

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

1962

College Catalog, 1962-1963, Graduate-Summer

Buffalo State College

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



Part of the [History Commons](#)

Recommended Citation

"College Catalog, 1962-1963, Graduate-Summer." Academic Catalogs, 1871-2018. Archives & Special Collections Department, E. H. Butler Library, SUNY Buffalo State.

<https://digitalcommons.buffalostate.edu/buffstatecatalogs/175>

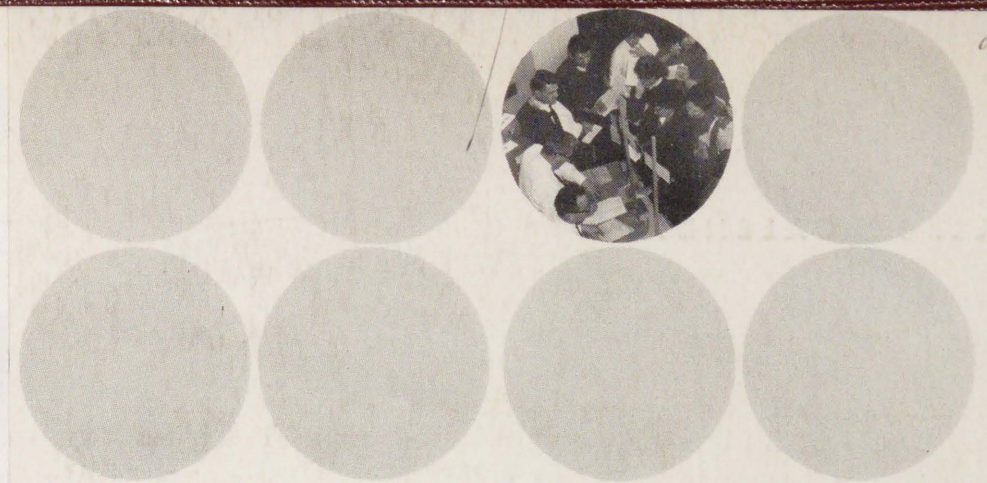
This Book is brought to you for free and open access by the Buffalo State Archives: History of the Institution at Digital Commons at Buffalo State. It has been accepted for inclusion in Academic Catalogs, 1871-2018 by an authorized administrator of Digital Commons at Buffalo State. For more information,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

STATE UNIVERSITY OF NEW YORK

COLLEGE OF EDUCATION AT BUFFALO

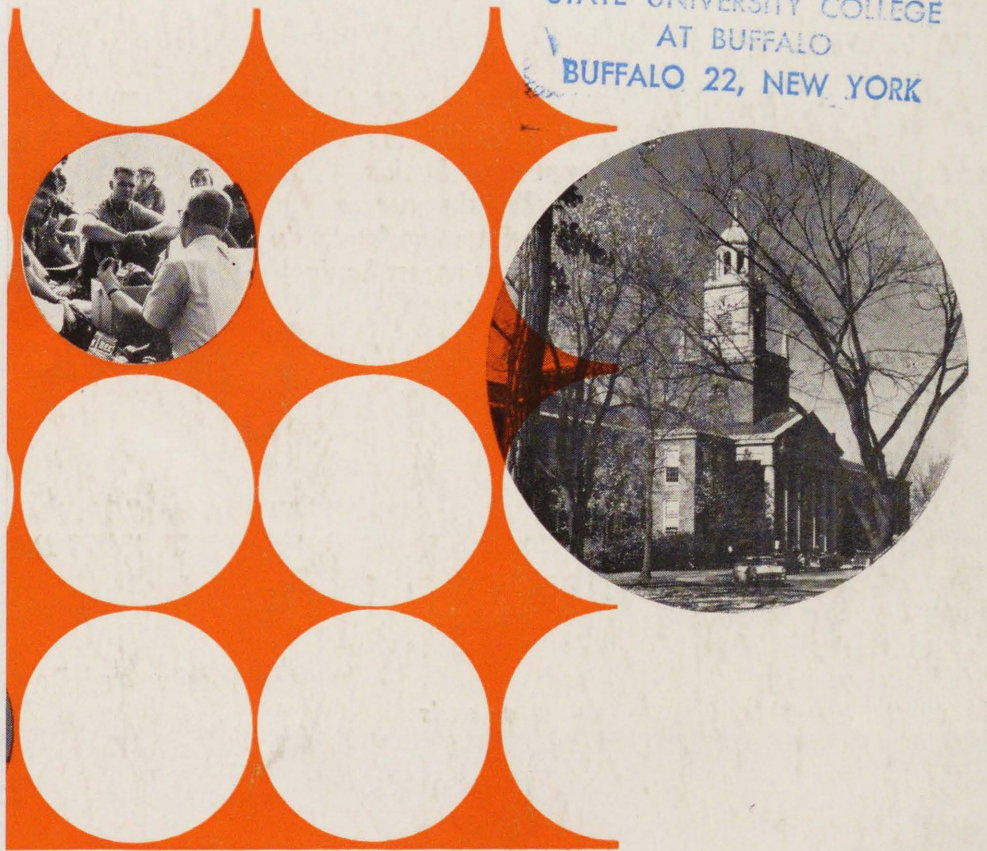


Library

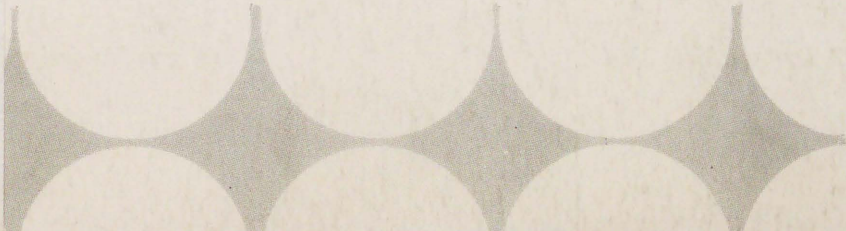


SUMMER SESSIONS 1962

BUTLER LIBRARY
STATE UNIVERSITY COLLEGE
AT BUFFALO
BUFFALO 22, NEW YORK



GRADUATE EXTENSION 1962-63



State University College at **BUFFALO**

THE COLLEGE CALENDAR

1962 SUMMER SESSION

Tuesday, May 1
Monday, July 2

Pre-registration—Summer Session and Post Session begins
Registration—Summer Session and Post Session
Graduate Students 8:00-12:00—Rockwell Hall
Undergraduate Students 1:00-4:00—Rockwell Hall

Tuesday, July 3
Wednesday, July 4
Saturday, July 7
Wednesday, August 1
Friday, August 10
Monday, August 13
Friday, August 24

Instruction begins
No classes
Classes meet
Pre-registration for Fall Semester begins
Six week courses end
Post Session begins
All sessions end

FALL SEMESTER 1962-63

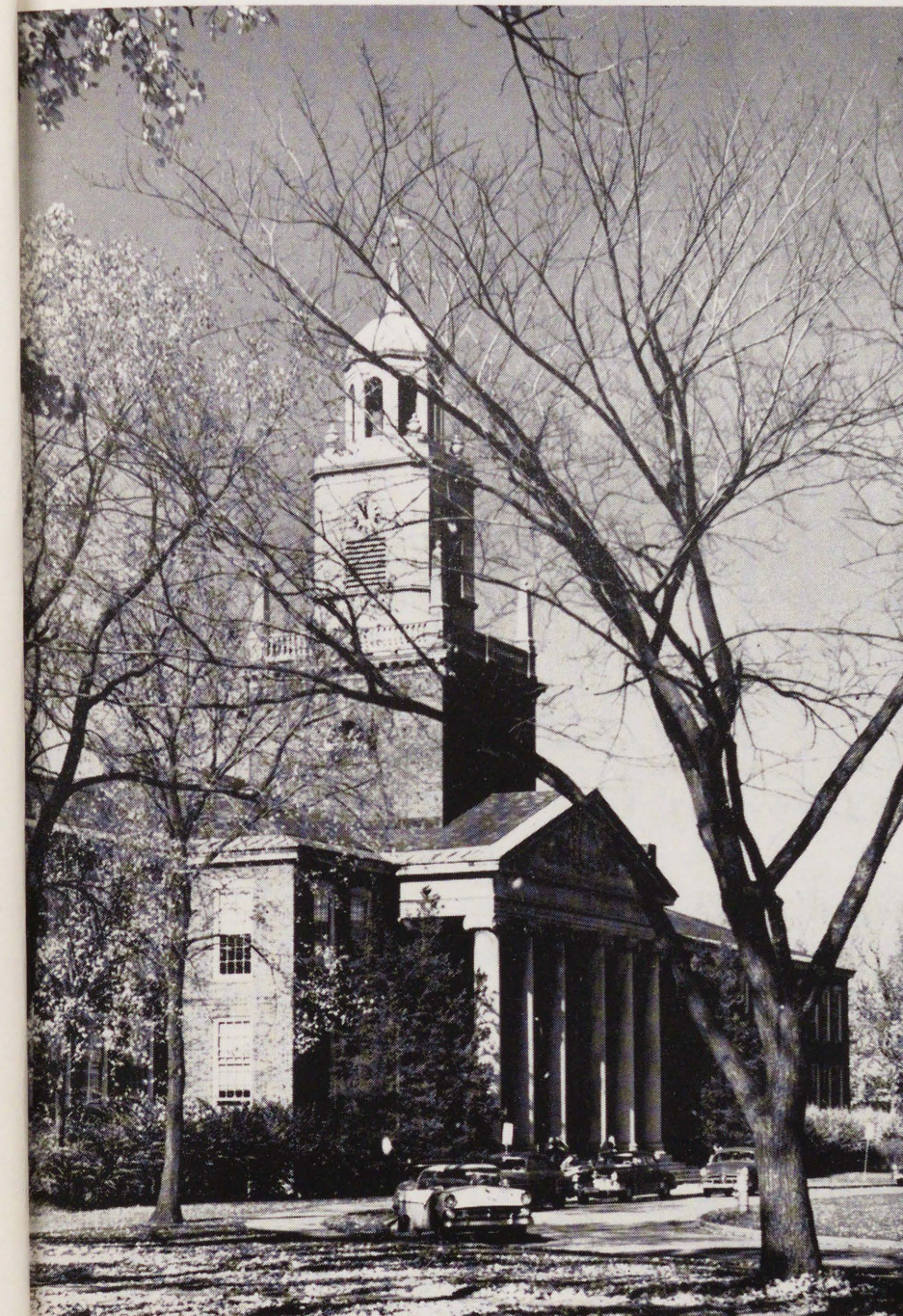
Saturday, September 15
Tuesday, September 18
Saturday, November 24
Saturday, December 1
Saturday, December 22
Saturday, January 5
Saturday, January 19

Registration 8:30-12:30—Rockwell Hall
NO REGISTRATIONS AFTER THIS DAY
Instruction begins
Thanksgiving recess
Pre-registration for Spring Semester begins
Christmas recess begins
Classes resume
Semester ends

SPRING SEMESTER 1962-63

Saturday, February 2
Tuesday, February 5
Saturday, April 13
Tuesday, April 23
Wednesday, May 1
Saturday, June 1

Registration 8:30-12:30—Rockwell Hall
NO REGISTRATIONS AFTER THIS DAY
Instruction begins
Easter recess begins
Classes resume
Pre-registration—Summer Session and Post Session begins
Semester ends



CONTENTS

College Calendar inside cover
State University of New York ii
The College 1
Visiting Faculty 2
Location of the College 2
Admission to Summer Session 3
Tuition and Fees 4
Student Personnel Program 5
Library Facilities 6
Campus School 6
Special Features 6
Academic Information 9
Schedules 10
Summer Sessions 1962 10
Graduate Classes 1962-63 14
Graduate Classes 1963-64 16
Information for Undergraduate
Students 17
Undergraduate Classes 1962-63 18
The Graduate Extension Division 19
General Information 19
Graduate Academic Regulations 22
Graduate Curricula 24
Graduate Course Descriptions 30
Application Forms
Admission to Graduate Division 47
Residence Halls-Summer Session 49
Admission to Summer Session 49

STATE UNIVERSITY COLLEGE AT BUFFALO
SUMMER SESSION, 1962, AND
GRADUATE EXTENSION, 1962 - 63

The State University of New York was established by the State Legislature in 1948. It comprises 48 colleges. Twenty-eight of them are State colleges and 20 are locally-sponsored community colleges. Although separated geographically, all are united in the purpose to improve and extend opportunities for youth to continue their education after high school.

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

Governed by a Board of Trustees appointed by the Governor, State University of New York plans for the total development of State-supported higher education. Each college of State University is locally administered. Students should write directly to the institution in which they are interested for admission forms.

Although State University of New York is one of the largest state universities in the country, its students have the additional advantages of attending relatively small colleges.

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

STATE UNIVERSITY OF NEW YORK

The Board of Trustees

Frank C. Moore, LL.B., L.H.D., LL.D., Chairman	Buffalo
Mrs. John A. Warner, Vice-Chairman	New York City
Warren W. Clute, Jr.	Watkins Glen
Mrs. Betty Hawley Donnelly	New York City
Charles Garside, B.S., LL.B., L.H.D., LL.D.	New York City
Boyd E. Golder	Utica
Lester B. Granger, A.B., D.H.L., LL.D.	New York City
James Greenough, A.B., M.D.	Cooperstown
Samuel Hausman	Great Neck
Morris Iushewitz	Mount Vernon
Clifton W. Phalen, B.S.	Plandome
John A. Roosevelt, A.B.	Hyde Park
James J. Warren	Albany
Don J. Wickman, B.S.	Hector

(One Appointment pending)

President of the University
Secretary of the University
Executive Dean for Teacher Education

Thomas H. Hamilton, A.B., A.M., Ph.D., L.H.D., LL.D.
J. Lawrence Murray
Hermann Cooper, A.B., Mus.B., A.M., Ph.D., LL.D.

THE COLLEGE

The Local Council	Term Expires
Mrs. James H. Righter, Chairman	1963
Mrs. John R. Campbell	1962
Joseph L. Fink	1970
Joseph F. Higgins	1966
Patrick Hodgson	1967
David J. Laub	1969
Mrs. James C. Lytle	1965
Philip W. Patti	1964
Mrs. Henry Z. Urban	1968

Administrative Officers

Paul G. Bulger, B.S., M.S., Ed.D.	President of the College
Robert W. MacVittie, B.E., M.A., Ed.D.	Dean of the College
Van E. Quaal, A.B., A.M., Ed.D.	Associate Dean of the College
Charles B. LaMorte, A.B., M.A., Ed.D.	Dean of Students
Virginia A. Pratt, A.B., M.A.	Associate Dean of Students
Jerome E. Bartow, B.A., M.A.	Associate Dean of Students
Morton R. Lane, B.S.	Senior Financial Secretary
Charles E. Ball, B.S., M.A., Ed.D.	Planning and Development Officer
Betty McCann, B.S.	Public Information Director
Stanley A. Czurlis, B.F.A., M.F.A., Ph.D.	Director of Art Education
Katheryne T. Whittemore, A.B., A.M., Ph.D.	Director of Arts and Sciences
Lorraine A. Lange, B.A., M.A., Ph.D.	Director of Elementary and Secondary Education
Horace Mann, A.B., A.M., Ph.D.	Director of Exceptional Children Education
William D. Baker, B.A., M.A., Ph.D.	Director of General Studies
David A. Rogers, B.A., M.A., Ph.D.	Director of Graduate and Extension Division
Steven Gittler, B.A., M.A., Ed.D.	Associate Director of Graduate Division and Director of Summer Sessions
Margaret A. Grant, B.S., M.S., Ed.D.	Director of Home Economics Education
Kenneth W. Brown, B.S., M.S., Ph.D.	Director of Industrial Arts Education

OTHER COLLEGE OFFICERS

Taisto Niemi, A.A., B.S., A.M., Ph.D.	College Librarian
Ruth Sugarman, B.S., M.A., Ed.D.	Principal, Campus School
Helen Thielking, B.S., M.S.	Campus School Librarian
Robert T. Redden, B.E., M.Ed., D.S.S.	Director of Admissions
John A. Centra, B.A., M.A.	Coordinator of Field Services
Harold J. Steffen, B.S., Ed.M., Ph.D.	Coordinator of Audio Visual Services
Marian Carroll, B.A., M.A., Ed.D.	Director, Child Study Center
George R. Sherrie, B.S., Ed.M., Ed.D.	Coordinator of Evaluation Services Center
June Truesdale, B.S.	Executive Secretary of Placement
Fred R. Ray, B.S.	Assistant Dean of Students and College Union Director
Rogers Augustine, B.A., M.A.	Assistant Dean of Students and Director of Residence
Madeline Turner, R.N., B.S., M.A.	Coordinator of Health Services
Dorothy Eells, A.B., M.A.	Senior Registrar
Charlot Fetterman, B.S.	College Bookstore Manager
Joseph Cannamela, A.S., B.S.	Food Services Manager

VISITING FACULTY *Summer Sessions 1962 and Graduate-Extension 1962-63*

- John Carlson, B.S., M.A. *Elementary School Principal, Jamestown, New York*
Charles Gambert, B.S., M.S., M.Ed. *School Psychologist and Supervisor of Special Education, Niagara Falls, New York*
David Hallowitz, B.S., M.S.W. *Chief Psychiatric Social Worker, Psychiatric Clinic, Buffalo, New York*
Gordon Klopf, B.S., Ph.M., Ph.D. *Associate Professor of Education, Teachers College, Columbia University*
Helen Frances Kyle, B.S., M.S., Ed.D. *Associate Professor of Education, University of Colorado, Boulder, Colorado*
Teresa Lawrence, B.A., M.S. *Erie County Chapter, New York State Association for Retarded Children*
Kenneth Macrorie, B.A., M.A., Ph.D. *Assistant Professor of English, Western Michigan University, Kalamazoo, Michigan*
Rita Moretti, B.S., M.S. *Principal, 95th Street School, Niagara Falls, New York*
Cecil E. Palmer, B.S., M.A. *Instructor in Meteorology, Syracuse University*
Theodora Reeve, A.B., M.A. *Associate in Child Development, State Education Department*
Marjory Reidel, B.S. *Exceptional Education Teacher, Park Elementary School, Clarence, New York*
Alfred Sadroga, B.S., M.A. *Head of Industrial Arts Department, West Seneca Central School*
Paul Scheid, A.B., A.M., Ph.D. *Professor of Education, Auburn University, Auburn, Alabama*
Frederick W. Schneider, B.S., M.Ed., Ed.D. *Assistant to Dean, Division of Education, San Jose State College, San Jose, California*
Ella Martha Snader, A.B., M.S., Ph.D. *Professor of Mathematics, District of Columbia Teachers College, Washington, D. C.*
James D. Strauch, B.S. *Special Class Teacher, Baldwinsville Academy*
Richard Whitford, B.A., B.Ed., C.A.S., M.A., Ed.D. *Senior Superintendent, State Education Department, Tasmania, Australia and Professor of Education*
Ruth Wild, B.S., M.S. *Art Teacher, Buffalo Public Schools*
Francis Wyroba, B.S., M.A. *Art Teacher, Clarence Central School*

LOCATION OF THE COLLEGE



Buffalo, the Queen City of the Lakes, is an ideal location for a summer school. The climate, tempered by westerly winds from Lake Erie, is usually cooler and more comfortable than that of any other Eastern city.

Buffalo is easily accessible by bus, train, air, or automobile; the College can be reached easily by bus or taxicab within the city. Across the street from the College are the Albright-Knox Art Gallery and the Buffalo Historical Museum, imposing works of architecture. Across Elmwood Avenue from the College is Delaware Park, a large municipal recreation center with a lake, golf course, bridle path, tennis courts and baseball diamonds. One of the finest concert halls in the world, the Kleinhans Music Hall, and a nationally famous symphony orchestra, the Buffalo Philharmonic, serve those who enjoy fine music. Several nearby summer theatres, operated by professional and semi-professional groups, produce plays throughout the summer.

ADMISSION TO THE SUMMER SESSION

The Summer Session is open to anyone qualified for teaching, and students attending the State University College at Buffalo or any other accredited college.

Graduate Courses

1. A student wishing to attend courses in the Graduate Division during the Summer Session should complete the application blank to be found on Page 47.
2. A graduate student working for certification and not expecting to become a degree candidate, or wishing to transfer credit to another institution, may be admitted as a special student upon completion of the graduate application blank.

However, admission as a special student does not constitute admission to any curriculum of the Graduate Division. Such special students may be admitted to full graduate status by meeting all requirements and completing all procedures as outlined elsewhere in this bulletin.

Undergraduate Courses

1. Students now in regular attendance at the College must have written approval from the Director of their Division to register.
2. Students attending another college are requested to have written approval of their proposed summer session courses by an authorized official of the college in which they are in good standing. Application form will be found on Page 49.

Admission to the Summer Session does not constitute admission to the Regular Session. Consult the General Catalog or write to the Director of Admissions for information and application form.

To enter the accelerated program a student must have the approval of the Director of the Division offering this program.

PRE-REGISTRATION

Students may pre-register for Summer Session and Graduate-Extension courses. Course rosters will be available in the Graduate Office, Rockwell Hall 115, beginning May 1st for Summer Session, August 1st for the Fall Semester and December 1st for the Spring Semester.

Students may sign these rosters and thereby reserve a place in the class, if the student is eligible for the course. Eligibility will be determined by the instructor on registration day. Places will be held until 10:30 A.M. on registration day. Mail pre-registration will be accepted but no pre-registration by telephone will be permitted.

TUITION AND FEES

The State University of New York has authorized the collection of tuition and fees for Summer Session and Graduate-Extension courses, at a uniform rate.

The schedules as of September 1, 1961 are as follows:

GRADUATE-EXTENSION

Tuition \$20.00 a credit hour
No other fees are charged during the spring and fall semesters.

SUMMER SESSION

Tuition \$20.00 a credit hour
College Fee \$ 1.75 a credit hour,
Maximum \$10.00
Student Activity Fee \$ 2.00
Late Registration Fee \$ 1.00 a day
Maximum \$3.00

All students enrolled in special programs, on-campus or off-campus, pay the College Fee of \$1.75 a credit hour. All students taking on-campus courses, regardless of their duration, pay the Student Activity Fee of \$2.00. Students in the Accelerated Program pay the College Fee and Student Activity Fee.

Refunds will be made in the Summer Session to students who withdraw within the first five scheduled days. No refunds will be made after this period unless withdrawal is for entering military service.

FEE WAIVERS

Supervising teachers who are entitled to reductions in fees should obtain a statement of such waiver from their college supervisor and present it at the time of tuition payment.

SCHEDULE

First Period	8:00- 9:20
Second Period	9:30-10:50
Third Period	11:00-12:20
Fourth Period	12:30- 1:50

All classes will meet Monday through Friday except as otherwise indicated. Classes will also meet on Saturday, July 7, 1962.

STUDENT PERSONNEL PROGRAM

Activities Program

The Summer Session Activities program complements the academic program at Buffalo. Various educational, cultural, and recreational events are available according to student interest. These may include such things as convocations, musical productions, drama forums, exhibits, tours to places of interest on the Niagara Frontier and to the Stratford, Ontario Shakespeare Festival, dances, teas, music hours, films, and coffee hours.

Many of these activities center in the College Union which has been called "our campus living room." It is equipped with lounge, music room, snack bar, dining room, game room and outdoor recreational area. All summer session students have the opportunity to enjoy its facilities, but it is especially available for those living in the residence halls. In addition, the college camp (located in Cattaraugus County) may be reserved for weekend group use.

The Summer Session Activities Program is developed by the Summer Session Activities Board, a student-faculty committee under the supervision of the Office of the Dean of Students. The Summer Session Activities Board secretary is available at all times for help and information.

Financial Aids

All Summer Session students may make use of the counseling service on financial problems offered by the Office of the Dean of Students. All correspondence relating to scholarships, loans, and part-time employment should be addressed to the Coordinator of Financial Aid.

Graduate students and students from other colleges are for the most part not eligible for loans at the College. Such students should be prepared to finance their summer expenses entirely from their own resources.

Food Service

Facilities for food service will be provided in the New Dining Hall Building. The cafeteria will be open from 10:30 a.m. to 1:30 p.m. Monday through Friday. The snack bar will be open daily, Monday through Friday, from 7:15 a.m. to 4:30 p.m. Breakfast and light meals will be available in the snack bar throughout the day. No food service will be provided on weekends. Vending machines, providing sandwiches and drinks, will be placed in several locations throughout the campus.

Health Service

The Health Office, Rockwell Hall, Room 112, will be open daily from 8:15 to 3:30. Emergency, first aid and health counseling services will be available. Any student registered in the Summer Session may avail himself of these services.

Housing

All freshman, both men and women, who do not reside with a parent or spouse are required to live in the Residence Halls during the Summer Sessions.

All undergraduate women under 21 years of age who do not reside with a parent or spouse must live in the Residence Halls or in rooms or apartments inspected and approved by the College. Apply to Director of Residence for exemptions from the housing regulations.

Residence Halls. Most rooms accommodate two students at \$7.00 per person per week, however, a few single rooms are available at \$10.00 per week. Rooms are equipped with beds, desks, chairs, closets, and dressers. Students are expected to provide sheets, pillows and case, blankets, and desk lamps. Linens and pillow may be rented. Reservations are made through the Office of the Director of Residence. An application is on page 49.

Rooms and apartments off-campus. Men students may choose any off-campus residence during Summer Session. Undergraduate women under 21 who do not reside with a parent or spouse must live in the Residence Halls or in rooms or apartments inspected and approved by the College. A list of rooms and apartments from which a summer residence *must be chosen* is available from the Director of Residence.

Veterans Affairs

All veterans planning to use their educational benefits under Public Law 550 or 894 must register at the beginning of the Summer Session in the office of the Dean of Students. In addition, veterans under Public Law 550 are required to submit monthly certification of attendance to the Office of the Dean of Students. A veteran planning to apply for educational benefits for the first time must make an application to the Veterans Administration regional office. It is recommended that this application be made at least one month prior to registration at the College. The Office of the Dean of Students also serves to coordinate informational services to veterans and assists in liaison with public agencies.

CAMPUS SCHOOL

A Campus School Program with children from kindergarten through grade six is an integral part of the Summer Session program. This type of school experience affords enrichment for the children who attend and provides an opportunity for Summer Session students to work with pupils under the supervision of master teachers. There will be one grade available for continuous observation through a one-way vision screen in Room 105. Any group or class may use this room for observation. Information concerning the Campus School may be obtained from Dr. Ruth Sugarman, Principal, Campus School.

LIBRARY FACILITIES

A collection of over 90,000 volumes and over 700 current periodicals is accessible in the Edward H. Butler Library. The Reference Reading Room, the Reserve Book Room, and the Recreational Reading Room afford areas for study and cultural reading. Recordings on musical and non-musical subjects are available for music appreciation, speech classes, and recreational listening. The microfilm editions of the *New York Times* and the *Buffalo Evening News*, periodicals and doctoral dissertations, are available for reading with the necessary specialized equipment. Additional books and materials from the State Library at Albany are secured through inter-library loans. Special exhibits featuring topics of general interest to the college community are prepared by the faculty, students, and the library staff.

Summer Session students may use the resources of the Laboratory of Instructional Material, consisting of story books, elementary school textbooks, pamphlets, slides, records, filmstrips, and pictures.

The Campus School Library in the Campus School contains a collection of books, magazines, recordings and filmstrips especially selected for children.

The Erie County Library (including the Buffalo Public Library and the Grosvenor Library), the Library of the Albright Art Gallery, the Library of the Historical Museum, and the Library of the Museum of Science, supplement facilities available on the campus.

SPECIAL FEATURES

The College Summer Session offers varied educational experiences in addition to regular classroom activities. Some of these are:

Foreign Study Program

For the sixth consecutive year the State University of New York and the Experiment in International Living offer an opportunity to discover another country from the inside out—to meet its people as one of them—and at the same time to earn eight semester hours of graduate or undergraduate credit. The foreign study programs, each including a three week stay as a member of a congenial host family in a foreign country, are offered under the leadership of full-time staff members of the State University College at Buffalo.

During the 1962 Summer Session the State University College at Buffalo is offering a Foreign Study Program—Art in Mexico—under the direction of Professor Clement Tetkowsky. During the summer of 1959, Dr. Tetkowsky led a State

University group studying Art in Europe and during the 1960 summer session he led a State University group studying Art in Mexico. During the academic year 1961-62 Dr. Tetkowsky is directing the Buffalo semesters in Siena, Italy.

The 1962 Foreign Study Program Art in Mexico will begin in late June or early July in Mexico City. Cities included in program are Guanajuato, San Miguel Allende, Guadalajara, Oaxaca, Yucatan and others. There will also be an opportunity for four or five days of independent travel.

New York State sponsored Institute for Elementary Teachers

July 2-August 10

The New York State Education Department is sponsoring a Summer Institute for Elementary Teachers that will provide tuition and fees for six semester hours. Teachers accepted in this program will enroll for Mathematics in the Elementary Curriculum and Science in the Elementary Curriculum for either graduate or undergraduate credit. For further information and application forms write to Dr. Steven Gittler, Director of Summer Sessions, State University College, Buffalo 22, New York.

Workshop in Reading in the Secondary School

July 2-July 14

A workshop in Reading in the Secondary School will be held from July 2-July 14. Three semester hours of graduate credit will be given for this course. Dr. Helen Kyle of the University of Colorado, Boulder, Colorado, will direct the workshop.

This workshop will provide an opportunity for the students to gain an understanding of the reading process, the role of reading in every area of learning, the various aspects of an effective reading program, the skills in reading that are needed in all areas of learning, ways of evaluating and analyzing student's progress in reading, and becoming acquainted with reading materials.

This workshop is designed for teachers, administrative and supervisory personnel.

Workshop in Secondary School Problems and Methods

July 23-August 10

A workshop in Secondary School Problems and Methods will be held from July 23-August 10. Three semester hours of graduate credit will be given for this course. This workshop will be involved with clarifying the 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.

Dr. Paul Scheid, Professor of Education at Auburn University, Auburn, Alabama, will direct the workshop. This workshop is open to teachers or school personnel interested in secondary education.

Workshop in Guidance

August 13-August 24

This workshop is designed for teachers, administrative supervisory personnel and counselors. The workshop can be regarded as an introductory course for those who have not had previous graduate work in the field of guidance, but will have real significance for those already in the field of guidance in secondary and elementary education. Two semester hours of graduate credit will be given for the course.

Dr. Gordon J. Klopff, Associate Professor of Education in the Department of Guidance and Student Personnel Administration at Teachers College, Columbia University, will be the instructor for the course. He has had teaching and guidance experience at various levels of education and in community agencies. He is an author in the field and has worked closely with counselors in schools in New York State.

Workshop in the Teaching of Reading in the Elementary School
August 13-August 24

A workshop in the Teaching of Reading in the Elementary School will be held from August 13-August 24. Two semester hours of undergraduate credit will be given for the course. This workshop provides an opportunity to explore newer programs in reading, explore teaching materials and examine trends in the teaching of reading today. This workshop is limited to experienced teachers.

Miss Eleanor Kelly, Associate Professor at State University College, Buffalo, will direct the workshop. Miss Dorothy Cooke, Staff Coordinator of Reading, State Education Department, will be a resource person for several days.

A permit to attend this workshop must be obtained from the Director of Elementary Education, State University College at Buffalo, New York.

Workshop in the Teaching of Language Arts
August 13-August 24

A workshop in the Teaching of Language Arts in the Elementary School will be held from August 13-August 24. Two semester hours of graduate credit will be given for this course. This workshop provides an opportunity to consider factors which influence language growth, the inter-relationship of the language arts, and recent developments in the area of communication.

Dr. Mae O'Brien, Professor of Education at State University College, Buffalo, will direct the workshop. Miss Dorothy Cooke, Staff Coordinator of Reading, State Education Department, will be a resource person for several days.

Workshop in Economics
August 13-August 24

A major feature of the workshop will be small group study in the areas of: economics in the curriculum; the American economic system; money, banking, and credit; the economy of the Niagara Frontier; labor-management relations; and United States foreign economic policy. Field trips will be scheduled for several afternoons. The staff includes the workshop directors, Mr. John G. Boyd, assistant professor of economics, and Dr. Allen G. Sexton, professor of history, and consultants. Two semester hours of graduate credit. Limited enrollment.

Literary Study Tour of New England
August 13-August 24

The fourth Literary Study Tour of New England is being organized as a post session graduate and undergraduate course by Dr. Benjamin F. Gronewold, Professor of English. The study tour will begin in Boston on Monday, August 13 and will continue in Boston until Friday, August 24. Two graduate or undergraduate credits may be earned.

A Boston hotel will be study tour headquarters. The program includes visiting the literary and historical landmarks in and about Boston: the homes of Emerson, Hawthorne, Whittier, and Longfellow; the battlegrounds at Concord, Lexington, and Bunker Hill; the Adams family home; Thoreau's Walden Pond; and many other places.

Workshop in Kindergarten Education
August 13-24

The Bureau of Childhood Development and Parent Education of the New York State Education Department in cooperation with our college is sponsoring a Workshop in Kindergarten Education. Teachers interested in this area will register for Ed. 515 or Ed. 308 for two semester hours of credit. Miss Theo Reeve, Associate in the Bureau of Childhood Development will be in charge of the workshop.

Book Exhibit Wednesday, July 11

The College will sponsor a book exhibit in the College Union Dining Room on Wednesday, July 11. More than thirty exhibitors from the leading text book publishers will be present. All are invited to attend.

ACADEMIC INFORMATION

CANCELLATIONS AND CHANGES The college reserves the right to cancel any course for which there is insufficient registration, to substitute a different instructor, and to change the time of class meetings.

CLASS LOAD A full-time academic load during the six weeks summer session is six semester hours. Undergraduate students may be permitted to carry additional hours with the written approval of their Division Director.

STANDARDS AND REGULATIONS The academic standards and regulations observed during the regular college year prevail in the Summer Session. Please refer to the Graduate Academic Regulations on page 22. Undergraduate students refer to the General Catalog of the College.

TRANSCRIPTS Students who want copies of their academic record sent to another institution should file a request form for this service in the Registrar's office. No fee is charged for the first copy of a transcript.

UNDERGRADUATE PROGRAM

Programs of study leading to the degree *Bachelor of Science in Education* are offered in Art Education, Early Childhood Education, Elementary Education, Early Secondary Education, Secondary Education, Exceptional Children Education, Home Economics, and Industrial Arts.

ACCELERATED PROGRAM

A summer program restricted to accelerated undergraduates will last from July 2 through August 24. Regularly-enrolled degree candidates are assigned to these classes by the directors of divisions, which have established a sequence of courses that enable students to complete their college requirements in less than four years.

All other undergraduates should register in the six-weeks program. A few "non-accelerated" students may be admitted to the eight-weeks courses if their needs can not be met in the shorter session. Such students must have permission from the Director of Summer Session.

SCHEDULES

1962 INTER-SESSION

June 23-July 2

			<i>Credit</i>	<i>Instructor</i>
I.A. 508	Workshop in Welding		2	Fontana
I.A. 515	Transportation		2	Sadroga

1962 SUMMER SESSION Undergraduate Courses

July 2-August 10

ART

			<i>Credit</i>	<i>Faculty</i>	<i>Time</i>
181	Fundamentals of Photography		3	Mr. Wyroba	8:00-10:50
400	Workshop in Crafts		3	Dr. Winebrenner	
406	Creative Arts Workshop		3		12:30- 2:30
				Mr. Wilson	12:30- 2:30

EDUCATION

152	Human Growth & Development		3	Mr. Robison	8:00- 9:20
308	Seminar in Ea. Childhood Ed.		3	Mrs. Febel	11:00-12:20
402	Seminar in El. Sch. Teaching		3	Mr. Robison	12:30- 1:50
410	Philosophy of Education		3	Dr. Wells	9:30-10:50
461	Safety Education		3	Mr. Meyer	11:00-12:20
463	Driver Education		3	Mr. Meyer	8:00- 9:20
465	Audio-Visual Education		3	Miss Wild	11:00-12:20
486	Methods & Mats. in El. School		3	Mr. McComb	8:00- 9:20
487	Teaching Lang. Arts in El. School		3	Mrs. Muck	9:30-10:50

ENGLISH

250	Types of British & Amer. Lit. I		3	Dr. Gragg	11:00-12:20
220	Creative Writing		3	Dr. Bradford	9:30-10:50
402	Contemporary Literature		3	Dr. Greenwood	8:00- 9:20
420	Oral Interpretation		3	Miss Goossen	12:30- 1:50
451	Types British & Amer. Lit. II		3	Mrs. Ganey	8:00- 9:20
451	Types British & Amer. Lit. II		3	Dr. Sherwin	11:00-12:20

GENERAL STUDIES

103	Mathematics and Modern Life		2	Mr. Hilaire	8:20- 9:15
201	Family Living		2	Dr. Hamady	9:30-10:25
301	Ideas of Man & His World of Lit.		3	Mr. Vannoy	11:00-12:20
302	Ideas of Man & His World of Lit.		2	Dr. Baker	9:30-10:25
401	Ideas of Soc. Changes in West. Civ.		3	Dr. E. Brown	8:00- 9:20
401	Ideas of Soc. Changes in West. Civ.		3	Dr. Weaver	8:00- 9:20

GEOGRAPHY

301	General Geography I		3	Beaudet	11:00-12:20
402	General Geography II		3	Beaudet	9:30-10:50

HEALTH, PHYSICAL ED. & RECREATION

P.E. 102	Phy. Ed. Act. (Gym) Men & Women	½		Mr. MacAdam	11:00-12:20 M, W
P.E. 102	Phy. Ed. Act. (Swim) Men & Women	½		Mr. MacAdam	11:00-12:20 T, Th
P.E. 301	Physical Education	2		Mr. Adessa	9:30-10:50*
P.E. 303	Coaching I	3		Mr. Hartrick	9:30-10:50
Rec. 204	Org. & Leadership in Recreation	3		Mr. MacAdam	8:00- 9:20

* 4 days—Monday through Thursday

INDUSTRIAL ARTS

303	I.A. for the Elem. School	2	Dr. Waagen	8:00- 9:20
-----	---------------------------	---	------------	------------

MATHEMATICS

#303	Mathematics in Elementary Grades	3	Dr. Rodney	9:30-10:50
------	----------------------------------	---	------------	------------

MUSIC

304	Music for Children I	3	Mr. Mitchell	11:00-12:20
305	Music for Children II	3	Dr. Boyd	9:30-10:50

SCIENCE

#310	Science in Elementary Curriculum	3	Mr. Sergiovanni	8:00- 9:20**
410	Field Studies I	3	Dr. Eckert	11:00-12:20**
Bi. 203	Genetics	3	Dr. Laug	9:30-10:50**
Bi. 301	Botany	3	Dr. Laug	12:30- 1:50**

SOCIAL STUDIES

231	Social History of American People	3	Dr. Brunger	11:00-12:20
240	The American Community	3	Mr. Foladare	12:30- 1:50
346	American Politics and Political Parties	3	Mr. Stone	11:00-12:20
335	Principles of Economics	3	Mr. Boyd	9:30-10:50
355	Renaissance and Reformation	3	Dr. Brunger	9:30-10:50

1962 SUMMER SESSION Graduate Courses

July 2-August 10

ART

		<i>Credit</i>	<i>Faculty</i>	<i>Time</i>
505	Seminar in Art Education	3	Mr. Weaver	8:00- 9:20
506	Seminar in Contemporary Art	3	Mr. Green	11:00-12:20
507	Graduate Studio in Painting	3	Mr. Wise	12:30- 3:20
508	Graduate Studio in Design & Spatial	3	Dr. Stark	8:00-10:50
509	Graduate Studio in Crafts	3	Dr. Winebrenner	8:00-10:50
510	Graduate Studio in Photography	3	Truesdale	12:30- 3:20
511	Art in the Elementary Curriculum	3	Mrs. Heyman	9:30-10:50
512	Graduate Studio in Sculpture	3	Dr. Stark	12:30- 3:20

EDUCATION

501	Seminar in Elementary Education	3	Dr. Crayton	9:30-10:50
501	Seminar in Elementary Education	3	Dr. Crayton	12:30- 1:50
504	Administration of the Elem. School	3	Dr. Milanovich	12:30- 1:50
506	Philosophy of Education	3	Dr. Wells	11:00-12:20
512	Seminar in Child Development	6	Mr. Gardiner	8:00-12:00
512	Seminar in Child Development	6	Dr. Burrell	8:00-12:00
515	Seminar in Early Childhood Ed.	3	Mrs. Febel	9:30-10:50
516	Methods & Materials in Elem. School	3	Dr. Sugarman	11:00-12:20
516	Methods & Materials in Elem. School	3	Miss Kelly	8:00- 9:20
517	Teaching Language Arts in Elem. School	3	Miss Brown	9:30-10:50
517	Teaching Language Arts in Elem. School	3	Dr. Ware	11:00-12:20
521	The Elementary School Curriculum	3	Dr. Schneider	9:30-10:50
521	The Elementary School Curriculum	3	Dr. Ware	9:30-10:50
531	Supervision of Teaching	3	Dr. Milanovich	11:00-12:20
533	Workshop in Audio-Visual Education	3	Dr. Steffen	12:30- 1:50
537	Evaluation in the Secondary School	3	Mr. Gambert	8:00- 9:20
538	Comparative Education	3	Dr. Whitford	9:30-10:50
541	Social Foundations of Education	3	Dr. Whitford	8:00- 9:20
542	Seminar in Secondary School Curr.	3	Dr. Schneider	8:00- 9:20

** Additional laboratory time available by arrangement

State Education Department grants available

		Credit	Faculty	Time
546	Teaching of Reading	3	Miss Brown	11:00-12:20
546	Teaching of Reading	3	Dr. Martorana	12:30- 1:50
560	Workshop in Elementary Education	8	Mrs. Goldberg	8:00- 3:00
566	Safety Education	3	Mr. Meyer	11:00-12:20
567	Driver Education	3	Mr. Meyer	8:00- 9:20
575	Research Methods & Techniques	3	Dr. Penn	8:00- 9:20
575	Research Methods & Techniques	3	Dr. Penn	9:30-10:50
575	Research Methods & Techniques	3	Dr. Dodd	11:00-12:20
575	Research Methods & Techniques	3	Dr. Dodd	12:30- 1:50
575	Research Methods & Techniques	3	Mr. Bilsky	12:30- 1:50
575	Research Methods & Techniques	3	Mr. Bilsky	11:00-12:20
575	Research Methods & Techniques	3	Dr. Martorana	9:30-10:50
July 2-July 14, 1962				
545	Teaching Reading in Secondary Schools	3	Dr. Kyle	9:30-12:20
July 23-August 10, 1962				
536	Secondary School Problems and Methods	3	Dr. Scheid	9:30-12:20
ENGLISH				
506	Studies in Modern Drama	3	Miss Goossen	9:30-10:50
509	Studies in Prose & Poetry of Milt.	3	Dr. Gronewold	8:00- 9:20
514	Children's Literature	3	Mrs. Ganey	9:30-10:50
518	Major American Poets	3	Dr. Gronewold	12:30- 1:50
520	Shakespearean Tragedy	3	Dr. Bradford	11:00-12:20
522	Studies in Modern American Poetry	3	Dr. Drew	11:00-12:20
527	Early Secondary School Literature	3	Dr. Sherwin	12:30- 1:50
530	Studies in Poetry of Vict. Period	3	Dr. Gragg	8:00- 9:20
532	Literary Criticism	3	Dr. Vucinich	9:30-10:50
EXCEPTIONAL EDUCATION				
520	Speech Problems of Children	3	Dr. Gallagher	9:30-10:50
#551	Practicum in Mental Retardation	6	Mr. Winschel	8:00- 1:00
560	Advanced Clinic in Speech Disorder	3	Dr. Gallagher	11:00-12:20
#591	Nature & Needs of Exceptional Ch.	3	Dr. Bloustein	11:00-12:20
GEOGRAPHY				
501	Studies in Industrial Geography	3	Dr. Fekete	8:00- 9:20
502	Map Interpretation for Teachers	3	Dr. Whittemore	11:00-12:20
HOME ECONOMICS				
500	Seminar in Home Economic Education	3	Dr. Cawley	9:30-10:50
501	Workshop in Home Economics Ed.	3	Dr. Cawley	12:30- 1:50
508	Workshop in Advanced Clothing	3	Dr. Roudebush	8:00- 9:20
510	Practical Problems of Housing	3	Dr. Roudebush	11:00-12:20
INDUSTRIAL ARTS				
502	Field Studies Related to I.A. Ed.	3	Mr. Capen	12:30- 1:50
506	Supervision of Industrial Arts	3	Dr. Brooks	9:30-10:50
513	Workshop in Ceramics	3	Mr. Zielinski	11:00- 1:50
519	New Methods & Tech. in Woodworking	3	Dr. Callan	8:00-10:50
MATHEMATICS				
#500	Mathematics in Elementary Curr.	3	Dr. Rodney	8:00- 9:20
509	Theory of Numbers	3	Dr. Snader	8:00- 9:20
510	Topics from Modern Abstract Algebra	3	Dr. Snader	11:00-12:20

** Additional laboratory time available by arrangement
State Education Department grants available

MUSIC

		Credit	Faculty	Time
500	Music in Education	3	Dr. Boyd	8:00- 9:20

SCIENCE

#500	Science in Elementary Curriculum	3	Dr. Harman	9:30-10:50**
501	Field Studies I	3	Dr. Eckert	11:00-12:20**
503	Ecology	3	Dr. Urban	11:00-12:20**
509	Recent Advanced in Science to H. Ec.	3	Miss Dupre	8:00- 9:20**
518	Human Biology	3	Miss Dupre	11:00-12:20**
Bi. 509	Plant Physiology	3	Dr. Eckert	8:00- 9:20**
Ph. 504	Spectroscopy	3	Dr. Harman	8:00- 9:20**

SOCIAL STUDIES

501	Studies in 20th Cent. European History	3	Dr. E. Brown	9:30-10:50
502	The United States & Its Inter. Amer.	3	Dr. Peterson	8:00- 9:20
504	History of American Frontier	3	Dr. Robison	9:30-10:50
521	Contemporary Social Problems	3	Dr. Hollister	11:00-12:20
527	The Constitution: Politics & Courts	3	Mr. Stone	8:00- 9:20

FOREIGN STUDY PROGRAM IN COOPERATION WITH THE EXPERIMENT IN INTERNATIONAL LIVING

Art 518	Historic and Contemporary Art in Mexico	8	Dr. Tetkowski	(June 28-September 3)
---------	---	---	---------------	-----------------------

POST-SESSION

August 13-24, 1962

GRADUATE

Education 515	Seminar in Early Childhood Educ.	2	Miss Reeve	9:00-12:00
Education 517	Teaching Language Arts	2	Dr. O'Brien	9:00-12:00
Education 523	Princ. & Pract. of Guidance	2	Dr. Klopff	9:00-12:00
Education 533	Workshop in Audio-Visual	2	Dr. Steffen	9:00-12:00
English 513	Seminar Tour in American Lit.	2	Dr. Gronewold	***
Mathematics 502	Workshop in Mathematics	2	Dr. Rodney	8:30-11:30
Social Studies 522	Workshop in Economics	2	Dr. Sexton & Mr. Boyd	9:00-12:00
Social Studies 540	Reform and Reformers	2	Dr. Weaver	9:00-12:00

UNDERGRADUATE

Education 308	Seminar in Early Childhood Educ.	2	Miss Reeve	9:00-12:00
Education 488	Workshop in Reading	2	Miss Kelly	9:00-12:00
English 413	Seminar Tour in American Lit.	2	Dr. Gronewold	***

** Additional laboratory time available by arrangement
*** Headquarters at Boston, Massachusetts
State Education Department grants available

PROPOSED GRADUATE DIVISION CLASSES

1962-63 FIRST SEMESTER

Saturday Morning 9:00 A.M.-11:30 A.M. (3 hours credit)			I.A. 517 Electronics (10:50-1:30) Dr. Cook	
Art 501	Workshop in Art Mat. & Processes	Mrs. Barclay	I.A. 524 Eval. of Industrial Arts Mr. Poleszak	
Art 508	Grad. Stud. in Design & Spatial Org.	Mr. Dakin	I.A. 530 Graphic Arts (10:50-1:30) Mr. Kasprzyk	
Art 510	Grad. Stud. in Photography	Mr. Bailey	Math. 500 Math. in the Elem. Curr. Dr. Cherkauer	
Ch. 504	Physical Chemistry (8:30-12:30)	Mr. Zingaro	Sci. 503 Ecology Dr. Urban	
Ed. 501	Seminar in Elem. Ed.	Dr. Crayton	S.S. 506 Min. Groups in Amer. Culture Dr. Hollister	
Ed. 503	Org. of the Elem. School	Dr. Milanovich	S.S. 515 Studies in Amer. Col. History Dr. Roesser	
Ed. 521	Elementary School Curriculum	Dr. Hemink	Tuesday Afternoon 4:20 P.M.-6:00 P.M. (2 hours credit)	
Ed. 530	Principles of Supervision	Dr. Hedden	Ex. Ed. 538 Understanding the Prob. Child Mr. Hallowitz	
Ed. 532	Secondary School Education	Dr. Sherrie	Ex. Ed. 558 Neuropathologies of Speech Staff	
Ed. 538	Comparative Education	Dr. Bulger	Tuesday Evening 6:30 P.M.-9:00 P.M. (3 hours credit)	
Saturday Morning 9:00 A.M.-10:40 A.M. (2 hours credit)			Art 505 Seminar in Art Education Dr. Squeri	
Art 501	Workshop in Art Mat. & Processes	Mrs. Barclay	Ed. 505 Eval. in the Elem. School Dr. Carroll	
Art 508	Grad. Stud. in Design & Spatial Org.	Mr. Dakin	Ed. 508 Supervision of Stud. Teach. Dr. Ware	
Art 510	Grad. Stud. in Photography	Mr. Bailey	Ed. 510 Seminar in Elem. School Prob. Mr. LaGatutta	
Ed. 533	Workshop in Audio-Visual	Dr. Steffen	Ed. 517 Teaching Language Arts Miss Brown	
Ed. 575	Research Methods & Techniques	Dr. Penn	Ed. 575 Research Methods & Techniques Dr. Eddins	
Eng. 503	Regional American Literature	Mrs. Ganey	Eng. 507 The Modern Novel Dr. Martorana	
Ex. Ed. 535	Mental Measurement	Mr. Nikoloff	Geog. 500 Geography of Eastern Asia Dr. Greenwood	
I.A. 501	Seminar in Industrial Arts	Dr. Neuhardt	H. Ec. 506 Seminar in Home Mgt. Miss Adams	
I.A. 509	History of Industrial Arts	Dr. Russell	Math. 507 Foundations of Mathematics Dr. Stern	
I.A. 513	Workshop in Ceramics (8:00-10:40)	Mr. Zielinski	S.S. 511 Problems of Cont. England Dr. Robison	
I.A. 515	Transportation Laboratory (8:00-10:40)	Mr. Trudeau	Wednesday Afternoon 4:20 P.M.-6:00 P.M. (2 hours credit)	
Music 500	Music in Education	Dr. Boyd	S.S. 514 Workshop in Human Relations Dr. Burrell	
Sci. 501	Field Studies in Science I	Dr. Eckert	Wednesday Evening 6:30 P.M.-9:00 P.M. (3 hours credit)	
S.S. 500	Studies in 20th Cent. Amer. Hist.	Dr. Peterson	Art 513 Grad. Stud. in Graphic Arts Mr. Martin	
S.S. 518	Cont. European Pol. Movements	Dr. E. Brown	Ed. 516 Methods & Mat. in Elem. School Mr. Bilsky	
Saturday Morning 10:50 A.M.-12:30 P.M. (2 hours credit)			Ed. 518 Human Growth & Development Dr. Fink	
Ed. 546	The Teaching of Reading	Dr. Lange	Ed. 575 Research Methods & Techniques Dr. Dickson	
Ed. 575	Research Methods & Techniques	Dr. Dodd	Eng. 520 Shakespearean Tragedy Dr. Fried	
Eng. 518	Major American Poets	Dr. Gronewold	Eng. 533 Lit. of Cont. Europe: The Middle Ages Miss Norenberg	
Eng. 527	Secondary School Lit.	Dr. Sherwin	S.S. 520 Workshop in M & M in S.S. Dr. Sexton	
Ex. Ed. 571	Creative Arts for Mentally Ret.	Dr. Waagen		
H. Ec. 520	Family Financial Planning	Miss Stoner		

1962-63 SECOND SEMESTER

Saturday Morning 9:00 A.M.-11:30 A.M. (3 hours credit)			I.A. 502 Field Studies in I.A. Mr. Capen	
Art 507	Grad. Stud. in Draw. & Paint.	Mr. Davidson	I.A. 507 School Shop Planning Mr. Poleszak	
Art 511	Art in the Elem. Curr.	Mr. Hill	I.A. 521 Methods & Tech. in Metal (10:50-1:30) Dr. Fontanna	
Art 512	Grad. Stud. in Sculpture	Dr. Stark	Sci. 500 Sci. in Elem. Curr. Mr. Scheffer	
Bi. 510	Protozoology (8:30-12:30)	Mr. Nadolinski	S.S. 505 Stud. in Cont. Econ. Prob. Mr. Boyd	
Ed. 501	Sem. in Elem. Ed.	Dr. Crayton	S.S. 527 The Const.: Politics & Courts Mr. Stone	
Ed. 504	Admin. in Elem. School	Dr. MacVittie	Tuesday Afternoon 4:20 P.M.-6:00 P.M. (2 hours credit)	
Ed. 531	Super. of Teaching	Dr. Milanovich	Ed. 575 Research Methods & Techniques Mr. Bilsky	
Ed. 552	Legal Problems of Education	Dr. Gittler	Ex. Ed. 524 Introduction to Audiology Staff	
Ph. 503	Nuclear Physics (8:30-12:30)	Dr. Harman	Ex. Ed. 543 Speech Reading Staff	
Saturday Morning 9:00 A.M.-10:40 A.M. (2 hours credit)			Tuesday Evening 6:30 P.M.-9:00 P.M. (3 hours credit)	
Art 507	Grad. Stud. in Draw. & Paint.	Mr. Davidson	Art 506 Seminar in Contem. Art Staff	
Art 512	Grad. Stud. in Sculpture	Dr. Stark	Ed. 501 Seminar in Elem. Educ. Dr. Sugarman	
Ed. 546	Teaching of Reading	Dr. Ware	Ed. 508 Supervision of Student Teaching Mrs. Ferm	
Ed. 575	Research Methods & Techniques	Dr. Penn	Ed. 511 Music & Art in the Elem. School Mr. Bailey	
Eng. 506	Studies in Modern Drama	Mr. Schuck	Ed. 527 Prob. in Educ. Serv. for Young Children Mrs. Febel	
Eng. 514	Children's Literature	Mrs. Ganey	Ed. 575 Research Methods & Techniques Dr. Martorana	
Ex. Ed. 591	N. & N. of Except. Children	Staff	Eng. 505 Studies in the Novel Dr. Gronewold	
H. Ec. 500	Seminar in H. Ec. Ed.	Dr. Clarke	Eng. 548 Seminar in Creative Dramatics Miss Piquette	
I.A. 506	Super. of I.A.	Dr. Neuhardt	Geog. 505 Geography of Mediterranean World Dr. Whittemore	
I.A. 518	Adv. Electronics (8:00-10:40)	Dr. Cook	S.S. 509 Local History: Research Methods & Techniques Dr. Brunger	
I.A. 519	Methods & Tech. in Wood (8:00-10:40)	Dr. Callan	Wednesday Evening 6:30 P.M.-9:00 P.M. (3 hours credit)	
I.A. 528	I.A. Curriculum Const.	Dr. Brooks	Art 509 Graduate Studio in Crafts Dr. Winebrenner	
Sci. 518	Human Biology	Miss Dupre	Ed. 506 Philosophy of Education Dr. Wells	
S.S. 517	The Hist. & Inst. of Soviet Union	Staff	Ed. 529 Adolescent Psychology Dr. Fink	
S.S. 530	The Sociology of Crime	Mr. Falk	Ed. 537 Eval. in Secondary School Dr. King	
Saturday Morning 10:50 A.M.-12:30 P.M. (2 hours credit)			Ed. 575 Research Methods & Techniques Dr. Dodd	
Ed. 533	Workshop in A-V	Dr. Hedden	Eng. 521 Studies in Modern British Poetry Dr. Drew	
Ed. 566	Safety Education	Mr. Meyer	Math. 508 Mathematical Statistics Staff	
Ed. 575	Research Methods & Techniques	Dr. Barnett	S.S. 513 Social & Intel. History of U. S. Dr. Weaver	
Eng. 524	Realism in Amer. Lit.	Staff		
Ex. Ed. 527	Guid. of Child. Who are Except.	Staff		
Ex. Ed. 561	Occup. Ed. for Child. with M.R.	Staff		
H. Ec. 512	Workshop in Household Equip.	Miss Stoner		

1963-64 FIRST SEMESTER

Saturday Morning 9:00 A.M.-11:30 A.M.
(3 hours credit)

Art 503 Workshop in Using Visual Language
Art 509 Graduate Studio in Crafts
Art 512 Graduate Studio in Sculpture
E.S. 531 Geology of New York State (8:30-12:30)
Ed. 501 Seminar in Elementary Education
Ed. 503 Organization of Elementary School
Ed. 521 The Elementary School Curriculum
Ed. 536 Secondary School Problems & Methods
Ed. 542 Seminar in Secondary School Curriculum

Saturday Morning 9:00 A.M.-10:40 A.M.
(2 hours credit)

Art 509 Graduate Studio in Crafts
Art 512 Graduate Studio in Sculpture
Ed. 517 Teaching Language Arts in Elem. School
Ed. 533 Workshop in Audio-Visual Educ.
Ed. 575 Research Methods & Techniques
Eng. 530 Studies in Poetry of Victorian Period
Ex. Ed. 535 Mental and Educational Measurement
H. Ec. 516 Family Clothing
I.A. 501 Seminar in Industrial Arts
I.A. 509 History of Industrial Arts
I.A. 513 Workshop in Ceramics (8:00-10:40)
I.A. 517 Electronics (8:00-10:40)
Music 500 Music in Education
Sci. 501 Field Studies I
S.S. 500 Twentieth Century American History
S.S. 516 International Relations & World Today
S.S. 517 History & Institutions of Soviet Union

Saturday Morning 10:50 A.M.-12:30 P.M.
(2 hours credit)

Ed. 546 Teaching of Reading
Ed. 575 Research Methods & Techniques
Eng. 502 Studies in American Literature
Eng. 507 The Modern Novel
Ex. Ed. 571 Creative Arts for Mentally Retarded
Ex. Ed. 581 Teaching Severely Retarded (Trainable)

Geog. 501 Studies in Industrial Geography
H. Ec. 506 Seminar in Home Management
I.A. 512 Workshop in Textiles (10:50-1:30)
I.A. 515 Transportation Laboratory (10:50-1:30)
I.A. 524 Evaluation in Industrial Arts
Math. 500 Mathematics in Elementary Curriculum
Sci. 503 Ecology
S.S. 524 Studies in Non-Western Culture — The Middle East
S.S. Government and the American Economy

Tuesday Afternoon 4:20 P.M.-6:00 P.M.
(2 hours credit)

Ed. 575 Research Methods & Techniques
Ex. Ed. 538 Understanding Prob. Child in Classroom
Ex. Ed. 556 Advanced Seminar in Voice & Art. Problems

Tuesday Evening 6:30 P.M.-9:00 P.M.
(3 hours credit)

Art 515 Graduate Studio in Home & Com. Planning
Ed. 505 Evaluation in Elem. School
Ed. 508 Supervision of Student Teaching
Ed. 510 Seminar in Elem. School Problems
Ed. 515 Seminar in Early Child. Education
Ed. 575 Research Methods & Techniques
Eng. 510 Emerson & Thoreau
Math. 506 History of Mathematics
S.S. 520 Workshop in Methods & Materials in S.S.
S.S. Population Problems

Wednesday Evening 6:30 P.M.-9:00 P.M.
(3 hours credit)

Art 513 Graduate Studio in Graphic Arts
Ed. 530 Principles of Supervision
Ed. 538 Comparative Education
Ed. 546 Teaching of Reading
Ed. 575 Research Methods & Techniques
Eng. 500 Studies in Struct. & Function of Lang.
Eng. 521 Studies in Modern British Poetry
S.S. 504 History of American Frontier

1963-64 SECOND SEMESTER

Saturday Morning 9:00 A.M.-11:30 A.M.
(3 hours credit)

Art 507 Graduate Studio in Drawing & Painting
Art 508 Graduate Studio in Design & Spatial Org.
Art 511 Art in the Elementary Curriculum
Bi. 508 Comparative Vertebrate Anatomy (8:30-12:30)
Ed. 501 Seminar in Elementary Education
Ed. 529 Adolescent Psychology
Ed. 531 Supervision of Teaching
Ed. 532 Secondary School Education
Ed. 552 Legal Problems of Education

Saturday Morning 9:00 A.M.-10:40 A.M.
(2 hours credit)

Art 507 Graduate Studio in Drawing & Painting
Art 508 Graduate Studio in Design & Spatial Org.

Ed. 516 Methods & Materials in Elem. School
Ed. 546 Teaching of Reading
Ed. 575 Research Methods & Techniques
Eng. 520 Shakespearean Tragedy
Ex. Ed. 561 Occ. Educ. for Children with M.R.
H. Ec. 510 Practical Problems in Housing
I.A. 506 Supervision of Industrial Arts
I.A. 507 School Shop Planning
I.A. 518 Advanced Electronics (8:00-10:40)
I.A. 519 New Methods & Tech. in Wood (8:00-10:40)
Sci. 518 Human Biology
S.S. 505 Studies in Contemporary Econ. Problems
S.S. 540 Reform and Reformers in American Civilization
S.S. Cultural Anthropology

Saturday Morning 10:50 A.M.-12:30 P.M.
(2 hours credit)

Ed. 533 Workshop in Audio-Visual Education
Ed. 575 Research Methods & Techniques
Eng. 514 Children's Literature
Eng. 527 Early Secondary School Literature
Ex. Ed. 539 The Gifted Child
Ex. Ed. 591 Nature & Needs of Exceptional Child.
H. Ec. 507 Evaluation in Home Economics Education
I.A. 521 New Methods & Techniques in Metal (10:50-1:30)
I.A. 523 Industrial Arts in Elem. School (10:50-1:30)
I.A. 528 Industrial Arts Curriculum Constr.
I.A. 529 Advanced Drafting (10:50-1:30)
Sci. 500 Science in Elementary Curriculum
S.S. 512 U. S. in Contemporary World Affairs
S.S. Elective in Sociology

Tuesday Afternoon 4:20 P.M.-6:00 P.M.
(2 hours credit)

Ed. 575 Research Methods & Techniques
Ex. Ed. 527 Guidance of Children Who are Exceptional
Ex. Ed. 559 Seminar in Stuttering

Tuesday Evening 6:30 P.M.-9:00 P.M.
(3 hours credit)

Art 504 Seminar in Art in Human Affairs
Ed. 508 Supervision of Student Teachers
Ed. 511 Music and Art in Elementary School
Ed. 527 Prob. in Educ. Services for Young Child.
Ed. 546 Teaching of Reading
Ed. 575 Research Methods & Techniques
Eng. 509 Studies in Prose & Poetry of Milton
Eng. 522 Studies in Modern American Poetry
Geog. 504 Studies in the Geog. of North America
S.S. 501 Studies in 20th Century European History
OR
S.S. Elective in 20th Century Diplomacy

Wednesday Evening 6:30 P.M.-9:00 P.M.
(3 hours credit)

Art 516 Graduate Studio in Adv. & Ill.
Ed. 504 Admin. of Elementary School
Ed. 518 Human Growth & Development
Ed. 537 Evaluation in Secondary Schools
Ed. 575 Research Methods & Techniques
Eng. 508 Literature of Greece and Rome
Math. 509 Theory of Numbers
S.S. 519 Case Studies in Local Government & Politics

INFORMATION FOR UNDERGRADUATE STUDENTS

1. Formal admission to the College is required of any Extension student who wishes to become a candidate for the bachelor of science degree. Application for Admission blanks, as well as an evaluation of the student's record must be secured from the Director of Elementary and Secondary Education. This evaluation is necessary before undergraduate courses can be credited toward the bachelor's degree and it becomes a planned schedule for the remainder of the student's degree program.
2. Graduates of a two or three year elementary education curriculum in another college should note that off-campus courses offered by this college are not acceptable toward residence requirements for the bachelor's degree from this College. A minimum of twenty-four semester hours must be earned on campus in Summer Session, Extension program, or regular College session. Any student wishing to attend the regular College session in order to meet residence requirements must apply to the Director of Elementary and Secondary Education Division for admission to the College with advanced credit standing.
3. Graduates of a two or three year elementary education curriculum in *this* College must arrange to register for the last twelve hours of the fourth year on campus in regular College Session, summer session or extension courses.
4. Only students who have graduated from a two or three year elementary education curriculum may complete all of the remaining requirements for the bachelor's degree through extension classes.
5. Students wishing to register for undergraduate courses to meet certification requirements may enroll in extension classes as *Special*

Students. However, credit earned will not necessarily be accepted toward a degree program.

6. A *permit to register* must be secured by all undergraduate students in Elementary Education before registration in any extension or summer session courses.
7. Undergraduate students in the extension program are held to all academic regulations of the college.

UNDERGRADUATE EXTENSION COURSES

1962-63 FIRST SEMESTER

Saturday Morning 9:00 A.M.-10:40 A.M.
(2 hours credit)
Ed. 220 Outdoor Education Staff
Eng. 210 Children's Literature Mrs. Greenwood
G.S. 301 Ideas of Man and His World of Literature Mr. Hogue
S.S. 230 Col. History of Amer. People Dr. R. Brown

Saturday Morning 10:50 A.M.-12:30 P.M.
(2 hours credit)
Ed. 465 Audio-Visual Education Mrs. Goldberg
Ed. 487 Teach. Lang. Arts in Elem. School Miss Kelly
Eng. 402 Contemporary Literature Dr. Drew
H. Ed. 204 Personal & Community Health Staff

1963-64 FIRST SEMESTER

Saturday Morning 9:00 A.M.-10:40 A.M.
(2 hours credit)
Bio. 101 General Biology
Ed. 487 Teaching the Language Arts
Eng. 348 Creative Dramatics
G.S. 301 Ideas of Man & His World of Lit.

Saturday Morning 10:50 A.M.-12:30 P.M.
(2 hours credit)
Ed. 465 Audio-Visual Education
Math. 303 Mathematics in the Elementary Grades
Music 304 Music for Children
S.S. 240 The American Community

1962-63 SECOND SEMESTER

Saturday Morning 9:00 A.M.-10:40 A.M.
(2 hours credit)
Ed. 402 Seminar in Elem. School Teach. Miss Pearson
Ed. 486 Methods and Materials in the Elementary School Miss Concannon
Music 305 Music for Children II Miss English
Sci. 410 Field Study I Staff

Saturday Morning 10:50 A.M.-12:30 P.M.
(2 hours credit)
Art 400 Workshop in Crafts Mrs. Delius
Ed. 310 Evaluation in Elem. Grades Mr. McComb
Eng. 250 Types of British & Amer. Lit. I Staff
G.S. 104 Ways of Knowing Staff

1963-64 SECOND SEMESTER

Saturday Morning 9:00 A.M.-10:40 A.M.
(2 hours credit)
Bio. 102 General Biology
G.S. 104 Ways of Knowing
Ed. 402 Seminar in Elementary Education
S.S. 230 Colonial History of the American People

Saturday Morning 10:50 A.M.-12:30 P.M.
(2 hours credit)
Ed. 310 Evaluation in the Elementary School
Eng. 250 Types of British & American Lit. I
Music 305 Music for Children II
Sci. 310 Science in the Elementary Grades

THE GRADUATE EXTENSION DIVISION

DAVID A. ROGERS, *Director*

STEVEN GITTLER, *Associate Director*

GENERAL INFORMATION

1. 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 applicants, and is made without regard to the race, color, creed, or national origin of individuals.
2. Graduate classes are open to anyone qualified for teaching and to persons seeking certification in the State of New York.
3. Credit granted for the completion of any course which is to be applied toward the bachelor of science or the master of science degree, is subject to the approval of the Director of the Division concerned.
4. Graduate credit is transferable to other academic institutions in accordance with the regulations of the individual college or university receiving the credit.
5. Off-campus extension classes will be organized in convenient centers when requests received indicate sufficient interest to warrant establishing them. Teacher groups interested in the formation of off-campus courses should contact the Director of Graduate Extension as far in advance as possible. A minimum registration of twenty fee-paying students will be required for the organization of such off-campus classes.
6. The right is reserved to make, without notice, any necessary changes in the course offerings listed in this bulletin.
7. General questions relating to the Graduate Extension program of this College should be sent to Dr. David A. Rogers, Director of Graduate and Extension Education, State University College, Buffalo 22, New York.

GRADUATE CURRICULA

Graduate courses lead to the Master of Science in Education degree with majors in Art Education, Early Secondary Education, Secondary Education, Elementary Education, Elementary Administration or Supervision, Exceptional Children Education, Home Economics Education, Industrial Arts Education.

GRADUATE WORK LIMITED TO SUMMER SESSION AND EXTENSION CLASSES

At present no graduate work is offered during the Regular Session. Graduate schedules will be planned so that requirements for the Master of Science degree may be completed by attendance at five Summer Sessions. This time may be shortened by registration in Graduate Extension classes during the regular year.

REQUIREMENTS FOR ADMISSION TO GRADUATE DIVISION

Applicants meeting the following requirements are eligible for admission to the Graduate Division:

1. An acceptable academic and teaching record. An applicant must be able to present an undergraduate scholastic average of 2.3 or higher, an acceptable teaching record testified by a confidential statement from the administrator of the school wherein employed, and recommendations concerning academic and personal qualifications supplied by three persons in a position to make valid statements.
2. One of the following:
 - A. An approved bachelor's degree and eligibility to teach in the elementary school or in a field of specialization in New York State. An *approved* bachelor's degree is one granted by a teachers college, liberal arts college, or university which is accredited by the American Association of Colleges for Teacher Education, an appropriate regional accrediting agency, or a State University.
 - B. An approved bachelor's degree and a desire to become certified to teach in New York State under the requirements of the Bureau of Teacher Education and Certification.
 - C. An approved bachelor's degree and a teaching certificate from another state. Completion of the master's degree requires New York State certification. Applicants interested in New York State certification should secure an evaluation of credit and a statement of prescribed work necessary from the Bureau of Teacher Education and Certification, State Education Department, Albany 1, New York.

PROCEDURE BEFORE REGISTRATION

1. Secure an Application for Admission blank from the Director of the Graduate Division.
2. Return application, with all data required, before June 1, for registration in the Summer Session; before September 1, for registration in fall semester, and before January 1, for registration in the spring semester.
3. Furnish the Graduate Office with an official transcript from the college which granted the bachelor's degree. (Not necessary for graduates of this college.)
4. Filing of the Application for Admission blank in the Graduate Office constitutes a *permit to register* for a student beginning graduate study.

ADMISSION TO FULL GRADUATE STATUS

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

APPOINTMENT OF AN ADVISER

An adviser will be appointed after full graduate status is granted. Therefore, the student should complete credentials and secure full graduate status as soon as possible after application for admission to the Graduate Division 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 the Graduate Division 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 the Graduate Division.
3. A comprehensive written examination may be required by the Graduate Committee upon the recommendation of the student's adviser or Director of the Division in which application is made.

REQUIREMENTS FOR MASTER OF SCIENCE DEGREE

1. Completion of thirty-two semester hour program of graduate courses.
2. A cumulative average of B or better in *all* graduate courses completed in this college. 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 a College Camp, or at a branch established by the College.
 - A. For graduates of this college—a minimum of twenty hours *in-residence* is required out of the total thirty-two.
 - B. For graduates of another college—a minimum of twenty-four credit hours *in-residence* is required out of the total thirty-two.
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 grades 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.
 - A. Students holding full-time teaching positions are limited to a maximum of four credits per semester or eight credits per academic year. No credit will be given for work taken beyond this maximum at this college or elsewhere.
 - B. In Summer Session students are permitted to earn a maximum of two credits for a two-week program; three credits for a three-week program; six credits for a six-week program; and eight credits for an eight-week program.

GRADUATE ACADEMIC REGULATIONS

ATTENDANCE

Attendance at all classes is required unless the student is excused by the instructor. A student may be excluded from a course if the instructor considers absences and tardiness to be too frequent for acceptable achievement.

CANCELLATION OF A COURSE

If a student finds it necessary to drop a course, he must notify the Graduate Office immediately that he is officially dropping the course. State University policy permits refunds of fees for cancelled courses only during the first five business days after registration.

The students' records will be noted as follows:

1. W (before the end of the sixth class)
2. WP (after the sixth week, with passing grade)
3. WE (after the sixth week, with failing grade)
4. XE (course abandonment) Any student who abandons a course places his future continuation at this college in jeopardy.

GRADING SYSTEM

A	Above average graduate work	4 quality points
B	Average graduate work	3 quality points
C	Below average graduate work	2 quality points
D	Passing grade but not applicable for a degree	1 quality point
E	Failure	0 quality points
INC	Work incomplete because of reasons deemed justifiable by the instructor.	

REMOVAL OF AN "INCOMPLETE"

An "incomplete" must be made up within the following semester, not including the summer session. An "incomplete" not made up during this semester will automatically be recorded as an "E".

CUMULATIVE AVERAGE

A cumulative average of "B" or better in *all* graduate courses completed at this college is required for the master of science 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 32 semester hours, he may be permitted to enroll for additional courses to the maximum number of 6 semester hours to attempt to make up his deficiency.

SPECIAL STUDENTS

1. Students not intending to apply for admission to candidacy for the master's degree, may be permitted to register for courses in the Graduate Division 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 the Graduate Division 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 the Graduate Division.
4. An application must be secured and filed in the office of the Graduate Division before registration as a special student.



GRADUATE CURRICULA

ART EDUCATION

COURSES IN TECHNICAL AND RELATED FIELDS 20-23 SEM. HOURS

Technical Courses:

- Art 501 Workshop in Art Educa-
Materials, Processes, and
Procedures 3 Sem. Hrs.
- Art 503 Workshop in Using the Vis-
ual Language 3 Sem. Hrs.
- Art 506 Seminar in Contemporary
Art 2 Sem. Hrs.
- Art 507 Graduate Studio in Drawing
and Painting 2-6 Sem. Hrs.
- Art 508 Graduate Studio in Design
and Spatial Organization 2-6 Sem. Hrs.
- Art 509 Graduate Studio in Crafts 2-6 Sem. Hrs.
- Art 510 Graduate Studio in Photo-
graph 2-6 Sem. Hrs.
- Art 512 Graduate Studio in Sculpture
2-6 Sem. Hrs.
- Art 513 Graduate Studio in Graphic
Arts 2-6 Sem. Hrs.
- Art 520 Art Camp 2 Sem. Hrs.
- Art 526 Special Study 2-4 Sem. Hrs.
- Graduate Courses in the Practical Arts 2-6 Sem. Hrs.

Courses in Related Fields:

- Art 504 Seminar in Art in Human
Affairs 2 Sem. Hrs.
- *Art 505 Seminar in Art Education 3 Sem. Hrs.
- Art 514 Workshop in Folk Arts 2 Sem. Hrs.
- Art 526 Special Study 2-4 Sem. Hrs.
- Graduate Courses in Psychology and
Education 2-6 Sem. Hrs.

RESEARCH:

- Ed. 575 Research Techniques 2 Sem. Hrs.
 - Art 550 Project 4 Sem. Hrs.
 - Art 525 Master's Thesis 6 Sem. Hrs.
- (Each candidate, after a conference with his adviser, may select one of the above requirements.)

REQUIRED COURSES IN ARTS AND SCIENCE
9-12 SEM. HRS.

Chosen by advisement from English, Geography, Mathematics, Music, Science, and Social Studies.
Total requirements: 32 semester hours

*Required for master's degree in Art Education.

EARLY SECONDARY EDUCATION

The College, responding to the growing demands for teachers in the seventh, eighth, and ninth grades, has developed a program which enables the holder of a bachelor's degree and an elementary teaching certificate to extend the validity of such certificate to include in the early secondary (junior high) schools of New York State.

The completion of two courses in one summer session (one in Early Secondary School Education and one in the subject matter field of specialization), will entitle the elementary teacher to a provisional certificate to teach in the early secondary grades. This certification will be renewed from year to year by continued summer session and extension study, and teaching in the early secondary (junior high school) grades. The permanent form of early secondary certification will be granted upon the completion of thirty semester hours in this graduate program and evidence of two years successful full-time teaching experience at the early secondary grade level.

A teacher preparing for early secondary (junior high) school teaching who wishes also to become a candidate for the master of science degree must complete *thirty-two* semester hours of graduate work. Admission, candidacy, and master's degree requirements will be found under Graduate Program in this bulletin.

Preparation for teaching in the early secondary grades is offered in two subject matter fields: English, and Social Studies.

THE TEACHING OF ENGLISH IN EARLY SECONDARY (JUNIOR HIGH) SCHOOL

- PREREQUISITES** 21 SEM. HRS.
- Written Composition 6 Sem. Hrs.
 - Speech 6 Sem. Hrs.
 - Literature (English, American, Con-
temporary) 9 Sem. Hrs.

THE GRADUATE PROGRAM

REQUIRED COURSES:
(by advisement) within the area of specialization: 12 SEM. HRS.

A course in English Literature to be chosen from: Eng. 504, 505, 509, 520, 521, 523, 530, 531
A course in American Literature to be chosen from: Eng. 502, 503, 510, 518, 522, 524

A course in general literature to be chosen from: Eng. 506, 507, 508, 515, 532, 533, 534, 535

A course in language to be chosen from: Eng. 500, 526

ELECTIVE COURSES:

(by advisement) within the area of specialization or other academic field 9-10 Sem. Hrs.

PROFESSIONAL COURSES: 8-9 Sem. Hrs.

Required courses: Ed. 532; (by advisement) Ed. 529, 536; Eng. 527 (Required of students extending certification to include Early Secondary English, who have not had Eng. 213.)

Elective courses: Ed. 506, 519, 523, 533, 537, 538, 541, 542, 545.

RESEARCH: 2-6 SEM. HRS.

- Ed. 575 Research Methods and
Techniques 2-3 Sem. Hrs.
 - Eng. 550 Project 4 Sem. Hrs.
 - Eng. 525 Master's Thesis 6 Sem. Hrs.
- (Each candidate, after conference with his adviser, may select one of the above requirements.)

Total requirements: 32 semester hours

THE TEACHING OF SOCIAL STUDIES IN EARLY SECONDARY (JUNIOR HIGH) SCHOOL

- PREREQUISITES** 21 SEM. HRS.
- American History 6 Sem. Hrs.
 - European History 6 Sem. Hrs.
 - Geography 3 Sem. Hrs.
 - Political Science such as: S.S. 503, 519
 - Economics such as: S.S. 505
 - Sociology such as: S.S. 506, 510, 521
- Minimum of 2 hrs. each in 2 fields 6 Sem. Hrs.
(Substitution may be made for individual requirements provided the deficiency is corrected on the graduate level.)

THE GRADUATE PROGRAM

REQUIRED COURSES:

(by advisement) within the area of specialization 12 Sem. Hrs.

- a. In related fields:
Political Science such as: S.S. 503, 519
Economics such as: S.S. 505
Sociology such as: S.S. 506, 510, 521
Minimum of 2 hrs. each in 2 fields 6 Sem. Hrs.
(If this requirement has been met by electives on the undergraduate level, the student may substitute Social Studies graduate electives.)
- b. Concentration in 1 of 3 areas 6 Sem. Hrs.
Community and New York State Studies such as: S.S. 506, 507, 509, 510, 519
American Studies such as: S.S. 500, 502, 504, 512, 513, 515, 521; Geog. 504
World Studies such as: S.S. 501, 511, 516, 517, 518; Geog. 500, 501, 505

ELECTIVE COURSES:

(by advisement) within the area of specialization or other academic fields 9-10 Sem. Hrs.

PROFESSIONAL COURSES: 8-9 Sem. Hrs.

Required courses: Ed. 532; (by advisement) Ed. 529, 536; S.S. 520

Elective courses: Ed. 506, 519, 523, 533, 537, 538, 541, 542

RESEARCH: 2-6 SEM. HRS.

- Ed. 575 Research Methods and
Techniques 2-3 Sem. Hrs.
 - S.S. 550 Project 4 Sem. Hrs.
 - S.S. 525 Master's Thesis 6 Sem. Hrs.
- (Each candidate, after conference with his adviser, may select one of the above requirements.)

Total requirements: 32 semester hours

SECONDARY EDUCATION

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

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-two 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 MATHEMATICS IN SECONDARY (JUNIOR AND SENIOR HIGH) SCHOOL

- PREREQUISITES** 24 SEM. HRS.
- Twenty-four or more semester hours of undergraduate mathematics (chosen by advisement) from the following: College Algebra, College Geometry, Trigonometry, Analytic Geometry, Projective Geometry, Calculus, Differential Equations, Mathematics of Finance, Abstract Algebra

THE GRADUATE PROGRAM

SPECIALIZED AREAS

(Major and Minor) 18 Sem. Hrs.

Required Courses:

A minimum of 12 hours of Graduate Mathematics Courses selected by advisement 12-18 Sem. Hrs.

Elective Courses:

These may be in Mathematics or Science. Mathematics majors with a Science minor must take Ed. 535, Methods in Teaching Secondary School Science, in the first summer session if they wish to secure provisional certification to teach Science 0-6 Sem. Hrs.

ELECTIVES

Other than major and minor areas 8 Sem. Hrs.

PROFESSIONAL COURSES:

Ed. 537 Evaluation in the Secondary School 3 Sem. Hrs.

RESEARCH:

Required of all students who are candidates for the Master's degree. Each candidate, after conference with his adviser, may select one of the following requirements:

- Ed. 575 Research Methods and Techniques 3 Sem. Hrs.
- Math. 550 Project 4 Sem. Hrs.
- Math. 525 Thesis 6 Sem. Hrs.

Total requirements: 32 semester hours

THE TEACHING OF SCIENCE IN SECONDARY (JUNIOR AND SENIOR HIGH) SCHOOL

PREREQUISITES 48 SEM. HRS.

Major Area of Specialization 30 Sem. Hrs.

General Science: 30 Sem. Hrs. in four fields: Biology, Chemistry, Earth Science, and Physics.

Biology, Chemistry, Earth Science, Physics: 30 Sem. Hrs. in major area. Chemistry and Physics majors require, in addition, Differential and Integral Calculus.

Minor Area of Specialization 18 Sem. Hrs.

THE GRADUATE PROGRAM

SPECIALIZED AREAS

General Science: (Major 12 hrs., Minor 6 hrs. chosen from among Sci. 501, 502, 504, 518, electives by advisement.

Biology: Major 12 sem. hrs. including Bio. 501, 505, electives chosen from among Bio. 507, 508, 509, 510, 511; Minor 6 sem. hrs. including Bio. 501, electives chosen (by advisement) from above list.

Chemistry: Major 12 sem. hrs. including Ch. 501, 503, 504, electives chosen from among Ch. 502, 505, 506, 507; Minor 6 sem. hrs. of Chemistry, electives chosen (by advisement) from above list.

Earth Science: Major 12 sem. hrs., E.S. 501, 502, 503, 504; Minor 6 sem. hrs. E.S. 501, 502

Physics: Majors 12 sem. hrs. chosen from among Ph. 501, 502, 503, 504, 505, 506; Minor 6 sem. hrs., Ph. 503, electives chosen by advisement from the above list.

ELECTIVES

Other than major and minor areas 8 Sem Hrs.

PROFESSIONAL COURSES:

Ed. 537 Evaluation in the Secondary School 3 Sem. Hrs.

RESEARCH:

Required of all students who are candidates for the Master's degree. Each candidate, after conference with his adviser, may select one of the following requirements:

- Ed. 575 Research Methods and Techniques 3 Sem. Hrs.
- Sci. 550 Project 4 Sem. Hrs.
- Sci. 525 Thesis 6 Sem. Hrs.

Total requirements: 32 semester hours

ELEMENTARY EDUCATION

REQUIRED PROFESSIONAL COURSES 12 SEM. HRS.

Ed. 501 Seminar Elementary Education 3 Sem. Hrs.

*Education Electives (by advisement) 9 SEM. HRS.

*If Ed. 525 is chosen, select one course from Group A and one course from Group B. If Ed. 550 or Ed. 575 is chosen, select one course from Group A, one course from Group B, and a third course from either Group A or B.

GROUP A:

Ed. 515 Seminar in Early Childhood Education or

Ed. 527 Problems in Educational Services for Young Children

Ed. 517 Teaching the Language Arts in the Elementary School or

Ed. 546 The Teaching of Reading

Ed. 521 The Elementary School Curriculum

Ed. 533 Workshop in Audio-Visual Education

Ed. 516 Methods and Materials in the Elem. School

Eng. 514 Children's Literature

GROUP B: Ed. 509 Personality Adjustment in the Elem. School or

Ed. 519 Applied Mental Hygiene

Ed. 506 Philosophy of Education or

Ed. 541 Social Foundation of Education

Ed. 503 Organization of the Elementary School or

Ed. 530 Principles in the Supervision of Teaching

Ed. 548 Workshop in French in the Elementary Grades or

Ed. 539 Workshop in Spanish in the Elementary Grades

Ed. 505 Evaluation Techniques in the Elementary School

Ed. 508 Supervision of Student Teaching

Ed. 518 Studies in Human Growth and Development

Ed. 523 Principles and Practices of Guidance

Ed. 538 Comparative Education

Ex. Ed. 520 Speech Problems of Children

Ex. Ed. 591 Nature and Needs of Exceptional Children

REQUIRED COURSES IN ARTS AND SCIENCES 17 SEM. HRS.

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

RESEARCH 3-6 SEM. HRS.

Ed. 575 Research Methods and Techniques 3 Sem. Hrs.

Ed. 550 Project 3 Sem. Hrs.

Ed. 525 Thesis 6 Sem. Hrs.

(Each candidate, after a conference with his adviser, may select one of the above requirements.)

Total requirements: 32 semester hours

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. 503 and 504. Candidates for the permanent certificate must complete the bachelor's degree and thirty hours in approved graduate courses including, in addition to Ed. 503 and 504, three to six hours in Ed. 507, 520, 521, or 552.

Experienced teachers desiring the elementary school supervisor's provisional certificate should complete the bachelor's degree and six semester hours in Ed. 530 and 531. Candidates for the permanent certificate must complete an additional twenty-four semester hours in approved graduate courses, six of which should be in Ed. 521 and 551.

REQUIRED PROFESSIONAL COURSES 12 SEM. HRS.

Ed. 500 Workshop in Elementary Education 6 Sem. Hrs.

Ed. 503 Organization of the Elementary School 3 Sem. Hrs.

Ed. 504 Administration of the Elementary School 3 Sem. Hrs.

Ed. 530 Principles of Supervision 3 Sem. Hrs.

Ed. 531 Supervision of Teaching 3 Sem. Hrs.

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

REQUIRED COURSES IN ARTS AND SCIENCES 8-10 SEM. HRS.

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

RESEARCH 2-6 SEM. HRS.

Ed. 575 Research Methods and Techniques 2-3 Sem. Hrs.

Ed. 550 Project 4 Sem. Hrs.

Ed. 525 Master's Thesis 6 Sem. Hrs.

(Each candidate, after conference with his adviser, may select one of the above requirements.)

UNRESTRICTED ELECTIVES 4-10 SEM. HRS.

Total requirements: 32 semester hours

EXCEPTIONAL CHILDREN EDUCATION OF CHILDREN WITH MENTAL RETARDATION

REQUIRED COURSES IN THE FIELD OF SPECIALIZATION 12 SEM. HRS.

By advisement from the following:

Ex. Ed. 520 Speech Correction for Elementary School Teachers

Ex. Ed. 527 Guidance of Children who are Exceptional

*Ex. Ed. 535 Mental and Educational Measurement

Ex. Ed. 538 Understanding the Problem Child in the Classroom

Ex. Ed. 539 The Gifted Child

*Ex. Ed. 551 Practicum in Mental Retardation

*Ex. Ed. 561 Curriculum Practices for the Mentally Retarded

*Ex. Ed. 571 Creative Arts for the Mentally Retarded

Ex. Ed. 581 Teaching the Severely Retarded

*Ex. Ed. 591 Nature and Needs of Exceptional Children

REQUIRED COURSES IN ARTS AND SCIENCES 12 SEM. HRS.

Graduate courses in English, Geography, Mathematics, Music, Science and Social Studies by advisement

RESEARCH 2-6 Sem. Hrs.

Ed. 575 Research Methods and Techniques 2-3 Sem. Hrs.

Ex. Ed. 550 Project 4 Sem. Hrs.

Ex. Ed. 525 Master's Thesis 6 Sem. Hrs.

(Each candidate, after conference with his adviser, may select one of above requirements.)

UNRESTRICTED ELECTIVES 5-9 Sem. Hrs.

Total requirements: 32 semester hours

EDUCATION OF CHILDREN WITH ORTHOPEDIC HANDICAP

REQUIRED COURSES IN THE FIELD OF SPECIALIZATION 12 Sem. Hrs.

By advisement, from the following:

- Ex. Ed. 502 Workshop in the Education of Children with Orthopedic Handicap
- Ex. Ed. 512 Seminar in Education of Children with Orthopedic Handicap
- Ex. Ed. 520 Speech Problems of Children
- Ex. Ed. 527 Guidance of Children who are Exceptional
- Ex. Ed. 538 Understanding the Problem Child in the Classroom
- Ex. Ed. 591 Nature and Needs of Exceptional Children

REQUIRED COURSES IN ARTS AND SCIENCES
12 SEM. HRS.

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

- RESEARCH** _____ 2-6 SEM. HRS.
Ed. 575 Research Methods and Techniques _____ 2-3 Sem. Hrs.
Ex. Ed. 550 Project _____ 4 Sem. Hrs.
Ex. Ed. 525 Master's Thesis _____ 6 Sem. Hrs.
(Each candidate, after conference with his adviser, may select *one* of the above requirements.)

UNRESTRICTED ELECTIVES _____ 5-9 SEM. HRS.
Total requirements: 32 semester hours

EDUCATION OF CHILDREN WITH SPEECH AND HEARING IMPAIRMENT

- PREREQUISITES** _____ 16 SEM. HRS.
Science of Speech and Hearing _____ 3 Sem. Hrs.
Phonetics _____ 2-3 Sem. Hrs.
Speech Pathology _____ 6 Sem. Hrs.
Speech Correction _____ 3 Sem. Hrs.
Introduction to Audiology _____ 3 Sem. Hrs.
(Substitution may be made for individual requirements provided the deficiency is corrected on the graduate level.)

THE GRADUATE PROGRAM

REQUIRED COURSES IN THE FIELD OF SPECIALIZATION _____ 12 SEM. HRS.

By advisement from the following:

- Ex. Ed. 556 Advanced Seminar in Voice and Articulation Disorders
- Ex. Ed. 557 Audiometry and Hearing Aids
- Ex. Ed. 558 Neuropathologies of Speech
- Ex. Ed. 559 Seminar in Stuttering
- Ex. Ed. 543 Speech Reading and Auditory Training
- Ex. Ed. 560 Advanced Clinic in Speech-Hearing Disorders
- Ex. Ed. 591 Nature and Needs of Exceptional Children

REQUIRED COURSES IN ARTS AND SCIENCES
12 SEM. HRS.

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

- RESEARCH** _____ 2-6 SEM. HRS.
Ed. 575 Research Methods and Techniques _____ 2-3 Sem. Hrs.
Ex. Ed. 550 Project _____ 4 Sem. Hrs.
Ex. Ed. 525 Master's Thesis _____ 6 Sem. Hrs.
(Each candidate, after conference with his adviser, may select *one* of the above requirements.)

UNRESTRICTED ELECTIVES _____ 5-9 SEM. HRS.
Total requirements: 32 semester hours

HOME ECONOMICS EDUCATION

COURSES IN TECHNICAL AND RELATED FIELDS _____ 20-30 SEM. HRS.

Technical Courses:

- Family Life
- Foods and Nutrition
- Clothing and Textiles
- Equipment Management
- Housing
- Family Finance

Related Courses:

- H. Ec. 500 (required)
- Evaluation
- Electives (by advisement)

- RESEARCH** _____ 2-6 SEM. HRS.
Ed. 575 Research Methods and Techniques _____ 2-3 Sem. Hrs.
H. Ec. 550 Project _____ 4 Sem. Hrs.
H. Ec. 525 Master's Thesis _____ 6 Sem. Hrs.

REQUIRED COURSES IN ARTS AND SCIENCES
9-12 SEM. HRS.

Chosen by advisement from Art, English, Geography, Science and Social Studies.

Total Requirements: 32 Semester hours

INDUSTRIAL ARTS EDUCATION

COURSES IN TECHNICAL AND RELATED FIELDS _____ 20-23 SEM. HRS.

- Professional Education:* _____ 8-10 SEM. HRS.
I.A. 501 Seminar in Industrial Arts 2-3 Sem. Hrs.
I.A. 528 Industrial Arts Curriculum 2-3 Sem. Hrs.
I.A. 550 Master's Study _____ 4 Sem. Hrs.

- Technical Education:* _____ 8 SEM. HRS.
Chosen by advisement from the following: I.A. 508, 512, 513, 515, 517, 519, 521, 523, 527, 529, 530

- Professional and Technical Electives:* _____ 6-8 SEM. HRS.
Chosen by advisement from Education, Psychology, Industrial Arts

REQUIRED COURSES IN ARTS AND SCIENCES
8-10 SEM. HRS.

Chosen by advisement from English, Geography, Mathematics, Science, Social Studies

Total requirements: 32 semester hours

INTENSIVE TEACHER TRAINING PROGRAM

ELEMENTARY TEACHING CERTIFICATION FOR COLLEGE GRADUATES

To help relieve the shortage of elementary teachers the College offers an Intensive Teacher Training Program through which four-year graduates from accredited colleges and universities with little or no teacher training preparation may prepare for teaching in the elementary school. Completion of The Elementary Education Workshop in one Summer Session will entitle the college graduate to a provisional elementary certificate which will be valid so long as the study program is continued. Attendance at two summer sessions in succession is required. Remainder of credits may be completed in either Extension or Summer Session classes. To complete the requirements for the permanent form of elementary certification 30 semester hours of study is required as well as evidence of two years of successful full-time teaching experience in public elementary schools.

Students in the Intensive Teacher Training Program may earn the master of science degree by following regulations for admission to candidacy and meeting all requirements of the master's degree curriculum in Elementary Education as outlined in this catalog.

All college graduates interested in this program for certification in elementary school teaching should make application, complete credentials, and have a personal interview before May 10.

INTERMEDIATE GRADE GROUP

- Ed. 560 Workshop in Elementary Education (Summer Session only) _____ 8 Sem. Hrs.
- Ed. 510 Seminar in Elementary School Problems _____ 3 Sem. Hrs.
- Ed. 511 Music and Art in the Elementary School _____ 3 Sem. Hrs.
- Ed. 512 Seminar in Child Development _____ 6 Sem. Hrs.
- Ed. 516 Methods and Materials in the Elementary School _____ 3 Sem. Hrs.
- Ed. 501 Seminar in Elementary Education _____ 3 Sem. Hrs.
- Electives (by advisement) _____ 4 Sem. Hrs.
- Ed. 575 Research Methods and Techniques (for masters' degree candidates) _____ 2 Sem. Hrs.

_____ 32 Sem. Hrs.*

* 30 semester hours for permanent certification; 32 semester hours for the master's degree.

KINDERGARTEN-PRIMARY GROUP

- Ed. 560 Workshop in Elementary Education (Summer Session only) _____ 8 Sem. Hrs.
- Ed. 510 Seminar in Elementary School Problems _____ 3 Sem. Hrs.
- Ed. 511 Music and Art in the Elementary School _____ 3 Sem. Hrs.
- Ed. 512 Seminar in Child Development _____ 6 Sem. Hrs.
- Ed. 515 Seminar in Early Childhood Education _____ 3 Sem. Hrs.
- or
- Ed. 527 Problems in Educational Services for Young Children _____ 3 Sem. Hrs.
- Electives (by advisement) _____ 7 Sem. Hrs.
- Ed. 575 Research Methods and Techniques (for masters' degree candidates) _____ 2 Sem. Hrs.

_____ 32 Sem. Hrs.*

* 30 semester hours for permanent certification; 32 semester hours for the master's degree.

COURSE DESCRIPTIONS

GRADUATE COURSES IN ART EDUCATION

The following is a list of graduate courses offered at this College. Credit hours for courses listed will be indicated only for special Workshops and Seminars. In all other cases credit will be three semester hours in Summer Session and two or three semester hours in on-campus and off-campus extension. For exact credit to be earned see the summer session, fall or spring schedules. Registration in all graduate courses is made with the consent of the instructor.

ART 501. WORKSHOP IN ART EDUCATION MATERIALS, PROCESSES, AND PROCEDURES—Analysis and experiment with materials and processes significant to community, school, and group activities.

ART 503. WORKSHOP IN USING THE VISUAL LANGUAGE—Psychological basis of compositions with the visual elements: lines, forms, colors, textures, lights and motions; visual composition in any material for any given purpose such as: photography; the designing of projects for class, shop or home; production of visual aids; layout of school publications; arrangement of displays.

ART 504. SEMINAR IN ART IN HUMAN AFFAIRS—Art activity as a dynamic force in the life of an individual and society; psychology of creative activities; creative activity as a way of clarifying thought, attaining control of emotions, propagating individual and group attitudes, beliefs, ceremonies, and practices.

ART 505. SEMINAR IN ART EDUCATION—Problems and projects in teaching and supervising art in various types of communities and schools; contemporary philosophy, psychology, principles, and practices in art and general education; research and scientific methods in determining programs, policies, and procedures for the art teacher and supervisor. Required of all Art Education majors. Prerequisite one or more years of teaching.

ART 506. SEMINAR IN HISTORY OF ART—CONTEMPORARY MOVEMENTS IN ART—Trends in the arts of painting, sculpture, graphic arts, architecture, industrial art, commercial art, and crafts, related to developments in music, drama, and literature; lectures, readings, experiments and demonstrations; visits to galleries, studios, and plays.

ART 507. GRADUATE STUDIO IN DRAWING, PAINTING—Individual activities with a variety

of drawing and painting media determined for each individual according to his background and needs; studio and outdoor problems, field and gallery trips.

ART 508. GRADUATE STUDIO IN DESIGN AND SPATIAL ORGANIZATION — Individualized designing with paint and materials: specialization may be in home planning and furnishing, costume, textile, stage, commercial or industrial design.

ART 509. GRADUATE STUDIO IN CRAFTS—Individualized work in textiles, jewelry, leather, wood-carving, sculpture, plastics, pottery, and metal.

ART 510. GRADUATE STUDIO IN PHOTOGRAPHY — Photographic processes; black-and-white and color photography as a form of expression, as commercial art, as a form of recording, and as used in the making of teaching aids and publications.

ART 511. ART IN THE ELEMENTARY CURRICULUM—The use of art materials, processes, and procedures in the elementary school; developing creative and expressive activities of children.

ART 512. GRADUATE STUDIO IN SCULPTURE—Sculpture as a means of individual and group expression; theory and processes using media such as wood, stone, plaster, cement block, and metal.

ART 513. GRADUATE STUDIO IN GRAPHIC ARTS—Individualized work in lithography, wood engraving, etching, serigraphy, dry point, engraving.

ART 514. WORKSHOP IN THE FOLK ARTS —Folk arts of music, dance, drama, arts and crafts, and folk lore of other countries; their relationship to history and geography of the countries, and their relationship to the American culture. Resource materials and organization of folk art studies in elementary and secondary schools, and in community activities.

ART 515. GRADUATE STUDIO IN COMMUNITY AND HOME PLANNING—Functional, aesthetic, geographic, economic, social and political factors affecting design of home, school and community; designing and re-designing homes, special facilities, communities.

ART 516. GRADUATE STUDIO IN ADVERTISING AND ILLUSTRATION—Development of explicit communications in illustration and design using realistic, experimental, and expressive approaches; preparation of art work for illustration, reproduction, and

publication in magazines, newspapers or books; investigation of materials and techniques in black and white, color, line and tone, particularly suited to reproduction standards.

ART 517. HISTORIC AND CONTEMPORARY ART IN EUROPE—Architecture, painting, sculpture, crafts, and city planning in Germany, France, Austria, Italy, The Netherlands and Belgium; given in conjunction with the Experiment in International Living; to include three weeks in residence with a European family.

ART 518. HISTORIC AND CONTEMPORARY ART IN MEXICO—Architecture, painting, sculpture, crafts, and city planning in Mexico; given in conjunction with the Experiment in International Living to include three weeks in residence with a Mexican family.

ART 519. EASTERN MEDITERRANEAN CULTURES—Study of historic periods in which art most clearly reflects the culture, and the influences made on that art by socio-economic, religious, and geographical factors in the Mediterranean area. Present art forms related to contemporary forces within the countries visited.

ART 520. ART CAMP—A two-week post-summer session camp; creative activity in casein, oil and watercolor painting; photography; mobile, plaster, stone, wire and wood sculpture; sketching. Elective for students of all Divisions. Twenty-five hours a week for two weeks.

ART 525. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to the directions given by the Graduate Division.

ART 526. SPECIAL PROJECT—Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

ART 550. 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 Division.

GRADUATE COURSES IN EDUCATION

ED. 501. 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. 575.

ED. 503. ORGANIZATION OF THE ELEMENTARY SCHOOL—Major concepts in Elementary Education; administration of the elementary school; the curriculum; grouping of pupils; the school plant; trends in school building design; co-curricular activities; pupil safety measures. Required for principal's provisional and permanent certification. Open to experienced teachers. Prerequisites: completion of two years successful elementary school experience.

ED. 504. 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; plant 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. Open to experienced teachers. Prerequisites: completion of two years successful elementary school experience.

ED. 505. 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.

ED. 506. 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.

ED. 507. 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, inservice education; school building programs. Prerequisites: Ed. 503, 504.

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. 510. SEMINAR IN ELEMENTARY SCHOOL PROBLEMS—Methods and materials in language arts, science and mathematics for elementary school teachers. Open to students in the Intensive Teacher Training Program.

ED. 511. MUSIC AND ART IN THE ELEMENTARY SCHOOL—Activities and experiments in vari-

ous art materials suitable for elementary grades with emphasis on new processes and procedures; meets the classroom teacher's need in the field of music. Open to students in the Intensive Teaching Training Program.

ED. 512. SEMINAR IN CHILD DEVELOPMENT—Growth and development of children through the elementary school years; environmental factors which influence the child's development; the teacher's role in promoting desirable growth. Individual and group work on specialized problems; field trips and observations of children. Required of students in the Intensive Teacher Training Program. Prerequisite: Ed. 560.

ED. 515. SEMINAR IN EARLY CHILDHOOD EDUCATION—Curriculum development for children from three to eight; current problems and research; instructional materials and procedures; equipment; school, home, and community relationships; evaluating children's progress; "action research" on individual school problems.

ED. 516. METHODS AND MATERIALS IN THE ELEMENTARY SCHOOL—Advanced study of special problems related to the elementary school curriculum; practical application of curriculum material; study of current trends in adapting curriculum materials to individual differences; evaluative techniques and procedures.

ED. 517. 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.

ED. 518. 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. 520. 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. 503, 504.

ED. 521. 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. 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. 525. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

ED. 526. SPECIAL PROJECT—Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

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. Open to undergraduates with consent of instructor.

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. By advisement for students preparing for secondary school teaching. Prerequisite: six semester hours in Human Growth and Development or its equivalent.

ED. 530. PRINCIPLES OF SUPERVISION — Historical developments and changing concepts of supervision; principles of effective supervisory programs; types of administrative organization; maintaining staff morale. Prerequisite: completion of two years of successful elementary school experience.

ED. 531. 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; inter-visitation; demonstration teaching; teachers' meetings; bulletins; workshops; evaluation of program. Prerequisite: completion of two years of successful elementary school experience and Ed. 530.

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. Required of students extending certification to teach in early secondary schools.

ED. 533. WORKSHOP IN AUDIO-VISUAL EDUCATION—Audio-visual teaching methods, application, integration and evaluation; knowledges and skills in use of equipment; new media, ETV, self-instructional devices; sources of materials and equipment; audio-visual programs in schools, communities, states, federal; film libraries; ordering of materials; budgets and administration, evaluation of program.

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 the equivalent. Otherwise required for persons wishing to be certified to teach science in New York State. Prerequisites: 15 semester hours of content in the 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. Required of students extending certification to teaching in early secondary schools.

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 aptitudes; 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. Required of students in secondary school mathematics or science; elective for others.

ED. 538. COMPARATIVE EDUCATION—Educational problems in a global setting; education as an institution in world affairs; variations in cultural heritage and consequent educational differences; study of education in Great Britain, France, Germany, Mexico, Canada and other major nations in Europe and Asia; services of UNESCO in the field of education.

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. 541. SOCIAL FOUNDATIONS OF EDUCATION—Relationships of school to society; contem-

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

ED. 542. SEMINAR IN THE 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 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. 546. THE TEACHING OF READING — Importance of reading in present day society, research in child development and learning and its implication for 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.

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. 550. 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 Division.

ED. 551. PROBLEMS IN ELEMENTARY SCHOOL SUPERVISION—Advanced study of special problems re supervision; the roles of the teacher and supervisor in the total school program; human relations; group dynamics; creative teaching; in-service education; teacher selection and evaluation; self-evaluation by teachers; educational leadership; role of special teachers. Required for permanent certificate in Elementary School supervision. Prerequisites: Ed. 530 and Ed. 531.

ED. 552. LEGAL PROBLEMS OF EDUCATION—Foundations of Public School Law; legal prob-

lems 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. 560. WORKSHOP IN ELEMENTARY EDUCATION—Introduction to objectives of Elementary Education, school procedures, instructional materials and methods; teaching experiences with children; understanding children and principles of learning. Required of students in the Intensive Teaching Training Program.

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.

ED. 565. WORKSHOP IN DRIVER EDUCATION AND TRAFFIC SAFETY—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; field trips and lectures by leaders in the field. Prerequisites: Ed. 463 or 567.

ED. 566. SAFETY EDUCATION—Kinds and frequency of accidents; psychology in accident prevention; safety in home, school, shop, playground and community; water, traffic and fire safety; recreation safety; poisons and emergency treatment; teaching safety in the public schools; research projects of special interest to students.

ED. 567. DRIVER EDUCATION — Behind-the-wheel instruction; instructing a trainee driver; traffic and pedestrian safety; psycho-physical testing; traffic law, accident statistics; accident prevention; traffic engineering; negligence and liability; insurance interpretation; effects of alcohol; theory and maintenance of automobile; administration of the program. Required for certification to teach driver education in New York State. Prerequisites: a good driving record (a licensed operator for at least two years). *Two class hours and two laboratory hours per week.*

ED. 575. 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.

GRADUATE COURSES IN ENGLISH

ENG. 500. 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 phonetic change; alphabets and systems of writing; language types and families; the Indo-European family and its branches; the history of the English language; word origins and changes in meaning; speech standards.

ENG. 502. STUDIES IN AMERICAN LITERATURE—Literary culture in America from the Colonial Period to the present; religious and political influences upon early writings; the Romantic Movement and Transcendentalism; realism and regional literature.

ENG. 503. AMERICAN REGIONAL 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 the 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; progress of drama to 1642.

ENG. 505. STUDIES IN THE NOVEL—The novel in England, especially in the Nineteenth Century; major novelists.

ENG. 506. STUDIES IN THE MODERN DRAMA—Renaissance of drama in Europe and America; Ibsen and the play of ideas; realism, naturalism, symbolism, sociological drama.

ENG. 507. THE MODERN NOVEL—Outstanding American and English twentieth century novels; their social and artistic significance.

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. 509. STUDIES IN THE PROSE AND POETRY OF MILTON—An intensive study of the most important prose and poetry of Milton with particular emphasis on *Paradise Lost*; the background of Milton's writings. Consent of instructor required.

ENG. 510. EMERSON AND THOREAU—Writing of Emerson and Thoreau against the background of European and American transcendentalism.

ENG. 513. SEMINAR-TOUR IN AMERICAN LITERATURE—Study of major American writers before 1900 including a tour of locales associated with their lives and work. Study four weeks; tour two weeks.

ENG. 514. CHILDREN'S LITERATURE — Types of children's literature; criteria of book selection; reading interests of children; preparation of bibliography.

ENG. 515. PHILOSOPHIC ASPECTS OF LITERATURE—Major movements in English and American literature from the perspective of philosophy; literature as a source of ideas; the representation of social, political, religious, and ethical ideals in poetry, fiction, and drama.

ENG. 516. STUDYTOUR OF WESTERN EUROPE—Six weeks studying including Holland, Germany, Austria, Italy, Switzerland and France. Graduate credit may be earned by writing reports on certain aspects of the studytour.

ENG. 518. MAJOR AMERICAN POETS—Nineteenth century poets of first rank and their contributions to a national literature; some attention to chief figures in the poetry revival of the 20th century.

ENG. 519. LITERATURE AND THE WORLD TODAY—Current ideas expressed through novels, plays, and critical reports; contribution of the magazine, newspaper and motion picture to the world's view of America.

ENG. 520. SHAKESPEAREAN TRAGEDY — Esthetic and philosophic qualities of Shakespeare tragedy studied in the playwright's mature plays: *Hamlet*, *Othello*, *Lear*, *Macbeth*; readings in Shakespeare criticism.

ENG. 521. STUDIES IN MODERN BRITISH POETRY — Significant trends and figures in British poetry since 1890; emphasis upon the work of two writers from the following group. Hardy, Housman, Yeats, Masefield, Eliot, and Thomas.

ENG. 522. STUDIES IN MODERN AMERICAN POETRY — Significant trends and figures in American poetry since 1912; emphasis upon the work of two writers from the following group: Robinson, Frost, Millay, Crane, Benet, and Jeffers.

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 with the comic idea in farce, high comedy, bitter comedy, drama and idealistic romance.

ENG. 524. REALISM IN AMERICAN LITERATURE—Realistic writers of the late 19th century; Howells, James, Clemens, Crane, Norris and others.

ENG. 525. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

ENG. 526 SPECIAL PROJECT—Research or investigation of a particular problem, to be planned and

carried out by student, with consultation and guidance from instructor.

ENG. 527. 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. Required of students extending certification to include English in secondary schools who have not had English 213.

ENG. 529. THE ENGLISH LANGUAGE—Historical development of the English language since the 14th century; political and social influences for change; growth of grammatical science and lexicography; contemporary problems of usage; semantics; trends in American English.

ENG. 530. STUDIES IN THE POETRY OF THE VICTORIAN PERIOD—Major Victorian poets, with emphasis on Tennyson and Browning; social, political, and intellectual background of the times.

ENG. 531. STUDIES IN THE PROSE OF THE VICTORIAN PERIOD — Major Victorian essayists with reference to the intellectual background of nineteenth-century England: Carlyle, Newman, Macaulay, J. E. Mill, Ruskin, and Arnold.

ENG. 532. 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 literary form.

ENG. 533. LITERATURE OF CONTINENTAL EUROPE: THE MIDDLE AGES—Reading in English translation representative works of the Middle Ages; importance of this literature as source material for more recent writers.

ENG. 534. LITERATURE OF CONTINENTAL EUROPE: THE RENAISSANCE—Petrarch, Boccaccio, Machiavelli, Castiglione, Ariosto, 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, and symbolism in the various types of literature.

ENG. 550. 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 Division.

GRADUATE COURSES IN EXCEPTIONAL CHILDREN EDUCATION

EX.Ed. 502. WORKSHOP IN EDUCATION OF CHILDREN WITH ORTHOPEDIC HANDICAP — Observation and individual participation in class with

orthopedically handicapped children; techniques and materials for academic and non-academic curriculum; class discussions and reports.

EX.ED. 503. CLINICAL PROCEDURES IN SPEECH CORRECTION—An advanced practicum, work under supervision with severely speech handicapped children. Prerequisite: Ex.Ed. 308, 513, 523, 533, or equivalent.

EX.ED. 504. 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. Prerequisites: Ex.Ed. 328 or equivalent.

EX.ED. 506. WORKSHOP IN EDUCATION OF CHILDREN WITH HEARING IMPAIRMENT — Practicum work under supervision with class of children having varying degrees of hearing impairment—from moderate to profound loss. Observation and participation; experimentation in techniques and materials. Summer Session.

EX.ED. 512. SEMINAR IN EDUCATION OF CHILDREN WITH ORTHOPEDIC HANDICAP — Problems of class organization, grouping and curriculum; educational psychology for the crippled; psychological tests and their interpretation.

EX.ED. 513. SEMINAR IN SPEECH SCIENCE —Anatomy, physics, and physiology of speech, stressing research and experimental studies in the field. Prerequisite: Ex.Ed. 204, 305, 306 and 308 or equivalent.

EX.ED. 520. SPEECH PROBLEMS OF CHILDREN — Types and causes of speech defects and disorders found in elementary school children; methods of treatment of minor disorders by the classroom teacher; some phonetic and speech science; observation of children presenting various speech problems.

EX.ED. 523. APPLIED PHONETICS — The application of phonetics to the teaching of speech in the elementary and secondary school; the teaching of speech to the deaf; speech correction including foreign dialects. Open to graduate and qualified undergraduate students. Required for certification in Speech Correction and Education of Deaf and Hard of Hearing.

EX.ED. 524. INTRODUCTION TO AUDIOLOGY—The clinical treatment of hearing problems designed particularly to assist the speech correctionist. Hearing testing, hearing aid construction, and research in the field of audiology. Prerequisite: Ex.Ed. 308 or equivalent.

EX.ED. 525. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

EX.ED. 526. 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. 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. 530. SURVEY OF EYE CONDITIONS (A) — Consideration and attention given to ocular problems, including the anatomy, physiology and hygiene of the eye together with a study of common eye diseases and refractive errors.

EX.ED. 531. SURVEY OF EYE CONDITIONS (B)—Continuation of Eye Conditions (A); emphasis placed on physiology of the eye and diseases which affect the eye. Prerequisite: Ex.Ed. 530.

EX.ED. 532. WORKSHOP IN EDUCATION OF CHILDREN WITH VISUAL HANDICAP — Practicum work under supervision of class of children having varying degrees of visual impairment—from moderate to profound loss. Observation and participation; experimentation in techniques and materials.

EX.ED. 533. SEMINAR IN SPEECH PATHOLOGY — Research studies in the areas of stuttering, voice defects, cleft palate, and cerebral palsy. Prerequisite: Ex.Ed. 308 or equivalent.

EX.ED. 535. MENTAL AND EDUCATIONAL MEASUREMENT — Presentation, use and interpretation of mental and performance tests; demonstrations; student participation in giving psychometric examinations.

EX.ED. 538. 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. 539. 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. 541. PSYCHOLOGY OF EXCEPTIONAL CHILDREN—Study of common tendencies found in fields of mental retardation and physical handicap; characteristics and implications of tendencies are developed with view to enhancing understandings in this field.

EX.ED. 543. SPEECH READING.—A consideration of the most important methods of teaching speech reading to the hard of hearing child, together with practice in the various techniques. Elective for graduates and undergraduates interested in the child with hearing impairment.

EX.ED. 550. 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 Division.

EX.ED. 551. PRACTICUM IN MENTAL RETARDATION. (FORMERLY EX.ED. 501. WORKSHOP IN EDUCATION OF CHILDREN WITH RETARDED MENTAL DEVELOPMENT) — Observation and individual participation in a class for children with mental retardation; group discussions and experimentation in techniques and materials.

EX.ED. 556. ADVANCED SEMINAR IN VOICE AND ARTICULATION PROBLEMS—Etiology and treatment of more severe voice and articulation problems. Cleft palate and esophageal speech. Investigation of current research.

EX.ED. 557. AUDIOMETRY AND HEARING AIDS—Study and measurement of hearing. Administration of individual audiometric, speech discrimination and speech reception tests; interpretation audiograms; principles of construction, fitting and use of individual hearing aids.

EX.ED. 558. NEUROPATHOLOGIES OF SPEECH — Neuropathologies of speech etiology and clinical treatment of cerebral palsy, dysarthria, aphasia, and aphasic speech problems.

EX.ED. 559. SEMINAR IN STUTTERING—Investigation of recent research in stuttering. Prerequisite: Speech Disorders II or equivalent.

EX.ED. 560. ADVANCED CLINIC IN SPEECH AND HEARING DISORDERS—Experience in the clinical diagnosis of speech problems and in the application of therapeutic procedures to severe speech problems.

EX.ED. 561. OCCUPATIONAL EDUCATION FOR CHILDREN WITH MENTAL RETARDATION. (FORMERLY EX.ED. 511, SEMINAR IN EDUCATION OF CHILDREN WITH RETARDED MENTAL DEVELOPMENTS)—Curriculum development, based upon a philosophy of occupational education and curricular cores, designed for special class teachers and administrators of classes of children with mental retardation and for teachers of regular classes who must provide adjustments for slow learning children.

EX.ED. 571. CREATIVE ARTS FOR MENTALLY RETARDED — Instruction in the manual skills needed by children with retarded mental development; experience in the techniques needed in making job analyses in the job areas in which the retarded find employment.

EX.ED. 581. TEACHING THE SEVERELY RETARDED (TRAINABLE) — Nature and needs of children, curriculum, methods and materials, special problems encountered in training the severely retarded

(below 50 IQ) in community day-school classes. Recommended for those working with educable or trainable retardates.

EX.ED. 591. NATURE AND NEEDS OF EXCEPTIONAL CHILDREN — Examination of the causes, characteristics and implications — educational, social and vocational—of children who are exceptional because of intelligence, physical development, behavior, speech and hearing.

GRADUATE COURSES IN GEOGRAPHY

GEOG. 500. GEOGRAPHY OF EASTERN ASIA — Economic, social and political geography of China, Japan, Korea, eastern U.S.S.R., the Indo-China Peninsula, and the East Indies.

GEOG. 501. STUDIES IN INDUSTRIAL GEOGRAPHY — Selected topics of current importance such as petroleum and world politics, Niagara power development, coffee in world trade, chemical industry of the Niagara Frontier, production and distribution of strategic materials; field studies of a local area industry.

GEOG. 502. MAP INTERPRETATION FOR TEACHERS — History of maps; map interpretation; methods of developing map-reading skills; maps in the elementary and secondary school.

GEOG. 503. STUDIES IN RESOURCE CONSERVATION — Principles of conservation of natural resources; selected problems such as soil erosion in Western New York, pollution on the Erie-Niagara Watershed, Great Lakes fisheries, flood control and stream improvement, management of farm woodlands, the New York State Forest Preserve, recreational resources and wildlife management programs in Western New York.

GEOG. 504. STUDIES IN THE GEOGRAPHY OF NORTH AMERICA — Utilization of mineral, water, and forest resources; geography of agriculture, manufacturing, transportation, recreation, hemisphere defense, power production, selected topics pertaining to recent changes and current developments.

GEOG. 505. GEOGRAPHY OF THE MEDITERRANEAN WORLD — Land forms and climates. Historical Geography; Physiographic regions and related human use regions; relations between these and man-made political divisions as part of the geographic background of current events. Changing pattern of land use. Demographic equilibrium and the economy of the States.

S.S. 507. FIELD COURSE IN THE HISTORY AND GEOGRAPHY OF NEW YORK—See listing under Social Studies, Graduate Courses.

GEOG. 525. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

GEOG. 526. SPECIAL PROJECT — Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

GEOG. 550. 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 Division.

GRADUATE COURSES IN HOME ECONOMICS

H.EC. 500. SEMINAR IN HOME ECONOMICS EDUCATION—Recent research and problems in the field of Home Economics Education; special problems selected by individual students from the area of Home Economics Education.

H.EC. 501. WORKSHOP IN HOME ECONOMICS EDUCATION — Problems in teaching of Home Economics based upon individual needs and interests of workshop participants. Individual conferences; group discussion; joint activities. Prerequisite: one year of teaching experience.

H.EC. 502. THE INDIVIDUAL AND THE FAMILY — A study of personality development in contemporary American family life. Emphasis on the family as an important factor in shaping the growth and adjustment of children, adolescents and adults. Recent research on child development in the family is considered. Designed for teachers who wish a greater understanding of their students and themselves.

H.EC. 503. FAMILY RELATIONSHIPS — The family viewed longitudinally; developmental tasks of family members at each stage of the family life cycle; research on marriage success and family crisis; attitudes, values, and standards regarding family living.

H.EC. 504. PROBLEMS IN FOODS AND NUTRITION — Recent research developments in foods and nutrition; problems in teaching foods and nutrition to elementary and high school groups; problems related to the individual's teaching situation.

H.EC. 506. SEMINAR IN HOME MANAGEMENT — Newer developments in the field of managing the home; problems met in teaching management in secondary and adult classes; individual work on problems in accordance with student needs.

H.EC. 507. EVALUATION IN HOME ECONOMICS EDUCATION — Techniques and instruments 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 encountered in teaching.

H.EC. 508. WORKSHOP IN ADVANCE CLOTHING — Pattern making and dress design with particular reference to alteration problems met in clothing classes; garments made in class.

H.EC. 509. SEMINAR IN TEXTILES—A study of the newer 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.

H.EC. 510. PRACTICAL PROBLEMS OF HOUSING AND HOME FURNISHING—Problems related to housing and home furnishings; planning and construction furnishings; field trips.

H.EC. 511. METHODS AND MATERIALS IN THE TEACHING OF FAMILY RELATIONSHIPS —Role playing, panels, types of discussion, appropriate use of films, etc.; collection, critical evaluation, and use of materials for teaching family relationships at the secondary school level. Prerequisite or concomitant: A functional course in family relationships such as H.Ec. 503—Family Relationships.

H.EC. 512. WORKSHOP IN HOUSEHOLD EQUIPMENT FOR HOME ECONOMICS TEACHERS—Survey and evaluation of developments in large and small equipment used in homes and schools; field trips, laboratory and demonstrations.

H.EC. 515. HOMEMAKING EDUCATION FOR ADULTS—A study of recent developments in home-making education for adults. Discussion of problems which arise in adapting facilities, resources and in the organization of such groups.

H.EC. 516. FAMILY CLOTHING — Purchase, selection, care, and construction of clothing for the family; management of time and money as they relate to clothing problems; trips, speakers, discussions, demonstrations, and work on problems for which the individual feels a definite need.

H.EC. 517. TRENDS IN TEACHING CLOTHING—Interpretation, use and evaluation of present trends in the teaching of clothing construction; emphasis on recent techniques and the importance of time and energy management; equipment which can simplify various construction processes.

H.EC. 519. WORKSHOP IN HOME MANAGEMENT—Consideration of problems of the family in relation to the management of the home; speakers and consultants; home management house will serve as the laboratory.

H.EC. 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.

H.EC. 521. WORKSHOP IN JUNIOR HIGH SCHOOL HOMEMAKING CURRICULUM—Offers an opportunity to study the planning of junior high school homemaking curriculum; study of special needs of youth in this age group; discussion of processes in achieving learning at this age level.

H.EC. 522. ISSUES IN MODERN AMERICAN FAMILY—Current educational, psychological and social issues and concerns of the modern American family examined and related to changing cultural values.

H.EC. 523. FIELD EXPERIENCE IN HOME ECONOMICS EDUCATION — Study of the functions of home experiences, criteria for evaluating directed home experiences; relationship of homemaking teacher, parents and pupils; community relationships; guidance and evaluation. Prerequisite: The student must be a teacher and must have taught at least one of the courses in the basic sequence, Homemaking 1, 2, 3 (preferably Homemaking 3) the year prior or be a newly hired teacher who is to teach at least one course in the basic sequence the following year.

H.EC. 525. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

H.EC. 526. SPECIAL PROJECT — Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

H.EC. 550. PROJECT—An undertaking pursued by one or more students on some problem closely related to the field of special interest. The project must be approved by the student's advisor and by the head of the division or department concerned.

GRADUATE COURSES IN INDUSTRIAL ARTS

I.A. 500. WORKSHOP IN INDUSTRIAL ARTS —Problems in organizing and operating Industrial Arts programs at the elementary, junior, senior high school and adult levels.

I.A. 501. SEMINAR IN INDUSTRIAL ARTS—Discussion, research, reports on individual and group problems in Industrial Arts education. Required of Industrial Arts students registered for the degree of master of science.

I.A. 502. FIELD STUDIES RELATED TO INDUSTRIAL ARTS EDUCATION — Individual and group studies of industrial activities in the Niagara Frontier; the woodworking and fabricating trades; metal industries; plastic and fibre products; graphic arts; electrical, ceramic, airplane and automotive manufacture; conferences with representatives of industry and various labor organizations.

I.A. 503. GUIDANCE SEMINAR IN LIFE ADJUSTMENT EDUCATION — Survey and evaluation of the educational movements leading to the Prosser Resolution; effects of the Life Adjustment Movement upon the schools in the various subject matter areas; implementation of the movement; reports of adaptation plans made in teaching situations.

I.A. 505. WORKSHOP IN INDUSTRIAL ARTS ADULT EDUCATION—A study of the adult education program including the objectives; state and local regulations; reimbursements; establishment of the needs of the community; the part that industrial arts plays in adult education.

I.A. 506. 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. 507. SCHOOL SHOP PLANNING — Problems involved in planning new industrial arts shops or the remodeling of older shops: space allotments, area planning, service features, selection and placement of equipment, writing specifications, shop plans.

I.A. 508. WELDING — Essentials of metallurgy for ferrous and non-ferrous metals as related to welding; proficiency in gas and electric arc welding, cutting, brazing, silver soldering and hard surfacing with special emphasis on certain non-ferrous metals, high carbon and special alloy steels, stainless and high chromium steels; inspecting and testing welds.

I.A. 509. 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. 511. SEMINAR IN INDUSTRIAL COOPERATIVE TRAINING — The organization and development of industrial part-time programs. Determining needs; advisory boards; employment opportunities; analyzing training; training outlines; related work.

I.A. 512. WORKSHOP IN TEXTILES—Organization and operation of an Industrial Arts textile unit study of fibers and materials; techniques of fabric construction; dyeing; surface finishing and treatment; color and pattern harmonies.

I.A. 513. WORKSHOP IN CERAMICS — The Industrial Arts ceramics program; basic forming techniques; advanced processes of production in throwing and casting; decoration; firing and kiln construction; body and glaze composition; design of ceramic products.

I.A. 514. TECHNIQUES AND DEVICES FOR SHOP LABORATORY — Methods and devices for teaching shop subjects; demonstrations and discussions, conferences, group dynamics; audio-visual equipment; research; and production of devices.

I.A. 515. TRANSPORTATION LABORATORY—Specialized areas of transportation; planning, organization and techniques of operation; projects and problems; evaluation; models, mock-ups and other visual aids.

I.A. 517. 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. 518. ADVANCED 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. 519. NEW METHODS AND TECHNIQUES IN WOODWORKING — Carving, appliques and inlays; finishes, wood substitutes, wood bleaches and other more recent materials and techniques of the wood industries; individual problems of the in-service teacher.

I.A. 521. NEW METHODS AND TECHNIQUES IN METALWORKING — New materials and their possibilities for industrial arts activities; investigation of modern industrial processes in metalworking and their implications for the teaching of Industrial Arts.

I.A. 523. INDUSTRIAL ARTS IN THE ELEMENTARY SCHOOL—Functions of Industrial Arts in the elementary school; study of activities for the various grade levels; problems of equipment, organization, supplies; planning and executing units of work.

I.A. 524. EVALUATION IN INDUSTRIAL ARTS—General principles of evaluation; construction and use of various informal devices and techniques of evaluation applicable to industrial arts; selection and use of appropriate standardized 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.

I.A. 525. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

I.A. 526. 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. 527. TELEVISION TECHNOLOGY WORKSHOP—Circuit analysis of television technology and the use of specialized laboratory equipment. Open to graduate students who have successfully completed the advanced radio and electronics courses.

I.A. 528. 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; program structure and evaluation.

I.A. 529. ADVANCED 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 standards; conventional and simplified drafting practices; evaluation of pupil progress in technical drawing.

I.A. 530. NEW TECHNIQUES IN GRAPHIC ARTS — Experimentation in papermaking, ink, photography, halftones, color separation, photo-engraving; technical proficiencies in offset printing, publications, letterpress printing, silk-screen printing, bookbinding.

I.A. 533. WORKSHOP IN ADVANCED CERAMICS — Advanced design in individual and duplicate methods of production; decoration, glazing, and firing; clays, glazes and kilns; individual problems; the school ceramics program.

I.A. 550. 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 Division.

GRADUATE COURSES IN MATHEMATICS

MATH. 500. MATHEMATICS IN THE ELEMENTARY CURRICULUM — Development of number; rationale of processes; relationships; generalizations; meaning and significance of number and processes; mathematics as a language; measurement; problem solving; visual aids; professional literature; analyses and reports of readings; individual research and project.

MATH. 502. WORKSHOP IN MATHEMATICS —Selected topics in the field of elementary mathematics analysis of research; individual study of a problem and written report of findings; committee study and reports on problems.

MATH. 506. HISTORY OF MATHEMATICS—Chronological study of the development of elementary mathematics; national achievements of ages or periods; selected biographies; appraisals and critiques; problem studies.

MATH. 507. 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. Prerequisites: Differential and Integral Calculus.

MATH. 508. MATHEMATICAL STATISTICS —Introduction to statistical methods; probability and combinatorial methods; discrete distributions; distributions for continuous variates; expected values and moments; special continuous distributions; sampling, point estimation; multi-variate normal distribution; sampling distributions; interval estimation; tests of hypotheses; regression and linear hypotheses. Prerequisites: Differential and Integral Calculus.

MATH. 509. 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.

MATH. 510. MODERN ALGEBRA — Groups, integral domains, rings and fields; the field of real numbers; the field of complex numbers; polynomials; vector spaces; matrices and determinants.

MATH. 511. SEMINAR IN MATHEMATICS—Independent study of selected problems; presentation of findings and appraisal of results; analyses and critiques.

MATH. 512. NON-EUCLIDEAN GEOMETRY —Historical development; hyperbolic plane geometry; elliptic plane geometry; topics from hyperbolic and elliptic trigonometry; consistency of non-Euclidean geometries.

MATH. 513. INTRODUCTION TO TOPOLOGY—Introductory set theory; transformations; topological equivalence; topological spaces; metric spaces.

MATH. 525. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

MATH. 526. SPECIAL PROJECT — Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

MATH. 550. 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 Division.

GRADUATE COURSES IN MUSIC

MUS. 500. MUSIC IN EDUCATION — Public school music education; contributions of various composers and music educators to public school music and to general culture; required readings; listening to records; ideas on school assemblies.

MUS. 526. SPECIAL PROJECT — Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

GRADUATE COURSES IN SCIENCE

BIOLOGY

BI. 501. RADIATION BIOLOGY—Mechanisms of radiobiological actions; high energy and ultra-violet radiations as biological tools; tracer techniques; genetic influences; tolerance. Required of Biology majors and minors; others by permission of instructor. Prerequisites: 18 sem. hrs. in biological sciences; 6 sem. hrs. chemistry or physics. *Four hours per week, including laboratory.*

BI. 505. PROBLEMS IN BIOLOGY—Individual research in a specific biological problem selected by the student under the advisement and direction of the instructor. Required of Biology majors; others by permission of instructor. Prerequisite: 24 semester hours in biological sciences.

BI. 507. HISTOLOGY—Structural characteristics of normal tissues and organs of vertebrates; practice in methods of microtechnique. Elective for Biology majors and minors; others by permission of instructor. Prerequisites: 18 sem. hrs. biological sciences; 8 sem. hrs. chemistry. *Four hours per week, including laboratory.*

BI. 508. COMPARATIVE VERTEBRATE ANATOMY — Comparative study of the evolution, development, and anatomy of representative vertebrates. Elective for Biology majors and minors; others by permission of instructor. Prerequisite: 18 sem. hrs. in biological sciences. *Four hours per week, including laboratory.*

BI. 509. PLANT PHYSIOLOGY—Physiological processes in plants, including photosynthesis, respiration, osmosis, transpiration, effects of hormones, soil nutrients, and tropisms. Elective for Biology majors and minors; others by permission of instructor. Prerequisites: 18 sem. hrs. in biological sciences, including BI. 103; 8 sem. hrs. in chemistry, or the equivalent of these. *Four hours per week, including laboratory.*

BI. 510. 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. Elective for Biology majors and minors; others with approval of instructor. Prerequisite: 18 sem. hrs. in biological sciences. *Four hours per week, including laboratory.*

BI. 511. PARASITOLOGY — Principles of parasitology; morphology, life cycles, identification and pathological effects of representative parasites; control and treatment of parasitic infection; significance of parasitism in biotic communities, human health and plant and animal culture. Elective for Biology majors and minors; others with permission of instructor. Prerequisite: 18 sem. hrs. in biological sciences. *Four hours per week, including laboratory.*

CHEMISTRY

CH. 501. CHEMISTRY OF RADIOACTIVE SUBSTANCES — Fundamentals of radioactivity, its measurement, detection, and application to chemical problems; radioactive element separation procedures; tracer techniques, and safety precautions. Required of chemistry majors, elective for minors. Prerequisites: 6 sem. hrs. in physics, 18 sem. hrs. in chemistry, and calculus. *Five hours per week, including laboratory.*

CH. 502. CHEMISTRY OF HIGH POLYMERS — Study of types of polymeric substances; formation and characterization of polymers of high molecular weight; kinetics and mechanisms of polymerization reactions; relationships between structure and properties of polymers. Elective for chemistry majors and minors. Prerequisites: one semester physical chemistry, calculus. *Five hours per week, including one three-hour laboratory period.*

CH. 503-504. PHYSICAL CHEMISTRY — Description of physico-chemical systems; properties of gases, liquids, and solids; the nature of chemical reactions; thermodynamics, kinetics, electrochemistry; the structure of matter. Required for chemistry majors and minors. Prerequisites: 18 sem. hrs. chemistry; calculus. *Five hours per week, including laboratory.*

CH. 505. CHEMISTRY OF METALLIC ELEMENTS — Chemical properties of the alkali and alkaline earth metals; transition metals and their neighbors; nature of metal surfaces; oxidation and corrosion of metals; structure, composition and properties of alloys. Elective for chemistry majors and minors. Prerequisites: one semester of physical chemistry, calculus. *Five hours per week, including laboratory.*

CH. 506. READINGS IN CHEMICAL RESEARCH — Readings, lectures, library problems and discussion of current problems in chemical research; use of journals, reference books, monographs and abstracts. Elective for chemistry majors and minors. Prerequisites: graduate standing with major or minor in chemistry.

CH. 507. CHEMISTRY SEMINAR — Study, discussion and reports on recent research in chemistry. Elective for chemistry majors and minors. *One hour per week.*

EARTH SCIENCE

E.S. 501. ECONOMIC GEOLOGY — Origin, composition, alteration, and enrichment of ores; origin of fossil fuels and other non-metalliferous deposits; mineral resources of New York; conservation of geologic resources. Required of Earth Science majors and minors. Prerequisites: 18 sem. hrs. earth sciences, inorganic chemistry. *Four hours per week, including field trips, laboratory.*

E.S. 502. CARTOGRAPHY — Elements of cartography with emphasis on graphic presentation; map projections, map interpretation, and the history of maps. Required of all Earth Science majors and minors. Prerequisite: 18 semester hours in earth sciences. *Four hours per week, including laboratory.*

E.S. 503. ADVANCED GENERAL GEOLOGY — Current topics and recent literature involving geologic research. Required of Earth Science majors; others by permission of instructor. Prerequisite: 18 semester hours in earth sciences. *Three hours per week.*

E.S. 504. GEOLOGY OF NORTH AMERICA — Major physical provinces of the United States and adjacent areas with reference to their geologic history, structure and topographic development. Required of Earth Science majors; others with permission of instructor. Prerequisite: 18 semester hours in earth sciences. *Four hours per week, including field trips and laboratory.*

E.S. 505. GEOLOGY SEMINAR — Readings, reports, and discussion of current geological problems and research. Required of Earth Science majors and minors. Prerequisite: 24 semester hours in earth sciences.

E.S. 531. GEOLOGY OF NEW YORK STATE — Physiography, stratigraphy, palontology, glacial geology and economic geology of New York State; geologic history of the region. Prerequisites: Sci. 101, or three semester hours in an earth science. *Two hours per week, with several field trips.*

PHYSICS

PH. 501. MECHANICS I (Statics) — Resultants and components; coplanar concurrent forces; moments and parallel coplanar forces; non-concurrent, non-parallel, coplanar forces; friction; maximum and minimum forces; non-coplanar forces, centroids; moments of inertia of areas and masses. Elective for majors and minors in Physics. Prerequisites: 18 sem. hrs. in physics, and calculus. *Four hours per week, including laboratory.*

PH. 502. MECHANICS II (Kinematics) — Rectilinear motion; curvilinear motion; plane motion of rigid bodies; work and energy; impulse and momentum. Elective for majors and minors in physics. Prerequisites: 18 sem. hrs. in physics, Mechanics I, and calculus. *Four hours per week, including laboratory.*

PH. 503. NUCLEAR PHYSICS — Properties of atomic nuclei and related phenomena; nuclear models, binding energy, nuclear forces. Elective for Physics majors and minors. Prerequisites: 18 sem. hrs. credit in physics, and calculus. *Three hours per week.*

PH. 504. SPECTROSCOPY — Spectral series; Bohr's atomic theory; vector model of the atom; electron configuration of the elements; spectral terms; selection rules; line spectra; band spectra; prism spectroscopes and spectrographs; diffraction-grating spectrographs; identification of spectrum lines; qualitative spectrographic analysis. Elective for majors and minors in Physics. Prerequisites: 18 sem. hrs. in physics, including course on Light, and calculus. *Four hours per week, including laboratory.*

PH. 505. MINOR RESEARCH PROBLEM — The student will select a problem either in some aspect of physics or the teaching of physics, present a plan for research, obtain instructor's approval of the problem and plan for research, carry out the research, and present a report on his work. Elective for graduate students in the Secondary School Science Program. Prerequisites: A minimum of 18 sem. hrs. credit in physics and approval of the instructor.

PH. 506. PHYSICS SEMINAR — Selected reading, reports, discussion and evaluation of research in physics and the teaching of physics. Elective for graduate students in the Secondary School Science Program. Prerequisites: A minimum of 18 sem. hrs. in physics and approval of the instructor.

OTHER SCIENCE

SCI. 500. SCIENCE IN THE ELEMENTARY CURRICULUM — Background, purposes and present scope of science in the elementary school; professional review of subject matter with demonstrations, experiments, audio-visual aids, reading. Not for students who have credit for Sci. 310 or the equivalent.

SCI. 501. FIELD STUDIES IN SCIENCE I — Biological and geological field work; selected field studies, both group and individual; intensive studies of one or more areas. Elective for seniors with an average of C in science completed to date. Prerequisites: Biology, 5 sem. hrs., Sci. 191 or G.S. 203-204.

SCI. 502. FIELD STUDIES IN SCIENCE II — Application of scientific principles in a metropolitan community to problems of health and sanitation; industrial and technological applications of science; scientific research on the Niagara Frontier. Required of persons specializing in the teaching of general science; others with permission of instructor. Prerequisite: 18 sem. hrs. credit in biology, chemistry, and physics. *Four hours per week, including field trips and laboratory.*

SCI. 503. ECOLOGY — Scientific nature study, including consideration of the relationships between living things and their physical environment; biological relationships between and within species; man's relationships with the natural environment. For graduate students in Elementary Education; others by permission of instructor. Prerequisites: 5 sem. hrs. in Biology or 6 sem. hrs. in Chemistry.

SCI. 504. REGIONAL STUDY IN SCIENCE — Field work at Allegany State Park; out-of-doors science for the teacher; identification of wild flowers, trees, birds, insects, and other living things; relationships between living things and their environment; geology of the Park, and of western New York. Open to graduate and undergraduate students. Prerequisites: 5 sem. hrs. in Biology.

SCI. 505. CONSERVATION WORKSHOP — A two-week workshop for teachers and administrators; problems of soil, water, forest, wildlife, and mineral conservation; consultation with experts from the State Conservation Department, federal bureaus, and elementary school education; elementary school problems in conservation education; field trips, lectures, discussions, individual research. Open to graduates and undergraduates.

SCI. 508. SCIENCE AND TECHNOLOGY AND THE WORLD TODAY — Selected areas will be studied which exemplify ways in which science profoundly affects the world today and which involve the international relations of the United States.

SCI. 509. RECENT ADVANCES IN SCIENCE AS APPLIED TO HOME ECONOMICS — New developments in control of food poisonings; study of research in nutritive values of proteins; bacteriology and chemistry of frozen foods; effects of food processing on nutrition; recent research in other areas affecting home economics. For graduate students in Division of Home Economics Education only. Lecture, laboratory work.

SCI. 518. HUMAN BIOLOGY — Origin and development of the human species; human anatomy and physiology; reproduction, embryology, and life cycle; genetics of man; conservation of human resources; new problems in human biology. Required of all candidates for extension of certification to include the teaching of science in the early secondary school. Prerequisites: 5 sem. hrs. in Biology; 6 sem. hrs. in Chemistry recommended.

SCI. 525. THESIS — An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

SCI. 526. SPECIAL PROJECT — Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor.

SCI. 527. CURRENT RESEARCH IN SCIENCE — Study of current research in the various sciences; implications of such research on present and future living; implications of research in science for the early secondary school science curriculum. Prerequisites: 6 sem. hrs. in each of two sciences.

SCI. 528. SEMINAR IN SCIENCE EDUCATION—Current trends in science education in the public schools; study of research in science education; study of special problems by individual students from their own teaching experience in the early secondary school. Prerequisites: candidacy for extension of certificate to include science teaching in the early secondary school; two years experience teaching science in the early secondary school.

SCI. 550. 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 Graduate Division.

GRADUATE COURSES IN SOCIAL STUDIES

S.S. 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. Registration with consent of instructor.

S.S. 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. Registration with consent of instructor.

S.S. 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. Registration with consent of instructor.

S.S. 503. HISTORY OF POLITICAL THEORY—Chief modern contributors to the political ideologies of democracy, liberalism, conservatism, nationalism, socialism, communism, Fascism, and Nazism. Registration with consent of instructor.

S.S. 504. HISTORY OF THE AMERICAN FRONTIER—Progress of settlement from the Atlantic to the Pacific; transmission of culture; developments in transportation; the process of state-making; transition from agrarian to urban communities; social, economic, and political effects of the westward march upon the United States as a whole. Registration with consent of instructor.

S.S. 505. STUDIES IN CONTEMPORARY ECONOMIC PROBLEMS — International trade; international finance; inflation; labor legislation; problems of labor and management; price levels. Registration with consent of instructor.

S.S. 506. MINORITY GROUPS IN AMERICAN CULTURE—Major racial, nationality, and religious minority groups in America treated from the cultural,

historical, and familial points of view; current anthropological and psychological data on uniformities, differences, prejudices, and discrimination. Registration with consent of instructor.

S.S. 507. FIELD COURSE IN THE HISTORY AND GEOGRAPHY OF NEW YORK STATE — Characteristics of the geographic regions (Allegheny Plateau, Catskills, Hudson and Champlain Lowlands, Adirondacks, Mohawk Valley, Tug Hill and Black River Valley, St. Lawrence Lowland, and Lake Plains); colonial and pioneer settlement; present population pattern; transportation routes and facilities; forts and battlefields of three wars; industrial development; conservation practices; places associated with famous people and movements. One day on campus for orientation and travel arrangements; 14-day trip by chartered bus. Open to graduate and upperclass undergraduate students. Offered only in Summer Session.

S.S. 509. LOCAL HISTORY: RESEARCH METHODS AND TECHNIQUES—Research involved in the study and presentation of local history, with special reference to the Niagara Frontier and New York State; community facilities; discovery, examination, and use of original materials. Registration with consent of instructor.

S.S. 511. PROBLEMS OF CONTEMPORARY ENGLAND—Rise of trade unions; industrial and labor relations; career of the Labor Party; programs for social democracy; the changing world position of England.

S.S. 512. 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.

S.S. 513. 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.

S.S. 514. WORKSHOP IN HUMAN RELATIONS—Exploration of means to more productive human relations in classrooms; development of constructive social attitudes in children; particular difficulties faced by children of various groups; talks by guest speakers on local problems.

S.S. 515. 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.

S.S. 516. INTERNATIONAL RELATIONS AND THE WORLD TODAY—Topics such as international organization, international law, regionalism, economic development, role of ideologies, or relationship of domestic and international politics.

S.S. 517. THE HISTORY AND INSTITUTIONS OF THE SOVIET UNION—Chief factors in tsarist Russia; Revolution of 1917; coming of the Bolsheviks to power; political and social ideology; government and the Communist party; economic system; peasant problem; Soviet foreign policy and its relation to international organization; impact of the Soviet Union upon the western world.

S.S. 518. CONTEMPORARY EUROPEAN POLITICAL MOVEMENTS—Party ideologies, organization, parliamentary tactics, propaganda, campaigns, electoral geography, and social composition; party systems, individual parties, and pressure groups.

S.S. 519. 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.

S.S. 520. WORKSHOP IN METHODS AND MATERIALS IN SOCIAL STUDIES—Consideration of unit, topic, discussion, project, problem, and laboratory methods; teaching aids such as film strips; pictures, models, and library reference materials; types of evaluation.

S.S. 521. 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.

S.S. 522. WORKSHOP IN ECONOMICS—Consideration of economic concepts in the curriculum; American economic system; role of government in free enterprise economy; money, banking, and credit; selected group projects in areas of investments, labor-management relations, agriculture, taxation and government finance, economic aspects of foreign policy, economy of the Niagara Frontier, and government regulatory agencies. Prerequisites: graduate standing and/or in-service teaching.

S.S. 523. THE FAMILY IN MEDITERRANEAN CULTURE—The family and society; the individual and his family; structure of the family; marriage

patterns; dynamics of human relations in the family; rearing of the children; family crises and breakdowns; relations between the sexes. Emphasis will be given to methodology, especially in the training and practice of field work interview, participant observation, and case study.

S.S. 524. STUDIES IN NON-WESTERN CULTURES: THE MIDDLE EAST—An area study of characteristic cultural features of the countries; examples of interaction with the Western world; cultural and social changes underway; examples of problems typical of the underdeveloped nations in the world today.

S.S. 525. THESIS—An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Division.

S.S. 526. 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. 527. THE CONSTITUTION: POLITICS AND COURTS—Foundations of American constitutionalism and the politics of the Constitution; establishment of judicial review and its functions through history; the evolution of Federal power over interstate commerce and taxation; federalism, separation of powers, and states rights through history; courts and the protection of individual rights — civil, political, and property.

S.S. 530. SOCIOLOGY OF CRIME—Nature and extent of crime; causes, conditions and theories regarding crime; administration of justice; treatment of criminals; crime prevention.

S.S. 534. ADVANCED WORKSHOP IN HUMAN RELATIONS—Materials and methods in individual and group work in human relations; individual situations in a school or community. Prerequisite: S.S. 514.

S.S. 540. REFORM AND REFORMERS IN AMERICAN CIVILIZATION — Ideological, social and economic causes of reform movements; characterological analysis of reform leaders and followers; historical study of specific reform movements; assessment of the role played by reform movements in American development.

S.S. 550. 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 Division.

STATE UNIVERSITY COLLEGE
BUFFALO 22, N.Y.

APPLICATION FOR ADMISSION TO GRADUATE DIVISION

N.B. THIS FORM MUST BE FILED AT LEAST ONE MONTH IN ADVANCE OF REGISTRATION BY ALL STUDENTS WHO WISH TO REGISTER FOR COURSES AT THE GRADUATE LEVEL.

NAME _____

DATE _____

(Enter here any other name under which you have been registered.)

PRESENT ADDRESS _____
ST. & NO. CITY ZONE STATE

PERMANENT ADDRESS _____
ST. & NO. CITY ZONE STATE

TELEPHONE NO. _____

DATE OF BIRTH _____ CITIZENSHIP _____
MONTH DAY YEAR

DO NOT MAKE ENTRIES HERE
ACTION OF ADMISSION COMMITTEE

CIRCLE THE CURRICULUM TO WHICH YOU SEEK ADMISSION

ART EDUCATION HOME ECONOMICS EARLY SECONDARY EDUC. SECONDARY EDUCATION
ELEMENTARY EDUCATION
EXCEPTIONAL CHILDREN EDUC. ELEMENTARY PRINCIPALSHIP ENGLISH MATHEMATICS
INDUSTRIAL ARTS EDUCATION ELEMENTARY SUPERVISION SOCIAL STUDIES SCIENCE

UNDERGRADUATE PREPARATION

COLLEGE AND UNIVERSITY	FROM	TO	WORK COMPLETED, CERTIFICATE OR DEGREE, AND DATES

GRADUATE PREPARATION

(UP TO 8 HOURS OF APPROVED GRADUATE CREDIT MAY BE TRANSFERRED.)

COLLEGE AND UNIVERSITY	FROM	TO	WORK COMPLETED, CERTIFICATE OR DEGREE, AND DATES

TEACHING CERTIFICATION

CERTIFICATE (FIELD OF SPECIALIZATION)	DATE OF ISSUE	STATE WHERE VALID

TEACHING EXPERIENCE

ASSIGNMENT	PLACE	DURATION	NAME, POSITION AND ADDRESS OF PERSON ACQUAINTED WITH YOUR WORK

(OVER)

OTHER WORK EXPERIENCE

OTHER TYPES OF ASSIGNMENT	PLACE	DURATION	NAME, ADDRESS AND POSITION OF PERSON ACQUAINTED WITH YOUR WORK

WRITE BRIEFLY ABOUT YOUR PROFESSIONAL INTERESTS AND PURPOSES _____

DESCRIBE YOUR PLANS FOR GRADUATE STUDY _____ (time to be used for it, field of special interest, other fields of study planned, etc.)

DO YOU INTEND TO APPLY FOR CANDIDACY FOR THE MASTER'S DEGREE WHEN THE REQUIREMENTS HAVE BEEN COMPLETED? YES _____; NO _____; UNCERTAIN _____. ARE YOU WORKING FOR A DEGREE AT ANOTHER COLLEGE? Yes _____ No _____

CONFIDENTIAL REPORT OF SUPERINTENDENT OR PRINCIPAL*

ASK YOUR PRINCIPAL OR SUPERINTENDENT TO SUBMIT A CONFIDENTIAL REPORT ON A FORM WHICH CAN BE OBTAINED FROM THE GRADUATE DIVISION OFFICE.

REFERENCES*

YOU SHOULD PERSONALLY ARRANGE FOR THREE QUALIFIED PERSONS OTHER THAN YOUR SUPERINTENDENT OR PRINCIPAL TO WRITE AT ONCE TO THE DIRECTOR, GRADUATE DIVISION, STATE UNIVERSITY OF NEW YORK, STATE UNIVERSITY COLLEGE, BUFFALO 22, NEW YORK, REGARDING YOUR FITNESS TO ENTER GRADUATE STUDY.

TRANSCRIPTS*

ARRANGE THAT OFFICIAL TRANSCRIPTS OF ALL COLLEGE AND UNIVERSITY WORK, EXCEPT FOR WORK DONE AT THIS INSTITUTION, BE SENT BY THE RESPECTIVE INSTITUTION TO DIRECTOR, GRADUATE DIVISION, STATE UNIVERSITY OF NEW YORK, STATE UNIVERSITY COLLEGE, BUFFALO 22, NEW YORK.

NOTICE

AS SOON AS ALL OF THE ABOVE COMMUNICATIONS HAVE BEEN RECEIVED YOU WILL BE NOTIFIED IMMEDIATELY OF YOUR ADMISSION STATUS. AT THAT TIME YOU WILL BE INVITED TO SELECT AN ADVISER TO GUIDE YOUR GRADUATE PROGRAM. YOU ARE URGED TO COMPLETE CREDENTIALS AT THE EARLIEST POSSIBLE MOMENT SO THAT YOU MAY HAVE THE BENEFIT OF AN ADVISER EARLY IN YOUR GRADUATE STUDIES. IF SUCH NOTIFICATION DOES NOT REACH YOU WHEN YOU EXPECT IT, YOU SHOULD CHECK TO BE SURE THAT ALL THE REQUESTED INFORMATION HAS BEEN MAILED TO THE COLLEGE.

N.B. MAIL THIS FORM TO: DIRECTOR, GRADUATE DIVISION
STATE UNIVERSITY COLLEGE
BUFFALO 22, NEW YORK

* REQUIRED OF STUDENTS SEEKING FULL GRADUATE STANDING AND ACCEPTANCE AS A CANDIDATE FOR THE MASTER OF SCIENCE DEGREE. NOT REQUIRED OF SPECIAL STUDENTS WORKING FOR CERTIFICATION AND NOT EXPECTING TO APPLY FOR CANDIDACY OF MASTER OF SCIENCE DEGREE.

APPLICATION FOR RESIDENCE HALLS
1962 SUMMER SESSION

Name _____
(Mr.) (Mrs.) (Miss)

Mailing address _____
Telephone _____

Please check the following:

_____ Graduate Student _____ Undergraduate Student
_____ Double Room _____ Single Room _____ Linen Rental Service
\$7.00 a week \$10.00 a week Yes No
_____ Do you have a physical handicap which requires that you have a room on the first floor?
Yes No

Roommate preference if any: _____ Date of Birth: _____

Dates that you are planning to live on-campus: From _____ to _____

Please complete this application and mail to:

DIRECTOR OF RESIDENCE
State University College
Buffalo 22, New York

APPLICATION FOR ADMISSION TO THE 1962 SUMMER SESSION

1. Name _____

2. Mailing Address _____

3. College last attended _____

4. Date of last registration at that college _____ Major: _____

5. I _____ attended the State University College at Buffalo:
Dates: From _____ to _____

6. I _____ filed an application for admission to the State University College at Buffalo.

7. I _____ to file an application for admission to the State University College at Buffalo for the fall semester 1962.

I plan to enroll in the following undergraduate courses not to exceed 6 semester hours.

_____ Total Sem. Hrs.

Date _____ Signature _____

To be completed by the Dean or Registrar.

The above named student (is, is not) in good standing in this college. He (is, is not) being recommended for admission to the 1962 Summer Session at the State University College at Buffalo. The courses listed above will be accepted by this college if successfully completed by the applicant.

Date _____

Signature _____

Title _____

Name of _____

Institution _____

Please return to:

DIRECTOR OF SUMMER SESSIONS
State University College
Buffalo 22, New York

STATE UNIVERSITY OF NEW YORK

Central Administrative Office: Albany 1, N.Y.

Downstate Medical Center at Brooklyn (New York City)
Upstate Medical Center at Syracuse
College at Albany
College at Brockport
College at Buffalo
College at Cortland
College at Fredonia
College at Geneseo
College at New Paltz
College at Oneonta
College at Oswego
College at Plattsburgh
College at Potsdam
Harpur College
College of Forestry at Syracuse University
Maritime College at Fort Schuyler (New York City)
Long Island Center at Stony Brook
Graduate School of Public Affairs at Albany
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

TWO-YEAR COLLEGES

Agricultural and Technical Institute at Alfred
Agricultural and Technical Institute at Canton
Agricultural and Technical Institute at Cobleskill
Agricultural and Technical Institute at Delhi
Agricultural and Technical Institute at Farmingdale
Agricultural and Technical Institute at Morrisville

COMMUNITY COLLEGES

(Locally-sponsored two-year colleges under the program of State University)

Adirondack Community College at Hudson Falls
Auburn Community College at Auburn
Bronx Community College at New York City
Broome Technical Community College at Binghamton
Corning Community College at Corning
Dutchess Community College at Poughkeepsie
Erie County Technical Institute at Buffalo
Fashion Institute of Technology at New York City
Hudson Valley Community College at Troy
Jamestown Community College at Jamestown
Jefferson County Community College
Mohawk Valley Technical Institute at Utica
Monroe Community College at Rochester
Nassau Community College at Mineola
New York City Community College of Applied Arts and Sciences at Brooklyn (New York City)
Onondaga County Community College at Syracuse
Orange County Community College at Middletown
Queensborough Community College at New York City
Rockland Community College at Suffern
Staten Island Community College at New York City
Suffolk County Community College at Selden
Ulster County Community College
Westchester Community College at Valhalla