Buffalo.
- MILDRED S. ROESSER (1940)
Professor of History
B.S., M.A., Ed.D., State University of
New York at Buffalo.
- DAVID A. ROGERS (1950)
Director of Graduate Studies
B.A., M.A., State University of New
York at Buffalo; Ph.D., University of
Wisconsin.
- ELLSWORTH M. RUSSELL (1948)
Professor of Industrial Arts
B.Ed., Eastern Illinois University; M.S.,
Iowa State University; Ed.D.,
Pennsylvania State University.
- DONALD J. SAVAGE, (1963)
*Professor of Speech and Theatre Arts and
Chairman of the Department*
B.A., Hamline University; M.A., Ph.D.,
University of Minnesota.
- WINIFRED E. SCHASEL (1963)
Associate Professor of Home Economics
B.S., Bowling Green State University;
M.S., Cornell University.
- WILLIAM C. SCHEFLER (1958)
*Professor of Biology and Chairman of
the Department*
B.A., Ed.M., Ed.D., State University of
New York at Buffalo.

- NED V. SCHIMIZZI (1968)
Associate Professor of Education
B.S., M.S., Ed.D., Indiana University.
- CARL K. SEYFERT (1967)
*Associate Professor of Geology and
Chairman of the Geosciences
Department*
B.A., Vanderbilt University; Ph.D.,
Stanford University.
- GEORGE R. SHERRIE (1947)
Professor of Education
B.S.Ed., State University College at
Buffalo; Ed.M., State University of New
York at Buffalo; Ed.D., Syracuse
University.
- J. STEPHEN SHERWIN (1956)
Professor of English
B.S., University of Wisconsin; M.A.,
Teachers College, Columbia University;
Ed.D., New York University.
- NOEL SIMMONS (1959)
Professor of Chemistry
B.S., City College of New York; M.S.,
Ohio State University; Ph.D., University
of Minnesota.
- ROBERT B. SIMPSON (1966)
Dean, Faculty of Professional Studies
A.A., University of California; A.B.,
M.A., Stanford University; Ed.D.,
Teachers College, Columbia University.
- SURJIT SINGH (1967)
Associate Professor of Chemistry
B.Sc., (Hons), Kh. College, Amritsar,
India; M.Sc., (Hons), Punjab University,
India; Ph.D., St. Louis University.
- JOHN J. SLIVKA (1969)
Associate Professor of Mathematics
B.S., Canisius College; M.A., Ph.D., State
University of New York at Buffalo.
- EDWARD O. SMITH, JR. (1963)
Associate Professor of History
B.A., Muhlenberg College; M.A.,
Ph.D., Lehigh University.

- SIGMUND A. SMITH (1964)
Vice-President for Administration
B.S., State University of New York at
Albany; M.S., State University College
at Brockport; M.S., University of Illinois;
Ed.D., Pennsylvania State University.
- RALPH D. SOLLARS (1965)
*Professor of Education and
Associate Dean of Professional Studies*
B.S., Ohio State University; M.Ed.,
Bowling Green State University;
Ph.D., Ohio State University.
- ADRIAN SOLOMON (1968)
Professor of Home Economics
A.B., M.A., University of Kentucky;
Ph.D., Cornell University.
- ROBERT SQUERI (1955)
Professor of Art
B.A., Brooklyn College; M.A., Ed.D.,
Columbia University.
- H. GENE STEFFEN (1946)
Director of Instructional Resources
B.S.Ed., State University College at
Buffalo; Ed.M., State University of New
York at Buffalo; Ph.D., Cornell
University.
- ROBERT C. STEIN (1965)
Professor of Biology
B.A., St. Olaf College; M.S., Ph.D.,
Cornell University.
- BENJAMIN STEINZOR (1953)
Professor of Ceramics
B.S., New York University; Ed.M.,
Alfred University; Ph.D., University
of Southern California.
- SAMUEL T. STERN (1962)
Professor of Mathematics
B.A., M.A., Ph.D., State University
of New York at Buffalo.
- FRANCIS G. STEWART (1962)
Director of Admissions and Records
A.B., Grove City College; Th.B., Western
Theological Seminary; M.Ed., Ph.D.,
University of Pittsburgh.

RAYMOND P. STONE (1959)
Professor of Political Science-Economics
B.A., University of Massachusetts;
M.A., Ph.D., Princeton University.

MABEL M. STONER (1960)
Associate Professor of Home Economics
B.S., West Virginia University; M.Ed.,
Pennsylvania State University.

RUTH SUGARMAN (1946)
Professor of Education
B.S.Ed., State University College at
Buffalo; M.A., Northwestern University;
Ed.D., State University of New York
at Buffalo.

ILENE J. SWARTNEY (1968)
Assistant Professor of General Science
B.S., University of Detroit; M.S.,
University of Pennsylvania; Ph.D.,
University of Wisconsin.

CAROL R. SWEENEY (1967)
Associate Professor of Biology
A.B., Antioch College; M.S., Ph.D., Ohio
State University.

ROBERT A. SWEENEY (1966)
*Associate Professor of Biology and
Director of Great Lakes Laboratory*
B.S., State University of New York at
Albany; M.S., Ph.D., Ohio State
University.

IRVING H. TESMER (1957)
Professor of Geology
B.A., M.A., State University of New York
at Buffalo; Ph.D., Syracuse University.

CLEMENT T. TETKOWSKI (1949)
*Professor of Art and Chairman of Design
Department*
B.S., New Jersey State Teachers College;
M.A., Ed.D., Teachers College,
Columbia University.

DAVID H. THIELKING (1948)
Professor of Physics
B.S., St. Lawrence University; Ed.M.,
Ed.D., State University of New York
at Buffalo.

GEORGE V. TOMASHEVICH (1968)
Professor of Sociology-Anthropology
B.A., Roosevelt University; M.A., Ph.D.,
University of Chicago.

GUY B. TORCHINELLI (1959)
Associate Professor of Mathematics
B.S., Hobart College; M.S., University
of Illinois.

CARLETON S. TRITT (1966)
Assistant Professor of English
A.B., Cornell University; Ph.D.,
University of Washington.

NORMAN F. TRUESDALE (1947)
*Professor of Art Education and Chairman
of the Department*
B.S.Ed., State University College at
Buffalo; M.Ed., Ed.D., State University
of New York at Buffalo.

REN-DEH TUAN (1962)
Professor of General Science
B.S., Cheeloo University; M.S., Ed.D.,
University of Denver.

JOHN URBAN (1946)
Professor of Biology
B.S., Kent State University; A.M., Ph.D.,
Teachers College, Columbia University.

ROLLAND VAN HATTUM (1963)
*Professor of Communication Disorders
and Chairman of the Department*
B.S., Western Michigan University; M.S.,
Ph.D., Pennsylvania State University.

JOHN H. VANN (1963)
Professor of Geography
B.A., M.S., Louisiana State University;
Ph.D., University of California.

MARY C. VUCINICH (1947)
Professor of English
B.S., M.A., University of Cincinnati;
Ph.D., State University of Iowa.

MAZIE E. WAGNER (1950)
Director of Counseling
B.A., M.A., State University of New
York at Buffalo; Ph.D., Columbia
University.

INEZ M. WARE (1959)
Professor of Education
B.A., Occidental College; M.A., Ed.D.,
Teachers College, Columbia University.

NORMAN F. WEAVER (1950)
Professor of History
B.A., Ball State Teachers College; M.S.,
Ph.D., University of Wisconsin.

PAULINE A. WEAVER (1948)
Associate Professor of Home Economics
B.S., Ohio State University; M.A.,
Teachers College, Columbia University.

GENE S. WELBORN (1958)
Professor of Anthropology-Sociology
B.S., University of Illinois; M.S., Indiana
University; Ed.D., New York University.

JAMES W. WELLS (1968)
Assistant Professor of Physics
B.S., Case-Western Reserve University;
Ph.D., State University of New York at
Buffalo.

MILDRED C. WELLS (1957)
Professor of Education
B.A., State University of Iowa; M.A.,
Ph.D., Ohio State University.

JOSEPH E. WILLIAMS (1967)
Professor of Education
B.S., University of South Mississippi;
M.A., University of Alabama; Ed.D.,
Indiana University.

DuWAYNE E. WILSON (1960)
Associate Professor of Design
B.S.Ed., M.S.Ed., State University
College at Buffalo.

MARGARET WILSON (1966)
Professor of Biology
B.A., Smith College; M.D., University of
Michigan Medical School.

JOSEPH F. WINCENC (1947)
Professor of Music
Mus.B., Oberlin College; Mus.M., State
Conservatory of Music, Prague,
Czechoslovakia; M.A., Teachers College,
Columbia University; L.H.D., (Hon.),
Canisius College.

D. KENNETH WINEBRENNER (1939)
Professor of Jewelry
B.S., Indiana State Teachers College;
M.A., Ed.D., Teachers College,
Columbia University.

EARL W. WOLFGRUBER (1960)
Professor of Graphic Design
Ed.B., Ed.M., State University of New
York at Buffalo.

RALPH YALKOVSKY (1962)
Professor of Geosciences
B.S., M.S., Ph.D., University of Chicago.

BERNARD B. YORMAK (1963)
*Professor of Learning and Behavioral
Disorders and Chairman of the
Department*
B.S., Long Island University; M.S.,
University of Wisconsin; Ph.D.,
Pennsylvania State University.

DARRELL D. YOUNG (1960)
*Associate Professor of General Science
and Chairman of the Department*
B.A., Iowa State Teachers College; M.A.,
Colorado State College; Ed.D., State
University of New York at Buffalo.

YUNG JUIN YU (1967)
Associate Professor of Education
B.A., Kew-Kohn University, Manchuria;
M.S.Ed., State University College at
Buffalo; Ph.D., University of Illinois.

JOSEPH S. ZINGARO (1958)
*Professor of Chemistry and Chairman of
the Department*
B.S., State University College at Geneseo;
M.S., M.A., Ph.D., Syracuse University.

STATE UNIVERSITY OF NEW YORK

UNIVERSITY CENTERS

State University at Albany
State University at Binghamton

State University at Buffalo
State University at Stony Brook

MEDICAL CENTERS

Downstate Medical Center at Brooklyn
Upstate Medical Center at Syracuse

COLLEGE OF ARTS AND SCIENCE

College at Brockport
College at Buffalo
College at Cortland
College at Fredonia
College at Geneseo

College at New Paltz
*College at Old Westbury
College at Oneonta
College at Oswego
College at Plattsburgh
College at Potsdam

*(Three additional Colleges of Arts and Science are in varying stages of development. Two four-year campuses, in Westchester County at Purchase and in Nassau County at Old Westbury are under construction. Old Westbury admitted its first students in limited numbers at temporary quarters in Oyster Bay in September, 1968. The third campus will be upper-division (junior-senior years) in concept and located in the Utica-Rome-Herkimer area. Master's level programs will be offered at all three campuses.)

SPECIALIZED COLLEGES

College of Forestry at Syracuse University
Maritime College at Fort Schuyler (Bronx)

AGRICULTURAL AND TECHNICAL COLLEGES (Two-year)

Alfred	Cobleskill	Farmingdale
Canton	Delhi	Morrisville

STATUTORY COLLEGES

College of Ceramics at Alfred University
College of Agriculture at Cornell University
College of Home Economics at Cornell University
School of Industrial and Labor Relations at Cornell University
Veterinary College at Cornell University

COMMUNITY COLLEGES

(Locally-sponsored, two-year colleges under the program of State University.)
Adirondack Community College at Glens Falls
Auburn Community College at Auburn
Borough of Manhattan Community College
Bronx Community College
Broome Technical Community College at Binghamton
Community College of the Finger Lakes at Canandaigua
Corning Community College at Corning
Dutchess Community College at Poughkeepsie
Erie County Technical Institute at Buffalo

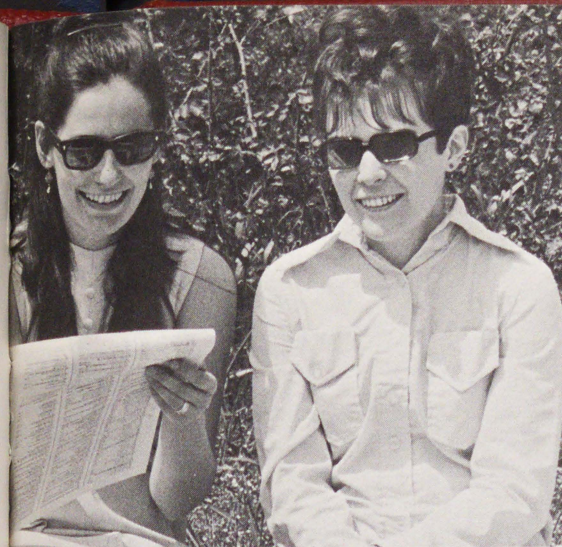
Fashion Institute of Technology at New York City
Fulton-Montgomery Community College at Johnstown
Genesee Community College at Batavia
Herkimer County Community College at Ilion
Hudson Valley Community College at Troy
Jamestown Community College at Jamestown
Jefferson Community College at Watertown
Kingsborough Community College
Mohawk Valley Community College at Utica
Monroe Community College at Rochester
Nassau Community College at Garden City
New York City Community College of Applied Arts and Sciences
Niagara County Community College at Niagara Falls
North Country Community College at Saranac Lake
Onondaga Community College at Syracuse
Orange County Community College at Middletown
Queensborough Community College
Rockland Community College at Suffern
Staten Island Community College
Suffolk County Community College at Selden
Sullivan County Community College at South Fallsburg
Tompkins-Cortland Community College at Groton
Ulster County Community College at Stone Ridge
Westchester Community College at Valhalla

(Five additional community colleges have been approved by the Board of Trustees and are in varying stages of development. They are sponsored by Clinton, Columbia-Greene and Schenectady Counties and two by the New York City Board of Higher Education.)



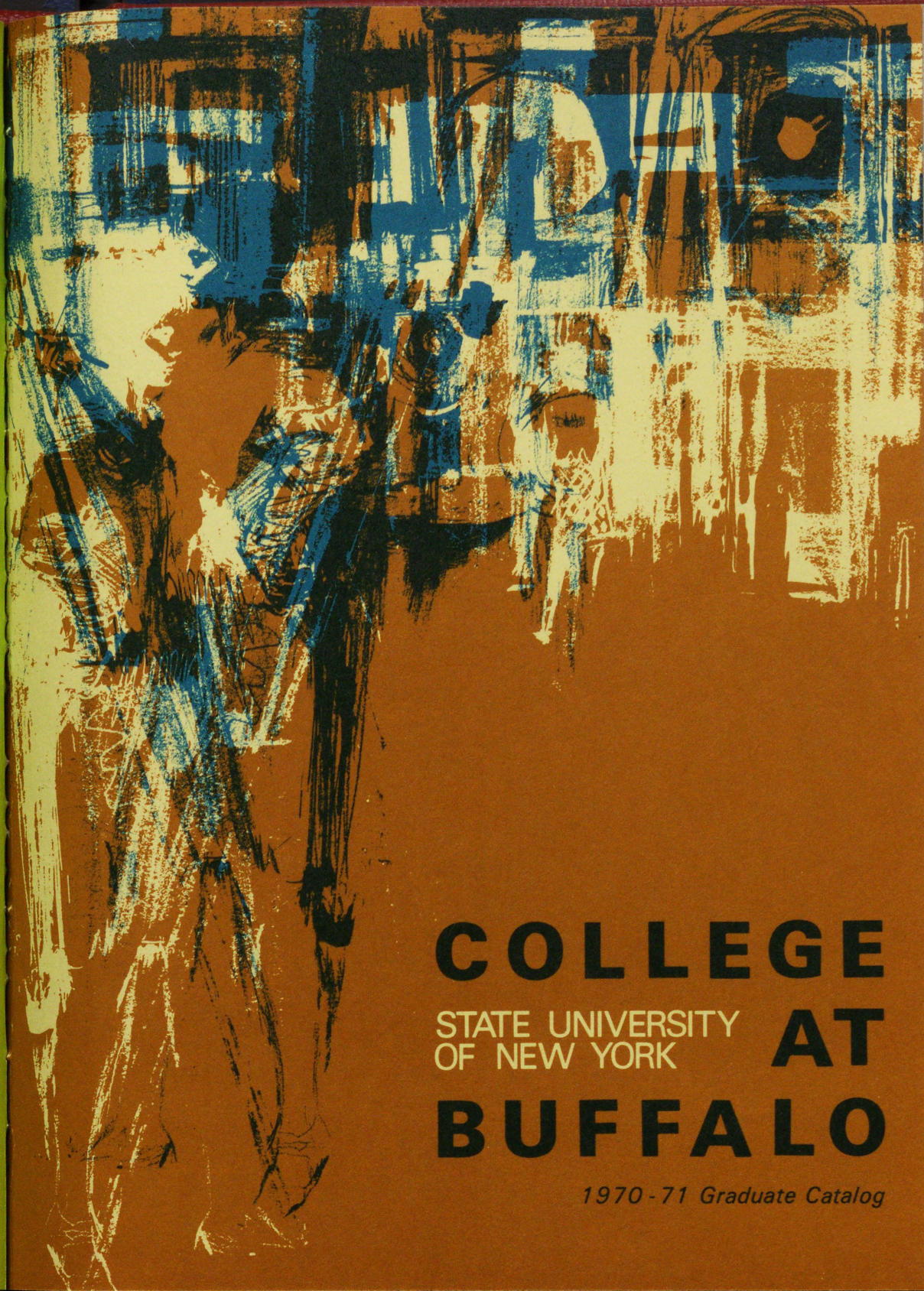
INDEX

Academic Regulations	11	Foreign Language	36
Accreditation and Membership	76	General Science	37
Administration	80	Geography	37
Admission	7	Geosciences	38
Advisor	8	Grading System	11
Applied Science and Technology	66	History	39
Art Education	17	History of the College	75
Arts and Science	25	Home Development, Family and Community Relations	68
Attendance	11	Home Economics Education	66
Biology	26	Incompletes	11
Calendar	2	Industrial Arts Education	69
Campus and Buildings	3	Library	4
Candidacy	8	Local Council	79
Chemistry	28	Mathematics	41
Class Schedule	7	Maximum Load	10
Communication Disorders	63	Mental Retardation	61
Course Numbering System	12	Music	44
Creative Studies	5	Philosophy	45
Credit and Eligibility	13	Physical Handicap	62
Cumulative Average	12	Physics	45
Curricula	7	Political Science	46
Curricula Requirements	12	Professional Studies	49
Dietetics, Food and Nutrition	69	Registration	8
Degree Requirements	9	Secondary Education	51
Economics	30	State University of New York	77
Education Courses	55	Social Studies	46
Elementary Education	49	Sociology-Anthropology	47
Elementary Principalship	50	Speech and Theatre Arts	47
English	31	Tuition and Fees	15
Environmental and Consumer Studies	67	Vocational Technical Education	72
Exceptional Children Education	61	Withdrawal	11
Faculty	83		



YALE UNIVERSITY COLLEGE

BUFFALO, N. Y.



COLLEGE STATE UNIVERSITY OF NEW YORK AT BUFFALO

1970-71 Graduate Catalog

OWENS J. DUFFY LIBRARY
STATE UNIVERSITY COLLEGE