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State University of New York

College at Buffalo

1975-76 Graduate Catalog



Graduate Office

State University College at Buffalo

1300 Elmwood Avenue

Buffalo, New York 14222

BUFF STATE
The way
to go.

BOOK RATE

Printed from the August 1975 Press

State University of New York

College at Buffalo

1975-76 Graduate Catalog

The College reserves the right to change any provision or requirement of this catalog at any time within the student's term of residence and without prior notice.

It is the policy and practice of the State University College at Buffalo to provide equal opportunity to all members of the student body, faculty and staff on the basis of individual qualifications and merit. No student shall be denied admission or otherwise discriminated against because of race, sex, religion, age or national origin.



DIRECTORY FOR CORRESPONDENCE

Inquiries will receive prompt attention if addressed to the appropriate administrative office and sent to: State University College at Buffalo, 1300 Elmwood Avenue, Buffalo, New York 14222.

Admission	Dean of Graduate Studies
Assistanships and Fellowships	Chairman of appropriate department or Dean of Graduate Studies
Degree Requirements	Dean of Graduate Studies or Chairman of appropriate department
Department Chairman	(see appropriate section of catalog)
Entrance Examinations	Dean of Graduate Studies
Financial Aid	Director of Financial Aid
Housing	Director of Housing
Registration	Dean of Graduate Studies
Transcripts	Registrar
Veterans' Affairs	Coordinator of Veterans' Affairs

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STUDENT PROGRESS SHEET

Event	When Completed	Date Completed
Make application for admission to the Graduate Office (Forms available in the Graduate Office — Cleveland Hall 511)	Prior: May 1 for Fall Admission Oct. 1 for Spring Admission March 1 for Summer Admission. Once admitted, you need make no further application unless you wish to change majors.	
The applicant should request Registrars of colleges previously attended to send two official transcripts directly to the Office of Graduate Studies & Research. (One of these will be given to the academic department.) A final, official transcript showing the degree(s) awarded must be received before final graduate status is awarded. If the applicant has attended Buffalo State College, the Graduate Office will obtain a transcript reflecting work taken only at Buffalo State College. (If the student is currently enrolled, he must request the final transcript showing the degree awarded.)	At time application for graduate admission is made to the Graduate Office, the final transcript showing the awarding of a degree must be furnished no later than thirty days after the beginning of the student's first semester of graduate study.	
Request Educational Testing Service, Princeton, New Jersey 08540, forward an official report of test scores. Aptitude portion required for all M.S.Ed. programs. Aptitude and appropriate advanced section required for all M.A. programs.	At the time application for Graduate Admission is made to the Graduate Office.	
Miller's Analogies Test scores required for Educational Administration and Supervision Program. G.R.E. & Miller's Analogies test registration forms are available in the Graduate Office.		
Receive a graduate admission decision. (Notification sent from the Graduate Office.)	Approximately three weeks after all required credentials are received by the Graduate Office.	

Event	When Completed	Date Completed
Contact Chairperson of appropriate department for the assignment of a graduate advisor. Develop tentative degree program.	Tentative program prior to first term of enrollment. Final program required after six hours but prior to the completion of twelve graduate hours.	
Register for classes each term. (Materials forwarded by the Registration Office.)	Pre-register as announced by the Registration Office or at manual registration in accordance with direction provided by the Registration Office.	
Apply for Degree Candidacy. (Forms available in the Graduate Office.)	After the completion of six graduate hours but <i>prior</i> to the conclusion of twelve graduate credits.	
Request transfer of graduate credits from another university. (see page 34 which details the guidelines concerning transfer credit.)	Transcripts should be forwarded to the Office of Graduate Studies and Research (Cleveland Hall 511) as soon as the credits are completed. Actual transfer of credit is made at the time of approval of degree candidacy.	
File Application for Graduation with the Graduate Office. (Forms available from the Graduate Office.)	By the end of the second week of the term in which you expect to complete your degree.	
Initiate or update information for Placement Credentials. (Information available from Placement Office.)	During last term of enrollment.	
Payment of Diploma fee. (Information supplied by Graduate Office after degree has been approved.)	After notification of degree approval by the Graduate Office.	

GRADUATE CALENDAR 1975-76

Fall Semester 1975

SEPTEMBER	2	Tues.	Graduate Registration
	4	Thurs.	Classes begin
	10	Wed.	Graduate Cross Registration, Graduate Drop-Add
	19	Fri.	Final date to file for December 1975 graduate degree with Graduate Office
	26	Fri.	Last day to apply for Graduate Independent Study
OCTOBER	1	Wed.	Final date for submission of Graduate Admis- sion Applications for Spring 1976 (Degree Programs)
	13	Mon.	Columbus Day - no classes
NOVEMBER	14	Fri.	Final date to clear Spring and Summer 1975 incompletes with instructor Last date to withdraw from Fall 1975 classes
	18	Tues.	Final date for submission of incomplete grade changes by Instructor to Registrar's Office
	26	Wed.	Thanksgiving recess begins
DECEMBER	20	Sat.	Classes end

Spring Semester 1976

JANUARY	12	Mon.	Graduate Registration
	14	Wed.	Classes begin
	21	Wed.	Graduate Cross Registration, Graduate Drop-Add
	30	Fri.	Final date to file for May 1976 graduate degree with Graduate Office
FEBRUARY	6	Fri.	Last day to apply for Graduate Independent Study
	12	Thurs.	Winter Recess begins
	17	Tues.	Classes resume
MARCH	3	Wed.	Final date for submission of Graduate Degree Application for Summer 1976 admission (Degree Programs)
	26	Fri.	Last date to withdraw from Spring 1976 classes
APRIL	1	Thurs.	Final date to clear Fall 1975 incompletes with instructor

9 Fri. Final date for submission of incomplete grade
changes by Instructor to the Registrar's
Office.

14 Wed. Spring Recess begins

26 Mon. Classes Resume

MAY 3 Mon. Final date for submission of Graduate Degree
Applications for Fall 1976 admission
(Degree Programs)

19 Wed. Classes end

22 Sat. Commencement

Summer Session 1976

JUNE 1-JULY 9	Tues. - Fri.	First Session
JUNE 21-JULY 30	Mon. - Fri.	Middle Session
JUNE 25	Fri.	Last day to apply for August 1976 Graduate Degree
JULY 12-AUG. 20	Fri.	Last Session
JULY 16	Fri.	Last day to submit Graduate Inde- pendent Study
AUG. 2-AUG. 20	Mon. - Fri.	Post Session

STATE UNIVERSITY OF NEW YORK

State University of New York, which celebrated its 25th anniversary in 1973, is unique in its organization and the breadth of its educational mission. It is the largest coordinated, centrally managed multi-level system of public higher education in the nation.

In a recent report to the University's Trustees, Chancellor Ernest L. Boyer said, "The State University welcomes not only the future architects, business executives, engineers, surgeons, and literary critics, but also future dairy farmers and medical technicians, accountants and social workers, foresters and automobile mechanics. And, through work in film, electronics, pollution control, data processing, police science, urban studies and similar fields, the University seeks to educate persons for tomorrow's roles as well as those of today."

Since its founding in 1948, the State University has grown from 29 State-supported but unaffiliated campuses into an organized system of higher education comprising 72 institutions which enrolled 256,000 full-time and 156,000 part-time students in 1974-75.

Specifically, the University encompasses four university

centers (two of which, Buffalo and Stony Brook, include health science centers); two medical centers; 13 colleges of arts and science; a non-residential college; three specialized colleges; six agricultural and technical colleges; five statutory colleges; and 38 locally-sponsored community colleges. Together, they offer students a choice of more than 3,100 academic specializations, representing more than 1,500 different degree programs. Twelve of the campuses offer graduate study at the doctoral level, 22 at the master's level.

Advanced degree study encompasses a wide spectrum, including agriculture, business administration, criminal justice, dentistry, education, engineering, forestry, life and physical sciences, medicine, nursing, optometry, pharmacy and veterinary medicine.

Four-year programs emphasize the liberal arts and science and include such specializations as teacher education, business, forestry, physical education, maritime service, ceramics and the fine and performing arts.

The two-year colleges offer associate degree opportunities in arts and science and in technical areas such as agriculture, business, civil technology, data processing, police science, nursery education, nursing, medical laboratory technology and recreation supervision. The two-year colleges also provide transfer programs within the University for students wishing to continue study toward a baccalaureate degree.

Two of the University's state-wide programs which have played important roles in upgrading educational opportunity for disadvantaged students have been merged into single operations called Educational Opportunity Centers.

The ten centers now combine the efforts of the former Urban Centers, which provided opportunities for educationally deprived students to upgrade occupational skills and find gainful employment, with those of the former cooperative college centers, which identified students with college potential and prepared them for matriculation into public and private colleges in New York State.

Educational innovation has from the first been a University watchword.

With funding support from a private educational foundation, several University campuses are experimenting with programs to shorten substantially the traditional four-year period of baccalaureate study.

Empire State College, the 72nd and newest institution, is a non-residential college whose students earn degrees without being attached to a specific campus or attending traditional classes. Its coordinating center at Saratoga Springs reaches out to students through regional learning centers.

State University is governed by a Board of Trustees, appointed by the Governor, which determines the policies to be followed by the 34 State-supported campuses.

The 38 community colleges operating under the program of State University have their own local boards of trustees. The State contributes one-third to 40 per cent of their operating costs and one-half of their capital costs.

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

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<i>Secretary of the University</i>	Martha J. Downey, B.S., M.A.

STATE UNIVERSITY COLLEGE AT BUFFALO

The State University College at Buffalo is the largest College in the State University of New York system. The College's enrollment of over 9,697 undergraduate and 3,000 graduate students comprises students from all 62 counties in New York state, 15 ad-

ditional states and 45 foreign countries. This national as well as international representation in the student body offers excellent opportunities to develop a broader understanding of the educational and professional processes related to individual achievement and cultural concerns of society.

Metropolitan Buffalo, with a population of more than 1.3 million, provides many opportunities to satisfy student interests. Over 1,700 manufacturing firms, 125 research companies, many regional, state and federal offices as well as the internationally known Albright-Knox Art Gallery, the Studio Arena Theater and the Buffalo and Erie County Historical Society combine to offer cooperative employment and study opportunities for graduate students.

The College offers a wide range of academic programs through its five faculties: Applied Science and Technology, The Arts, Humanities and Social Sciences, Natural Sciences and Professional Studies. Teaching, research, scholarly publication and professional activities of the faculty have gained national and international recognition for the State College at Buffalo.

The objectives of graduate study are to provide the atmosphere, research and programs which will permit and encourage superior educational opportunities for students interested in advanced work.

Graduate programs involving students in research play an essential role in the development of advanced instruction. Students who have demonstrated excellence by completing advanced courses of study and achieving significant results in their research make the biggest contribution to the graduate programs at State University College.

Council

	TERM EXPIRES
Mrs. Bruce E. Wallis, <i>Chairman</i>	1981
Charles G. Blaine	1982
Mrs. John R. Campbell	1980
Peter Corson	1979
David J. Laub	1978
Jesse E. Nash, Jr.	1975
Mrs. Harlan J. Swift	1983
Mrs. Henry Z. Urban	1977
Raymond Ph. Weil	1976

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 Robert A. Patterson, Ed.D., *Asst. Vice President for Academic Affairs*
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 Harry Ausprich, Ph.D., *Dean of the Arts*
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Dean of Natural Sciences, Appt. Pending
 Robert B. Simpson, Ed.D., *Dean of Professional Studies*
 Ralph W. Williams, Ph.D., *Dean of Graduate Studies and Research*

GRADUATE FACULTY*

GERALD F. ACCURSO, *Assistant Professor of General Science and Chairman of the Department* (1965), Ed.D., State University of New York at Buffalo.

ARTHUR P. ACKERMAN, *Professor of Learning and Behavioral Disorders and Chairman of the Department* (1969), Ph.D., University of Michigan.

JOHN R. AIKEN, *Professor of History* (1964), Ph.D., University of Rochester.

WALTER AINSWORTH, *Assistant Professor of Biology* (1960), A.M., University of Michigan.

*As of May, 1975.

The date in parentheses after the name is that of first appointment to a position on the faculty or staff of this College.

JOAN AMROZOWICZ, *Assistant Professor of Elementary Student Teaching* (1966), Ed.D., State University of New York at Buffalo.

BERNARD D. ANSEL, *Associate Professor of History* (1964), Ph.D., University of Kansas.

VINCENT C. ARNONE, *Professor of Art Education and Chairman of the Department* (1963), Ed.D., State University of New York at Buffalo.

MARY W. ATTEA, *Associate Professor of Curriculum and Instruction* (1970), Ed.D., State University of New York at Buffalo.

HERBERT A. AURBACH, *Professor of Sociology* (1970), Ph.D., University of Kentucky.

HARRY AUSPRICH, *Professor of Speech and Theatre Arts and Dean, Faculty of The Arts* (1973), Ph.D., Michigan State University.

ROBERT C. BAEUMLER, *Assistant Professor of Fine Arts* (1964), M.F.A., Yale University.

WILLIAM T. BAILEY, *Associate Professor of Mathematics* (1964), Ed.D., State University of New York at Buffalo.

CHARLES E. BALL, *Professor of Manufacturing and Construction* (1956), Ed.D., New York University.

VICTOR H. BALOWITZ, *Associate Professor of Philosophy* (1964), Ph.D., Columbia University.

ARREED F. BARABASZ, *Associate Professor of Behavioral Studies* (1969), Ed.D., State University of New York at Albany.

JOSEPH P. BARBACK, *Professor of Mathematics* (1969), Ph.D., Rutgers University.

*WILLIAM J. BARNETT, *Professor of Curriculum and Instruction* (1950), Ed.D., University of Buffalo.

SAUL BARRON, *Professor of Chemistry* (1964), Ph.D., Ohio State University.

KENT E. BATH, *Assistant Professor of Psychology* (1974), Ph.D., West Virginia University.

JAMES A. BATTISTONI, *Associate Professor of Art Education* (1965), Ed.D., State University of New York at Buffalo.

CHARLTON E. BAUER, *Professor of Design and Acting Chairman of the Department* (1956), Ph.D., New York University.

PAUL R. BEAUDET, *Associate Professor of Geography* (1961), Ph.D., Clark University.

ALFRED W. BECKER, *Professor of Foreign Language* (1963), Ph.D., University of Maryland.

NANCY B. BELFER, *Professor of Design* (1960), M.F.A., School for American Craftsmen.

MARION H. BENZ, *Assistant Professor of Curriculum and Instruction* (1972), Ed.D., University of Rochester.

JOHN A. BICE, *Associate Professor of Fine Arts* (1963), M.F.A., University of Colorado.

*EDWARD C. BIEWALD, *Associate Professor of Professional and Related*

*On leave 1975-1976.

Services (1969), Ph.D., University of Connecticut.

JOHN J. BISHOP, *Professor of Fine Arts* (1968), Ph.D., Boston University.

DAVID A. BLAEUER, *Assistant Professor of Mathematics* (1964), Ed.D., State University of New York at Buffalo.

MURRAY BLOUSTEIN, *Professor of Mental Retardation/Physical Handicap* (1955), Ed.D., Teachers College, Columbia University.

JOSEPH A. BOLINSKY, *Professor of Fine Arts* (1954), M.F.A., State University of Iowa.

HAROLD C. BOX, *Adjunct Associate Professor of Physics* (1967), Ph.D., State University of New York at Buffalo.

MICHAEL W. BOYD, *Assistant Professor of Mathematics* (1974), Ph.D., State University of New York at Binghamton.

JAMES F. BRENNAN, *Assistant Professor of Psychology* (1972), Ph.D., Kent State University.

WESLEY F. BRETT, *Professor of Design* (1959), M.Ed., University of New Hampshire.

MONICA C. BRINSON, *Associate Professor of Consumer and Business Studies* (1959), M.S., Purdue University.

ROBERT W. BROCK, *Associate Professor of Fine Arts* (1962), M.F.A., Ohio University.

STANLEY E. BROOKS, *Professor of Professional and Related Services* (1961), Ed.D., University of North Dakota.

EDMUND A. BROWN, *Professor of History* (1948), Ph.D., Columbia University.

KENNETH W. BROWN, *Professor of Professional and Related Services* (1953), Ph.D., Ohio State University.

RICHARD C. BROWN, *Professor of History* (1952), Ph.D., University of Wisconsin.

*JACK C. BRUECKMAN, JR., *Professor of Manufacturing and Construction and Chairman of the Department* (1964), Ed.D., State University of New York at Buffalo.

ERIC BRUNGER, *Professor of History* (1954), Ph.D., Syracuse University.

JOHN J. BRUNO, *Professor of Curriculum and Instruction* (1966), Ed.D., State University of New York at Buffalo.

RICHARD C. BURAU, *Professor of Foundations of Education* (1967), Ed.D., University of Buffalo.

ROBERT C. BURKHART, *Professor of Art Education* (1965), Ed.D., Pennsylvania State University.

WILLIAM E. BURNS, *Professor of Communications and Power* (1966), Ed.D., University of Maryland.

ROBERT E. BUXTON, *Professor of Professional and Related Services* (1967), Ed.D., University of Maryland.

DAVID A. CAPPIELLO, *Professor of Communications and Power* (1948), Ed.D., State University of New York at Buffalo.

*On leave 1975-1976.

JOSEPH A. CAPUTO, *Associate Professor of Chemistry and Chairman of the Department* (1968), Ph.D., University of Houston.

JOAQUIN J. CARDOSO, *Professor of History* (1968), Ph.D., University of Wisconsin.

JERRY F. CATALDO, *Associate Professor of Psychology and Chairman of the Department* (1969), Ph.D., State University of New York at Buffalo.

FREDA A. CHALMER, *Associate Professor of Curriculum and Instruction* (1966), Ed.D., State University of New York at Buffalo.

FRED E. CHAPMAN, *Associate Professor of Communications and Power* (1964), Ed.D., State University of New York at Buffalo.

RUDOLPH J. CHERKAUER, *Professor of Mathematics* (1948), Ed.D., University of Buffalo.

TUN-JEN CHOU, *Assistant Professor of Psychology* (1973), Ph.D., University of Nevada.

MARIE S. CLABEAUX, *Associate Professor of Anthropology and Chairman of the Department* (1973), Ph.D., State University of New York at Buffalo.

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SIDNEY COHEN, *Professor of Chemistry* (1966), Ph.D., University of Colorado.

FRANK E. COLE, *Adjunct Professor of Physics* (1968), Ph.D., Washington State University.

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HENRY M. COLLINS, *Associate Professor of Biology* (1958), A.M., Harvard University.

JUNE M. COLLINS, *Professor of Anthropology* (1968), Ph.D., University of Chicago.

ORVIS F. COLLINS, *Professor of Sociology* (1968), Ph.D., University of Chicago.

DAVID T. CONVERSE, *Assistant Professor of Behavioral Studies* (1964), Ph.D., University of Nebraska.

BRYNA R. COOPERMAN, *Assistant Professor of Curriculum and Instruction* (1969), Ed.D., Ball State University.

KEITH L. CURRY, *Associate Professor of Mental Retardation/Physical Handicap and Chairman of the Department* (1970), Ph.D., University of Iowa.

STANLEY A. CZURLES, *Professor of Art Education and the State University Chancellor's Award for Excellence in Teaching, 1974-75* (1931), Ph.D.,

*On leave 1975-1976.

University of Iowa.

DANIEL P. DACEY, JR., *Associate Professor of Foreign Language* (1960), A.M., Boston University.

EUGENE L-G DAKIN, *Professor of Design* (1947), M.S., Professional Diploma, Columbia University.

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RICHARD C. DIEDRICH, *Associate Professor of Mathematics* (1964), Ph.D., Syracuse University.

MARY K. DIENST, *Associate Professor of Nutrition and Food Science* (1965), M.S., Cornell University.

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WILLIAM A. DONNELLY, *Professor of English* (1964), Ed.D., Teachers College, Columbia University.

THOMAS A. DONOVAN, *Associate Professor of Chemistry* (1968), Ph.D., University of Illinois.

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JEAN A. DOWDALL, *Assistant Professor of Sociology* (1973), Ph.D., Brown University.

KENNETH J. DOWNEY, *Professor of Sociology* (1968), Ph.D., University of Illinois.

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SHERMAN F. DREYER, *Professor of Industrial Arts and Dean, Faculty of Applied Science and Technology* (1964), Ed.D., University of Oklahoma.

WALTER M. DRZEWIENIECKI, *Professor of History* (1963), Ph.D., University of Chicago.

MARSHALL J. DUGUAY, *Professor of Communication Disorders* (1965), State University of New York at Buffalo.

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ELEANORE B. EVENSON, *Associate Professor of Environmental and Consumer Studies* (1962), M.A., University of Minnesota.

ERNEST S. FALBO, *Professor of Foreign Language* (1968), Ph.D., University of Florence, Italy.

GERHARD FALK, *Professor of Sociology* (1957), Ed.D., State University of New York at Buffalo.

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JOSEPH A. FEKETE, *Professor of Geography* (1960), Ph.D., University of Illinois.

HERBERT V. FERSTER, *Professor of Behavioral Studies and Chairman of the Department and Acting Director, Child Study Center* (1966), Ph.D., State University of New York at Buffalo.

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RICHARD J. FOSTER, *Associate Professor of Geosciences* (1965), M.S., Western Reserve University.

BERNHARD FRANK, *Professor of English* (1965), Ph.D., University of Pittsburgh.

RICHARD F. FRAZITA, *Assistant Professor of Elementary Student Teaching* (1969), Ed.D., State University of New York at Buffalo.

E. K. FRETWELL, JR., *President* (1967), Ph.D., Columbia University.

BARBARA R. FREY, *Professor of Curriculum and Instruction and Acting Associate Vice President for Academic Affairs* (1963), Ed.D., Indiana University.

MARTIN B. FRIED, *Professor of English* (1948), Ph.D., University of Chicago.

*BETTY GALLAGHER, *Professor of Communication Disorders* (1946), Ph.D., University of Wisconsin.

GEORGE T. GEORGANTAS, *Associate Professor of Mathematics* (1969), Ph.D., State University of New York at Buffalo.

ROSSMAN T. GIESE, *Adjunct Professor of Physics* (1967), Ph.D., Columbia University.

STEVEN GITTTLER, *Professor of Curriculum and Instruction* (1955), Ed.D., University of Buffalo.

ROBERT J. GLENN, *Associate Professor of Behavioral Studies* (1968), Ph.D., United States International University-California, Western Campus.

MINERVA J. GOLDBERG, *Professor of Instructional Resources and Associate Director, Instructional Resources* (1958), Ed.D., State University of New York at Buffalo.

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BEVERLEY E. GOUNARD, *Assistant Professor of Psychology* (1971), Ph.D., University of Waterloo.

ALBERT GRANDE, *Professor of Foundations of Education and Chairman of the Department* (1970), Ph.D., University of Pittsburgh.

FRANCIS L. GRANDISON, *Professor of Human Development, Family and Community Relations* (1970), Ph.D., New York University.

LEONARD GRAZIPLANE, *Assistant Professor of Consumer and Business Studies* (1968), Ph.D., State University of New York at Buffalo.

ALWIN C. GREEN, *Assistant Professor of Mathematics* (1972), Ph.D., Syracuse University.

FRED H. GREENBERG, *Professor of Chemistry* (1964), Ph.D., University of Chicago.

WALTER B. GREENWOOD, *Professor of English* (1950), Ph.D., University of Cincinnati.

*RICHARD GUBERNICK, *Associate Professor of Fine Arts* (1969), M.F.A., University of Massachusetts.

JAMES GUYKER, *Assistant Professor of Mathematics* (1970), Ph.D., Lehigh University.

PAUL V. HALE, *Professor of English* (1963), Ph.D., New York University.

DAVID HARKER, *Adjunct Professor of Physics* (1967), Ph.D., California Institute of Technology.

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ALBERT A. HIMMEL, *Associate Professor of Chemistry* (1962), M.A., Montclair State Teachers College.

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BRADLEY A. LOWN, *Associate Professor of Psychology* (1970), Ph.D., State University of New York at Buffalo.

RUSSELL MACALUSO, *Associate Professor of Education* (1966), Ed.D., State University of New York at Buffalo.

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FRANKLIN C. MacKNIGHT, *Professor of General Science* (1961), Ph.D., University of Chicago.

HORACE MANN, *Associate Dean, Faculty of Professional Studies and Director of Exceptional Children Education Division* (1953), Ph.D., Pennsylvania State University.

PAUL D. MARTIN, *Professor of Fine Arts and Chairman of the Department* (1961), M.F.A., Southern Illinois University.

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JAMES R. ORGREN, *Associate Professor of Geosciences* (1966), Ed.D., State University of New York at Buffalo.

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NOEL SIMMONS, *Professor of Chemistry* (1959), Ph.D., University of Minnesota.

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SURJIT SINGH, *Associate Professor of Chemistry* (1967), Ph.D., St. Louis University.

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THE GRADUATE PROGRAM

Degrees, Certificates, & Certification

The College recognizes the different objectives pursued by students continuing academic and professional preparation beyond the baccalaureate level. Programs include: the Master of Science in Education with 22 areas of concentration; the Master of Arts with 6 major areas; and the Master of Science in Creative Studies. In addition, the Certificate of Advanced Study is available for individuals wishing additional preparation in administration and supervision. Preparation for a permanent teaching or principal's certificate is also available.

Accreditation & Memberships

College programs have received both regional and national recognition. Significant affiliations include:

ACCREDITATIONS:

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

MEMBERSHIPS:

American Association of Colleges for Teacher Education
American Association of College Registrars and Admissions Officers
American Association of Emeriti
American Association of State Colleges and Universities
American Association of University Women
American Council on Education
American Library Association
Association of American Colleges
Association of College Unions
Great Lakes Historical Society
National Association of College and University Summer Sessions
National Association of Student Personnel Administrators
New York State Historical Association

Classification of Students

A graduate student may be admitted as a degree student, a non-degree student, or as a post-masters student depending on the student's qualifications and objectives.

DEGREE STUDENT

A degree student is one who plans to become a candidate for an advanced degree at State University College and who has been admitted for advanced studies in a particular department or approved area of study.

The program of study is developed under the guidance of an advisor appointed by the head of the student's department or division. A student is not formally working toward a specific degree until he has been admitted to candidacy.

NON-DEGREE STUDENT

An applicant who does not wish to pursue an advanced degree at this institution may be admitted to enroll for course work as a non-degree student. This classification includes those who plan to transfer credit to another institution and those who plan special programs not leading to an advanced degree. However, because classroom space is limited, preference will be given to students in degree programs.

POST-MASTERS

A student who has received a master's degree from an accredited institution and who is seeking to continue enrollment in advanced course work is classified as a post-masters student. A student must enroll in at least one course each year to remain active in this classification.

Admission

DEGREE PROGRAMS

An applicant for admission to the graduate program should understand that graduate work is not a simple extension of an undergraduate program. It operates at a higher level, demands scholarship of a higher order, and emphasizes research, creativity, and a professional competence with a minimum of formal requirements and a maximum of student initiative and responsibility.

Applicants must recognize that staff, facilities, and other resources are limited so that not all qualified persons can be admitted. The number accepted will vary by program and from semester to semester. In some graduate programs, all vacancies will be filled long before the deadline for submitting applications, so early submission of an application increases the possibility of acceptance.

In general a student may begin his graduate work in fall, spring, or summer. For admission to graduate study, an applicant must:

- (a) have received an approved baccalaureate degree or the

equivalent, i.e., one granted by a college or university which is accredited by an appropriate regional or national accrediting agency, or by a state university.

- (b) ordinarily have completed, in a satisfactory manner, a certain minimum of course work in designated areas, the specific courses and amount of work depending upon the field of work which the student proposes to enter.
- (c) submit scores on the aptitude portion of the Graduate Record Examination (GRE). The GRE examination is administered by the Educational Testing Service six times during each academic year. The test measures the general verbal and mathematical abilities of college seniors or graduates who plan to undertake graduate studies.
- (d) have a cumulative grade point average of 2.5 (4.0 scale) or better in the last 60 hours of the baccalaureate degree or a minimum combined Math-Verbal score of 1000 on the aptitude portion of the Graduate Record Examination.

Admission is granted jointly by the Graduate Office and the academic department or division in which the student plans to pursue his studies. Individual departments may establish higher grade-point averages, GRE requirements, or other criteria by which they judge candidates for admission. Departmental or program requirements are given in the descriptive statements appearing under the major programs listed in the latter part of this publication.

Applicants may apply for admission to only one program at a time. Two copies of all academic records, and the explanation of the grading system used, must be submitted to the Graduate Office. If an applicant is currently attending, or has graduated from State University College at Buffalo, it is not necessary to request a transcript from the Registrar's Office.

Applications should be returned as early in the semester preceding the first registration as possible. Applications received after March 1 for summer session, May 1 for fall semester, October 1 for spring semester have less chance of receiving favorable acceptance for the desired semester.

Admission may be granted to applicants whose credentials are not complete at the time of application if the baccalaureate degree has not been conferred or grades for the current term are not yet available. Such admission is subject to cancellation if the complete credentials, on arrival, do not meet the requirements for admission. If admission should, for any reason, be cancelled the student is automatically dropped from the graduate program.

FOREIGN STUDENTS

In addition to the general admission requirements for degree

programs, foreign students for whom English is a second language must submit a certified English translation of all academic records and scores on the TOEFL examination. Normally, only students with scores of 550 or better are accepted for admission.

UNDERGRADUATE STUDENTS

A senior student at State University College at Buffalo may apply for admission to graduate level coursework if the student has maintained a minimum GPA of 2.5 in the last 60 hours of coursework and a 3.0 GPA in the relevant area. The combined enrollment of undergraduate and graduate courses should not exceed 15 hours in any one semester. Permission of the instructor and approval of the student's department chairman and the Dean of Graduate Studies is required before enrollment. Courses taken in this manner are related to the graduate program of study and normally will *not* apply to the undergraduate degree. These courses may be applied toward an advanced degree provided they are acceptable to the major program. The time limitation on the completion of the master's degree program applies to these as well as other credits.

NON-DEGREE STUDENTS

To be eligible for enrollment in graduate level course work as a non-degree student, an applicant must submit two copies of an official transcript verifying the awarding of a baccalaureate degree from a regionally or nationally accredited college or university or the equivalent. Students in non-degree status are expected to maintain good scholastic standing. Failure to maintain at least a 2.75 after 12 credit hours in this status will result in dismissal.

Because non-degree status is primarily for those students who have indicated they do not intend to pursue a graduate degree, a student should not expect to transfer credit earned in that status to a regular degree program. However, appropriate credits (not to exceed 6 credit hours) may be acceptable as part of the degree requirements upon approval of the major department.

Non-degree students who do not meet normal entry requirements may request transfer to a degree program after completing not less than 12 credit hours in non-degree status. Minimum College requirements for transfer under these conditions are a 3.5 GPA *plus* a combined quantitative-verbal score of at least 900 on the Aptitude portion of the Graduate Record Examination. Some departments may require additional provisions.

POST-MASTERS STUDENTS

Applicants who wish to pursue graduate level course work in this

status must submit two copies of an official transcript verifying the awarding of the Master's degree from an accredited College or University. Students are required to maintain at least a 3.0 average on all course work to remain eligible for further registration.

Registration

To assist the student in planning his program, the department chairman or division director will designate a member of the graduate faculty to serve as his advisor. It is the student's responsibility to secure the name of his advisor and to seek a conference *before* registration.

TIME OF REGISTRATION

Registration days are indicated in the calendar at the beginning of this bulletin. A student is expected to complete his registration during the officially designated periods and to attend the first meeting of all classes in which he is enrolled.

CROSS REGISTRATION

Graduate course work at State University of New York at Buffalo and the State University Colleges at Brockport, Fredonia, and Geneseo may be taken on a space available, cross-registration basis during the fall and spring semesters only. Credit taken at these campuses on a cross-registration basis is considered as transfer credit and must conform with college policies which govern transfer credit (See page 34).

CONTINUITY OF REGISTRATION

A student who has not completed a graduate course within three academic semesters (including summer session) will be dropped from the graduate program and must reapply for admission. Reapplication must be made in accordance with the established deadline dates and current admission requirements.

PROCEDURES

Pre-registration information will be mailed each semester to active graduate students who have been registered during the previous year and to most newly admitted students. The mailing list is processed by computer and changes of name, address, program, or mechanical errors may result in omission from the mailing list. Every effort will be made to include all active students, *but there can be no guarantee that a student will be able to pre-register*. Those who cannot complete pre-registration by mail must register in person on the regular manual registration day.

THESIS, RESEARCH, LANGUAGE & COMPREHENSIVE EXAMINATIONS

Degree programs may require a thesis, guided research, a foreign language, a comprehensive examination, or other evidence of the student's mastery of his field. Information concerning these requirements is contained in the descriptive material outlining individual programs.

AUDITING CLASSES

A student who has registered for one or more classes may also audit a course if approved by the instructor of the course and if *written* notification is given to the chairman of the department in which the course is to be offered.

WITHDRAWAL FROM COURSES

Dropping a course means cancelling registration in one or more courses. A student may drop a course before the official drop deadline (see the academic calendar, page 6) and receive a "W" for the course. Students should consult the instructor concerned before processing an official drop. A student who drops a course after the official deadline will receive a grade of "E" for that course. If a student does not process an official drop and fails to continue with the course his grade will be "E".

An exception may be made for unusual circumstances beyond the control of the student. In such cases, procedures for "Waiver of Academic Regulations" will apply.

A student who does not register or withdraws from all courses *during his first semester of registration* must reapply for admission.

Tuition and Fees

The Board of Regents for the State University of New York authorizes the collection of tuition and fees. The rates listed below are subject to review and change without prior notice.

Tuition and fees are billed in advance for pre-registered students. Students attending in-person manual registrations must pay appropriate tuition and fees on the day of registration.

TUITION—FALL AND SPRING SEMESTERS

New York State Resident

12 semester hours (full time)	\$600.00 per semester
Less than 12 hours (part time)	40.00 per semester hour

Out of State Resident

12 semester hours (full time)	\$750.00 per semester
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Less than 12 hours (part time)	50.00 per semester hour
<i>College Fee</i>	
12 semester hours (full time)	\$ 12.50 per semester
Less than 12 hours (part time)	.85 per semester hour

SUMMER SESSIONS

Tuition and fees are charged by the semester-hour rate during summer sessions. There is no full-time rate in the summer.

REFUNDS

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

<i>Liability During</i>	<i>Semester</i>	<i>6-Week Term</i>	<i>3-Week Term</i>
1st week	0	0	0
2nd week	30%	70%	100%
3rd week	50%	100%	
4th week	70%		
5th week	100%		

TEACHER WAIVER CERTIFICATES

Supervising (critic) teacher tuition waiver certificates may be redeemed in accordance with the regulations printed on the certificate. A certificate may be redeemed for any term scheduled to begin after the effective date but prior to the expiration date on the certificate. Waivers may be transferred between professional employees of the same school district. Transferred certificates must be duly signed by the district administrator. A maximum of eight hours may be waived during any one semester or summer term. If a student withdraws from a course at a time when partial or full tuition liability exists, the waiver certificate is forfeited. Waiver certificates do not cover the college fee. College fees must be paid by the student.

Graduate Credit

COURSE NUMBERING SYSTEM

Courses in the series 1-499 are not listed in this bulletin because they are undergraduate and yield no graduate credit. A student may register for or audit these courses in order to make up deficiencies or fill gaps in his earlier preparation, but not to meet the requirements of an advanced degree.

500-599 Open to all graduate students

600-699* Open to degree and post-masters students only,

generally limited to majors and others with specific preparation

700-799* Advanced courses requiring greater preparation, open only to degree and post-masters students

INDEPENDENT STUDY

Independent study provides an opportunity for a student to pursue a topic which may be covered only briefly or not at all in the regular courses offerings. *Independent study is never a substitute for a course already offered.* The student should consult his advisor for the appropriate College policy and procedure governing independent study.

RESIDENCE REQUIREMENTS

A candidate for an advanced degree is required to earn a minimum number of credits at Buffalo State. A course satisfies the requirements for residence if it is offered on the campus, at the college camp or at a branch established by the college.

A minimum of 20 hours of residence credit is required if the student is a graduate of a baccalaureate degree-granting unit of the State University of New York system or if the student is transferring graduate courses from another unit of the system. In all other instances, 24 hours of in-residence credit are required.

TRANSFER CREDIT

There is no automatic transfer of credit toward a graduate degree. Subject to the limitations of residence requirements, a maximum of 10 credit hours of graduate work completed in residence at another accredited institution may be applied toward an advanced degree at Buffalo State. Credit earned at another institution must be presented for consideration at the time the student applies for degree candidacy. No transfer of credit will be approved if the grade point average of all graduate work attempted at the transferring institution is less than 3.0 on a 4.0 system. Other restrictions which apply are:

- (a) The transfer work must be equal in scope and content to that offered by this college.
- (b) The transfer work must be a coherent part of the required program of study and approved by the major department.
- (c) The transfer work must meet the normal time limitation (within 6 years prior to graduation).
- (d) Only grades of "A" and "B" are acceptable for transfer. Grades of "S" and "P" are *not* acceptable.
- (e) Graduate credit is normally not granted for courses taken by correspondence.

*At least 15 credit hours of course work at the 600 and/or 700 level are required in all degree programs.

ADMISSION TO CANDIDACY

A candidate for a degree must meet the requirements set forth in the graduate catalog current at the time of the student's admission to candidacy. To complete candidacy requirements, the student must satisfy the following requirements:

- (a) Complete at least 6 credit hours of graduate coursework at the College.
- (b) Complete *all* required prerequisite courses.
- (c) Maintain at least a "B" average on all graduate work.
- (d) Obtain provisional certification (if required).
- (e) Remove all deficiencies and incomplete grades.
- (f) Complete the appropriate APPLICATION FOR ADMISSION TO CANDIDACY forms.

Failure to develop an approved program and be admitted to candidacy after 12 credit hours at the College may restrict further registration.

TIME LIMITATION

All course work and degree requirements must be met within a 6-year period immediately preceding the student's graduation.

ACADEMIC LOADS

Because students may have a tendency to carry overloads of such proportion as to handicap themselves in their academic work, the following restrictions govern registration:

- (a) Maximum load for full-time students is 12 credit hours per semester.
- (b) Students holding full-time employment are limited to 6 credit hours per semester.
- (c) During summer sessions students are permitted to earn a maximum of 12 credit hours at a rate of no greater than 1 credit hour per week (i.e., 2 credits for a 2-week program, 6 credit hours for a 6-week program, etc.).
- (d) Maximum course load for graduate assistants will vary according to assignment. Responsibility for approving specific maximum course loads rests with the student, his advisor, and the staff member controlling his service assignment or college employment.

APPLICATION FOR DEGREE

It is necessary for the student seeking the master's degree to complete an "Application for Graduation" before the appropriate deadline date listed on the graduate calendar. Those who fail to meet the requirements for graduation at the expected time must file a new application for the degree.

Grading System

Grades are given on the basis of the instructor's judgment of the student's scholarly achievement. Any one of 5 quality grades (A, B, C, D, or E) may be given for course work. The grade point equivalents are 4, 3, 2, 1 and 0 respectively.

At the graduate level, grades of A, B, and C may be applied toward credit requirements for a master's degree. D and E are failing grades and are not used to satisfy degree requirements. No more than 9 hours of C are normally accepted towards the master's degree; however, some degree programs may permit fewer than 9 hours of C work.

In the case of thesis or research work which carries forward from one semester to another (i.e., a two-semester project), the instructor may report the symbol "N" in place of a grade. This symbol indicates that the student has devoted an adequate amount of time to the work scheduled but gives no indication as to the quality of the work. When the work is completed, the instructor reports a grade of A, B, C, D, or E. This grade is considered to apply to the preceding semester(s).

If course work is incomplete for reasons beyond the student's control, the instructor may award an "I" grade. The instructor will provide his chairman with a brief description of the unfinished work and the grades the student has received on work already completed. Incompletes must be made up by the appropriate date within the following semester (see calendar on page 6). The Registrar is authorized to automatically record a grade of "E" for a student who has not fulfilled the requirements within the stipulated time period.

The grades of "S" (satisfactory) and "U" (unsatisfactory) are reserved for student teaching or other field experience which is not normally evaluated by the usual letter grades. "S" and "U" grades may be given *only* for courses so designated in the Graduate Catalog.

A "W" grade may be given for an official withdrawal.

GRADE POINT AVERAGES

A cumulative average of "B" or better in *all* graduate courses completed at this College is required for the Master's degree. Transfer work is not included in the average.

After completing 12 hours of graduate level course work, a student must have attained a minimum GPA of 3.0. If the student fails to do so, he/she will be placed on probation and will be given one semester (if a full-time student) or 9 hours (if a part-time student) to remove the deficiency provided the total does not exceed 6 semester hours beyond the degree program. Failure to remove the deficiency during the probationary period will result in dismissal.

STUDENT SERVICES AND FACILITIES

Career Counseling and Placement Services

The Office of Career Counseling and Placement Services offers several significant services to graduate students. Counseling is available to those considering opportunities, requirements and procedures for obtaining employment; programs of and requirements for admission to graduate and professional schools; graduate study scholarships and other financial aids. A Career Library is maintained with current graduate school catalogs, reference materials on various careers and recruiting literature from schools, private and governmental agencies, businesses and industries.

Interviewing services are available. Recruiters from school districts and other organizations make arrangements to come to the College to meet candidates for positions with their organizations. This recruiting calendar published in *The Record*, the campus newspaper, gives students an opportunity to schedule initial job interviews on campus. The Credentials Service helps candidates to assemble folders of personal data and references which may be used to support them in application for employment and/or further graduate study.

The forms necessary for registration and information concerning procedures to follow are available in May for all students expecting to graduate the following year. It is advisable for all prospective graduates to assemble credentials while they are on campus. Registration after graduation is certainly less convenient and may be costly in time and opportunities missed for want of credentials.

Active candidates are advised to maintain a close contact with the Career Counseling and Placement Services and to use *The Record* and the Placement Bulletin Board in the Union as constant sources of information about placement and career opportunities.

Counseling Services

The Counseling Center, located in Rockwell Hall, provides counseling services for the College community. Students with personal, academic, social, personality and vocational problems, and those with concern over the usage of drugs may use the services of the Counseling Center. The Counseling Center can provide information and assistance to help students make appropriate decisions and take appropriate actions in these areas.

The staff are committed to complete confidentiality and are trained as clinical therapists.

Student Health Center

Health Facilities on Campus—The College maintains student health facilities on campus for first-aid and general health services with offices in the Dr. Paul J. Weigel Health Center. The College physician and part-time physicians are available in the Center, Monday through Friday, for diagnosis and medical care of students. A staff of registered professional nurses is also available.

The Campus Health Program—The College Health Service provides medical examinations without charge in certain special cases, as well as for all athletes prior to their engaging in competitive sports.

Necessary laboratory tests are made when advisable. From time to time certain preventive health measures are offered to students such as flu vaccine. Immunizations are given only with the consent of the parent to students under 21 years of age. Parents and students will be informed at the time of any new undertaking. It is highly recommended that parents consent to have their sons and daughters participate in these programs for the optimum health of the College community.

Community Medical Resources—The College maintains a close relationship with hospitals and selected medical specialists in the community as an additional safeguard to the health of its students.

Student Housing

Residence Halls—Living accommodations offered in the ten residence halls provide various types of living styles. Different emphases offered within the halls include International House, graduate student area, and transfer student area, among others.

Most rooms have facilities for two students and are furnished with beds, built-in wardrobes, dressers and study desks. Lounges, recreational facilities, and laundry rooms with washers and dryers are provided. Students need to provide their own pillows, blankets, bedspreads, window draperies, study lamps and irons. Graduate students are encouraged to apply to the Housing Office for staff positions in residence halls.

Alumni Relations Program

The Buffalo State Alumni Association promotes the welfare of the College and its alumni through active yearly social, educational and fund-raising programs directed by the Board of Directors and Executive Director. The funds raised are used for student scholarships and loan funds.

Charles Burchfield Center — Western New York Forum for American Art

The Charles Burchfield Center is devoted to the exhibition of major works and memorabilia of Western New York's world famous watercolorist. In addition, as the Western New York Forum for American Art, it serves as a regional center for the study and research of American Art and encourages activities such as discussions, illustrated lectures and seminar activities relating to American Art.

College Learning Laboratory

The Campus School complex provides opportunities for College students to observe and to participate in teaching and serves as a professional laboratory for experimental and innovative educational programs.

Continuing Education

Extending higher education opportunities to the public at large is the concern of the Office of Continuing Education. Programs of part-time study for non-matriculated students are available through evening and Saturday morning courses. Part-time study may also be continued in the summer session.

The Office of Continuing Education also has a concern for bringing the resources of the College to the community in such problem areas as economic development, community planning, problems of urban planning, and service to local school systems. Such assistance may take the form of short courses, conferences, institutes, workshops, program planning, and consultation services.

Creative Studies

The Creative Education Foundation, Inc. is housed on the campus and offers Creative Studies as part of the College's regular academic program. The Foundation publishes the Journal of Creative Behavior and sponsors workshops and institutes during summer session dealing with creative behavior and problem-solving. See M.S. in Creative Studies as described on page 58.

Faculty-Student Association

The Faculty-Student Association (FSA) is a not for profit, educational, and benevolent membership corporation which provides auxiliary services to students, staff, and faculty in achieving the overall education objectives of the College. The Association is governed by a fifteen-member Board of Directors

comprised of seven students, three faculty members, one non-teaching professional, three administrators, the immediate past president of FSA and one alumnus. Any member of the College community is welcome to attend Board meetings which are usually held once a month. The FSA has a contract with the State University by which it is granted the privilege to operate auxiliary services. The State University provides the space and utilities at no expense to the FSA. The FSA operates the following activities:

BUSINESS OFFICE

The FSA Business Office provides accounting services for the Food Service Department, the College Store, the College Pub and the Faculty Dining Room.

COLLEGE STORE

For the convenience of the campus community the College Store sells educational and related materials, including books and supplies required for course work. The Store, which is located in the basement of the College Union, is open Monday-Friday from 8:00 a.m. to 5:00 p.m.; and Saturdays from 10:00 a.m. to 2:00 p.m. For those wishing credit, the Store honors the Empire and Master Charge credit cards.

FILM RENTAL LIBRARY

The Film Rental Library houses approximately 1,400 films (16 mm), 1,200 filmstrips and 1,100 audiotapes. These materials are available to Faculty members, student teachers, schools and community organizations throughout New York and surrounding states.

FOOD SERVICES

Food Service Division of FSA provides dining facilities for resident students and a number of public food service facilities, including a College Pub, Snack Bar and full-range Cafeteria.

Edward H. Butler Library

The Edward H. Butler Library, with a seating capacity of over 1,400, is one of the newest contemporary buildings on campus housing a collection of over 343,550 volumes. 2,700 current periodicals, microfilm and microcard resources. It can ultimately accommodate 500,000 volumes, with all available on open shelves. A *Library Handbook* containing a list of library services, hours, maps, and other pertinent data is available upon request in the Reference Department. An Independent Learning Center provides multi-media self-instructional facilities.

STUDENT FINANCIAL AID

Financing a college education can be a perplexing and disturbing problem for many college students. Recognizing this, the College provides a Financial Aids Office where students can receive advice and assistance.

Operating on the premise that every qualified student deserves an education, the College participates in the Federal student aid programs as set forth in the Higher Education Amendments of 1972, the College Work-Study Program authorized under the Higher Education Act of 1965, the Law Enforcement Education Program, and other assistance programs.

GRADUATE ASSISTANTSHIPS

Graduate assistantships and internships are available through various departments and the Office of Student Affairs. Duties of graduate assistants vary and consist of non-teaching functions such as grading papers, monitoring exams, assisting in administrative assignments, or participating in library or field research projects. Assignments, which vary from 12-20 hours per week, receive stipends from \$1800 to \$2800 per academic year. In addition to the stipend, a "full-time" graduate assistant receives remission of tuition for the academic year.

Application forms may be obtained from the graduate office or the department in which the student is majoring and should be filed by March 1.

MONSIGNOR BOGACKI FELLOWSHIP

This fellowship provides a \$500 award annually for a student who has "evinced a sincere and serious interest in Polish culture or history, and who is or will become enrolled as a graduate student in Buffalo State College in a program with emphasis on Polish and East European studies and, if not then enrolled in a regular graduate program, has demonstrated an ability to handle successfully work in the areas of Polish culture and history." Application should be made to Dr. F. T. Siemankowski, Coordinator for the Program in East European and Slavic Studies.

Loans

NATIONAL DIRECT STUDENT LOAN

Full-time and half-time graduate students can apply for up to a maximum of \$2,500 per year. Total educational (undergraduate and graduate) loan money borrowed cannot exceed \$10,000.

Repayment with three percent interest begins nine months after leaving college and may be spread over ten years. There is *no* interest while the student is enrolled on a half or full-time basis. Those who teach in a "depressed area," as defined by the government, or teach exceptional education may have up to 100% of their loans cancelled over a five-year period.

NEW YORK HIGHER EDUCATION ASSISTANCE BANK LOANS

Full-time and part-time students who are residents of New York State and show evidence of financial need may borrow under this plan from a local bank. Repayment begins nine months after leaving college and may be spread over ten years. There is no interest while attending college and seven percent after graduation or withdrawal. Applications may be secured from most banks or the Office of Financial Aid for Students. Usually the student must be a resident of a community considered by the bank to be in its lending area. Students should apply to a local bank where they, or their parents, have been customers or depositors. Applications may be made at any time.

Employment

The Office of Financial Aid to Students assists students in meeting some of their expenses through part-time employment on campus or in the community. A major aspect of part-time employment is the College Work-Study Program. This program is a form of financial aid funded through the federal government and the college or off-campus agencies. Generally, eligible students may work up to a maximum of fifteen (15) hours per week. Positions are available in most college departments and many off-campus agencies.

In addition to the College Work-Study Program, there are a limited number of on-campus part-time positions with the Faculty-Student Association.

Veterans Benefits

Students seeking to receive V.A. benefits through the "G.I. Bill" should submit their certificates of eligibility to the Registrar's Office for certification. Information regarding veterans benefits and counseling service can be directed to the Veterans' Office, Rockwell Hall, Room 105.

FACULTY OF APPLIED SCIENCE AND TECHNOLOGY

DR. SHERMAN F. DREYER, *Dean*
Room 211 Rockwell Hall

Applied Science and Technology offers graduate teacher education programs in the divisions of Industrial Arts Education and Vocational Education and the department of Home Economics Education. Additionally, graduate courses are offered by the departments of Safety Studies, Nutrition and Food Science, Consumer and Business Studies, and Human Development, Family and Community Relations. The programs offered by each division or department are described under the following headings.

CAUDELL DIVISION

HOME ECONOMICS DEPARTMENT

F. JUNE CLARKE, *Acting Chairman*
Room 206 Caudell Hall

	CREDIT HOURS
Technical	12
Consumer and Business Studies	
Human Development, Family and Community Relations	
Nutrition and Food Science	
Professional	9
Curriculum Planning in Home	
Economics (Required)	3
Evaluation in Home Economics	
Education (Required)	3
One of the following:	
Home Economics Education for Adults	3
Leadership in Home Economics Supervision	3
Seminar: Role of the Urban Home Economist	3
Trends in Teaching Home Economics	3
Research	3-6
HEE 600 Seminar in Home Economics Education	
Research (Required)	3
(Each candidate, after conference with their	
advisor, may elect to take HEE 790 or HEE	
795 in addition to HEE 600. HEE 600 may	
serve as a basis for these.)	

HEE 790 Research Study	3
HEE 795 Master's Thesis	6
Unrestricted Electives	3-6
TOTAL REQUIREMENTS	30

HEE 501 Trends in Teaching Home Economics

New directions, problems in home economics education explored based upon needs and interests of students. Consultants; field trips; group discussion among students, educators.

HEE 515 Home Economics Education for Adults

Recent developments in home economics education for adults.

HEE 521 Curriculum Planning in Home Economics

Opportunities to review planning, development, evaluation of curriculum in home economics education. Investigation of recent curriculum pattern changes: HELPS, HEEPS, programmed learning modules.

HEE 590 Special Problem

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

HEE 600 Seminar in Home Economics Education

Recent research, curriculum problems in home economics; selected individual and/or school curricular problems investigated through action research culminating with research reports.

HEE 602 Leadership in Home Economics Supervision

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

HEE 607 Evaluation in Home Economics Education

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

HEE 617 Seminar Role of the Urban Home Economist

Problems of urban families, educational groups and agencies working together in the city; roles, sub-cultural patterns, economic, social, religious, political, personal value structures, which affect the performance of the urban home economist. *Prerequisite:* One of the following: HEE 417, SOC 501, SOC 506, or teaching its professional equivalent in the urban setting, or permission of the instructor.

HEE 790 Research Study

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

HEE 795 Thesis

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

CONSUMER AND BUSINESS STUDIES DEPARTMENT

ALLAN L. KORN, *Chairman*

Room 305 Caudell Hall

CBS 600 Curriculum Clusters in Distributive and Business Education

Study of curriculum clusters in Distributive and Business Education with emphasis on conceptual and developmental aspects of the use and implementation of occupational clusters.

CBS 609 Textiles

A study of the current developments in the field of textiles with particular emphasis on information for the consumer with regard to the selection, utilization and care of modern textiles. *Prerequisite:* HEE 600.

CBS 610 Trends in Housing and Home Furnishings

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

CBS 616 Family Clothing

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

CBS 619 Decision Making in Management

Consideration of problems of the family in relation to the management of the home; speakers and consultants; field trips, individual problems. *Prerequisite:* HEE 600 or equivalent.

CBS 620 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. *Prerequisite:* HEE 600 or equivalent.

CBS 625 Clothing Design Through Draping

Experience with the manipulative of a two dimensional fabric to cover three dimensional forms, mobile and immobile, using a variety of fabrics to achieve individualized design.

CBS 607 Trends in Home Management

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

CBS 608 Clothing Design

Draping and flat pattern with emphasis on couturiere techniques.

CBS 612 New Developments in Household Equipment

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

CBS 617 Recent Trends in Clothing

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

CBS 626 Textile Marketing

Marketing applications to the textile industry with emphasis on international trade and consumerism. *Prerequisite:* HEE 600.

CBS 627 Comparative Methods in Clothing Construction

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

CBS 634 Selected Topics in Consumer and Business Studies

Review and synthesis of current content in Business, Consumer, Product Knowledge and Distributive and Business Education Studies.

NUTRITION AND FOOD SCIENCE DEPARTMENT

DR. WALLACE T. WILLIAMS, *Chairman*

Room 106 Caudell Hall

NFS 500 Bio-Nutrition

Evaluations of the close interrelationships of amino acids, lipids, carbohydrates, vitamins, and minerals in human nutrition based on recent research findings. *Prerequisite:* Biochemistry.

NFS 501 Seminar on Trends in Nutrition

Topics on recent developments and findings in the field of human nutrition, and some emphasis on U.S. and world food needs which influence the nutritional status of various population groups. *Prerequisite:* Biochemistry.

NFS 590 Special Problem

Special Problem to be investigated by student with consultation and planning with appropriate NFS graduate faculty. Problem might include field experience.

NFS 604 Trends and Research in Foods

Recent research and trends in food technology. Emphasis on the application of scientific principles of foods used in teacher education. (Home Economics Graduate majors).

NFS 605 Recent Advances in Nutrition

Review of the principles of nutrition. Current trends and research in Nutrition Education, and emphasis on application of nutrition information to specific problems of individual and society. (Home Economics Graduate majors).

**HUMAN DEVELOPMENT, FAMILY AND
COMMUNITY RELATIONS DEPARTMENT**

DR. ADRIAN SOLOMON, *Chairman*

Room 208 Caudell Hall

**HDF 501 Seminar in Research in Human Development,
Family and Community Relations**

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

HDF 502 Personality Development in the Family

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

HDF 503 Family Relations

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

HDF 504 Trends in Early Childhood Programs

Consideration of the needs of families for quality child development programs in light of recent research on cognition and socialization during infancy and early childhood. Emphasis is placed on program development and techniques for parent involvement in child development centers.

HDF 511 Resources for Teaching Family Relations

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

INDUSTRIAL ARTS EDUCATION DIVISION

DR. KENNETH L. SCHANK, *Director*

Room 312 Upton Hall

The graduate program in Industrial Arts Education is designed to develop, extend and enhance the technological and professional competencies of graduate students and teachers in Industrial Arts, as well as to provide a base for the student to move toward advanced study in education. Completion of the program provides the Master of Science in Education degree and satisfies the requirements for permanent certification in New York State.

Prerequisites

1. Baccalaureate from an accredited college or university, with undergraduate major in Industrial Arts Education
or
Baccalaureate from an accredited college or university with provisional certification in Industrial Arts teaching.
2. Grade point average of 2.5 or better in Upper Division (last 60 hours) and an undergraduate cumulative average of 2.3 or better.
or
A score of 1,000 or better on the Graduate Record Examination.
3. Written acceptance by the Industrial Arts Education Division.

COURSES IN PROFESSIONAL, TECHNICAL, AND RELATED FIELDS

Professional Education: (Required) 15-18

IAE 600 Foundations of Industrial Arts	3
IAE 601 Research Seminar in Industrial Arts	3
IAE 628 Curriculum Development in Industrial Arts	3
IAE 624 Evaluation in Industrial Arts	3
plus	
IAE 690 Creative Project; Master's Study	3
or	
IAE 695 Thesis	6

Electives 12-15

Subject to Student's Advisor and Advisory Committee Approval

TOTAL REQUIREMENTS 30

NOTE: Program variances must be approved by the Student's Advisor, the Advisory Committee, and the Division Director. At least fifty percent of the degree course work must be in Industrial Arts Education.

Technical Education Electives:

IAE 513, 516, 590, 608, 612, 613, 615, 617, 618, 619, 620, 621, 623, 627, 629, 630.

CREDIT
HOURS

IAE 501 Industrial Arts in the Elementary School

Opportunities for classroom teachers to promote and develop ideas for their own situations; planning, organizing and constructing activities for the elementary school; use of a variety of materials, development of IA in the elementary school and the changing industrial and technological process and their effect upon society. Not for IA majors.

IAE 502 Field Studies Related to Industrial Arts Education

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

IAE 505 Creative Arts for Mentally Retarded Children

Wide range of guided exploratory experiences which relate to industry, business, the home, and leisure time. Emphasis placed on planning activities which are commensurate to the ability of the handicapped child. Analyzing jobs and tasks; identifying teaching methods and techniques; reviewing instructional resources; evaluating the work potential of the handicapped; and the study of the relationship of the handicapped to the world of work. *Prerequisites:* None. This course is not available to Industrial Arts majors.

IAE 507 Industrial Arts Facility Planning and Management

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

IAE 513 Industrial Ceramics

A breadth course, general review and familiarization with the total field of the ceramics industries will be developed through class discussions and manipulative experiences with each material. Persons wishing to take IAE 613, but not able to meet the prerequisites should take this course. *Prerequisite:* IAE 206 and laboratory chemistry or similar courses with appropriate background preferred.

IAE 520 New Techniques and Materials in Forest Products Industry

Consideration given to design, application, and use of power equipment; preparation and treatment of wood; exploration of adhesives, abrasives, and finishes; experiences in lamination and pattern-making; introduction to house construction; application of new techniques and materials in wood to our culture. *Prerequisite:* IAE 102 or IAE 352.

IAE 521 Occupational and Practical Arts Education for Student with Special Needs

A study of the handicapped and disadvantaged enrolled in occupational and practical arts education program: e.g., nature and needs of the handicapped and disadvantaged; curriculum development; evaluating work potential; identifying instructional resources and teaching methods and

techniques; interpreting research; and identifying the function of vocational rehabilitation and occupational and practical arts education programs available to the handicapped and disadvantaged. *Prerequisite:* for majors in Home Economics, Industrial Arts, Vocational Technical, Exceptional Education or permission of instructor.

IAE 531 Elements of Manufacturing Technology

A study of the manufacturing technology systems; management, personnel, and production, for the purpose of organizing and implementing this subject matter as a conceptually based multi-material activity centered approach to industrial arts education.

IAE 540 Career Awareness in Technology for the Elementary School

Current developments in career education; the role of the elementary school in career education; curriculum development and correlation techniques. *Prerequisite:* None. *Classification:* Elective-all college.

IAE 590 Special Project

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

IAE 594 Workshop

Emphasis on process and implementation of theory. Involvement of participants in accomplishment of individualized objectives on specific theme.

IAE 600 Foundations in Industrial Arts

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

IAE 601 Research Seminar in 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. Required of IA Majors.

IAE 608 Metallic Fusion and Joining Technology

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

IAE 609 History of Industrial Arts

European antecedents; attempts to introduce technical instruction into American education; Russian Manual Training; Swedish Sloyd System of instruction; the Arts and Crafts Movement; the Manual Arts movement; growth of the vocational concept in America; Industrial Arts as prevocational training; the social-economic concept for Industrial Arts; Industrial Arts as the study of industry; Industrial Arts as the study of technology.

IAE 612 Plastics Technology

This course is designed to aid the development of those who have had some contact with plastics, and who wish to expand their depth and breadth of knowledge in plastics, for instruction in public schools.

IAE 613 Ceramics Technology

A detailed investigation of Ceramics Technology with emphasis on research, individual needs and problems, and competency. A technical laboratory course for all ceramic materials, products, and processes. Course content applicable to all levels of education. *Prerequisite:* IAE 206 or IAE 513 and chemistry (laboratory type preferred)

IAE 615 Power Technology

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

IAE 617 Electronics

Electronics in the junior and senior high school Industrial Arts program; advanced electronic theory and practice in communications; development of instructional materials, demonstration equipment, projects, and visual aids. *Prerequisite:* IAE 408.

IAE 618 Electronics

Advanced study in circuit analysis of instruments; familiarization with electronic instruments, their operation, and application. *Prerequisite:* IAE 408.

IAE 620 The Forest Products Industry

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

IAE 621 New Methods and Techniques in Metal Technology

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

IAE 623 Industrial Arts for the Elementary School

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

IAE 628 Curriculum Development in Industrial Arts

Philosophical foundation of Industrial Arts; current social, economic, and technological conditions; curriculum patterns and curriculum controls; course of study construction; approaches to teaching; programs, structure and evaluation. Required of IA majors. *Prerequisite:* IAE 600.

IAE 629 Drafting—Problems and Techniques

Technical proficiency in specific areas of drafting; the program of drafting in the junior and senior high schools; governmental and industrial drafting standard; conventional and simplified drafting practices; evaluation of pupil progress in technical drawing.

IAE 630 Graphic Arts

Updating content and methodology of graphic arts education as an area of industrial arts; activities and presentations emphasizing innovations brought about by recent developments in industry; instruction in techniques of copy preparation for reproduction, general, technical and graphic arts photography, current methods of stripping and platemaking, principles of offset lithographic presswork for junior and senior high industrial arts. *Prerequisite:* IAE 402.

IAE 634 Evaluation in Industrial Arts

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

IAE 635 Supervision of Industrial Arts Student Teachers

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

IAE 690 Master's Study/Creative Project (3 sem. hrs.)

A study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Office. *Prerequisite:* IAE 600, 601, 624, 628.

IAE 695 Thesis

An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Office. The problem and procedure must be approved by: the student's Graduate Advisor, the Graduate Advisory Committee, and the Division Director, before the investigation is begun. *Prerequisite:* IAE 600, 601, 624, 628.

IAE 701 Seminar in Industrial Arts Writing and Publishing

A seminar for those with a genuine desire and ability to express ideas in written form. An opportunity to learn the mechanics of writing and getting it published.

IAE 702 Seminar in the Philosophy of Technology

A critical examination of "Technology" in historical perspective, and a study of prevalent views and issues relative to technology; its meaning, its characteristics; its interdisciplinary scope; its relation to science; its place in education.

IAE 703 Seminar in the Development of Instructional Materials

A seminar for those with a genuine desire to develop and organize teaching materials. An opportunity to maximize the effectiveness of the instructional program and its resultant benefits.

IAE 705 Career Exploration in Technology for the Middle School

A course centered upon student-teacher planning in career education for

the middle school. Curriculum development articulation methodology, developing instructional units of study for computer-based resource units, will be utilized to accomplish course objectives. *Classification:* Elective-all college.

IAE 706 Career Development in Technology for the Secondary School

Analyzes career education in terms of its evolution and potentiality for adolescents; provides opportunities for participants to develop occupational cluster information banks including instructional objectives, content, media, learning activities, and evaluation devices. *Classification:* Elective-all college.

TECHNOLOGY DIVISION

DR. MYRON E. LEWIS, JR., *Director*
Room 502 Upton Hall

SAFETY STUDIES

HOWARD J. MEYER
Room 117 Cassety Hall

SAF 564 Advanced Driver Education and Safety (3 credits)

Course designed to serve the needs of the practicing Driver Education Teacher. Evaluation of teaching methods and materials, survey and evaluation of research studies, practice driving analysis, diagnostic testing, techniques for improving practice driving instruction, public relations, motorcycle and bicycle program development. *Prerequisite:* SSD 417 and SSD 426.

SAF 565 Trends and Problems in Driver and Traffic Safety Education (2 credits)

Teaching administration and supervision of driver education and traffic safety programs, methods and materials of instruction, resource people and agencies, critical analysis of existing procedures, discussion of problems, research findings, field trips, guest lecturers from related specialized areas. *Prerequisite:* SSD 417 and SSD 426, and must have experience in teaching secondary school driver education. *Special note:* Required to obtain permanent approval as a Driver Education Instructor.

Pre-service courses in Driver Education

Teachers seeking provisional approval as secondary school driver education teachers must first complete the two undergraduate courses: Driver Education I (SSD 417) and Driver Education II (SSD 426). Graduate students are welcome in these courses.

VOCATIONAL TECHNICAL EDUCATION DIVISION

DR. WILLIAM S. REYNOLDS, *Director*
Room 114 Caudell Hall

The Division offers a graduate program leading to the Master of Science in Education degree. This program was developed to extend and improve the professional competencies of occupational teachers. Candidates interested in becoming certified as Coordinators of Diversified Cooperative Work-Study Programs may take the two required courses for that purpose, VTE 550 and 555. Prior to admission, all candidates must complete the career goals form which is available at the Division office.

Planning the Program

The candidate will be assigned or may select an advisor and together they will plan a program based on individual needs and the degree requirements. All courses should be selected by advisement.

	CREDIT HOURS
Professional Studies	15
VTE 600 Contemporary Issues in Occupational Education	
VTE 601 Supervision of Vocational Education	
VTE 602 Administration of Vocational Education	
VTE 603 Selected Topics in the Organization, Administration and Supervision of Vocational Technical Education	
VTE 605 Occupational Guidance for Career Exploration	
VTE 606 History and Philosophy of Occupational Education	
VTE 620 Structure of Occupational Programs	
VTE 625 Interrelationships of Labor, Management and Occupational Education	
VTE 530 Career Education: Rationale, Nature and Concepts	
VTE 635 Curriculum Problems of Vocational Schools	
VTE 536 Contemporary Methodology	
VTE 640 Testing and Measurement in Vocational Technical Education	

	CREDIT HOURS
VTE 550 Organization of Diversified Cooperative Work-Study Programs	
VTE 555 Operation of Diversified Cooperative Work-Study Programs	
Research	3-6
VTE 695 Research in Vocational Technical Education (Required)	
VTE 696 Special Project	
Technical	0-6
VTE 604 Technical Project	
Courses or internship program; these may be offered here or at other institutions	
Electives	3-12
(Outside of VTE courses and by advisement)	
TOTAL REQUIREMENTS	30

VTE 530 Career Education: Rationale, Nature and Concepts

An in-depth exploration of career education concepts, terminology and models for elementary school through college. An analysis of present programs, research and current thinking on career education.

VTE 536 Contemporary Methodology

An examination of new and emerging techniques of instruction and the application to specific individual problems; development by students of models appropriate to their particular subject area and the nature of the student body.

VTE 550 Organization of Diversified Cooperative Work-Study Programs

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

VTE 555 Operation of Diversified Cooperative Work-Study Programs

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

VTE 594 Workshop*

Emphasis on process and implementation of theory. Involvement of participants in accomplishment of individualized objectives on specific theme.

VTE 596 Conference*

Emphasis on unique and one-time experience on given theme.

VTE 598 Micro Course*

Intensive instruction focused on specific, limited objective related to discrete content.

VTE 600 Contemporary Issues in Occupational Education

A survey course intended to familiarize the graduate student in occupational education with some of the most current issues, practices, policies, and literature in and about occupational education.

VTE 601 Supervision of Vocational Education

Nature and scope of supervision; surveying, analyzing needs and facilities; planning, initiating, and maintaining supervisory programs; evaluating procedures and outcomes, trends in occupational education.

VTE 602 Administration of Vocational Education

Nature and scope of administering vocational technical programs including curriculum, integration with industry, evaluation, community relationships, advisory board development, state and national relationships.

VTE 603 Selected Topics in the Organization, Administration and Supervision of Vocational Technical Education

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

VTE 604 Technical Project

An internship experience with industry or business to study new techniques, operations and processes; cooperatively initiated by faculty and student and requiring the development of instructional material reflecting the new knowledge and skills gained.

VTE 605 Occupational Guidance for Career Exploration

A course specifically designed to acquaint occupational educators with those techniques and procedures of vocational guidance which may be effectively employed in career counseling for a changing world of work.

VTE 606 History and Philosophy of Occupational Education

A historical review of the philosophical, sociological, economic, and political indices which have influenced the development of vocational technical education.

VTE 620 Structure of Occupational Programs

An examination of the structure of occupational education, a survey and

*Graduate students may include not more than six (6) hours of credit for workshops, conferences and micro courses in a master's program.

analysis of present programs; the assessment of articulation between programs; the examination of the structure for viability in the light of internal and external forces promoting change.

VTE 625 Interrelationships of Labor, Management and Occupational Education

A study of the roles of labor and management in our society and their relationship to occupational education; their historical development, the impact of technology, and interpreting the needs of industry for occupational and continuing education.

VTE 634 Curriculum Problems of Vocational Schools

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

VTE 640 Testing and Measurement in Vocational Technical Education

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

VTE 695 Research in Vocational Technical Education

A review of current research in occupational education, study of methods of educational research, locating appropriate information, and developing research proposals. (Required of all VT students).

VTE 696 Special Project

Research or investigation of a particular problem, to be planned and carried out by the student, with consultation and guidance from the instructor. *Prerequisite:* VTE 695.

ADMINISTRATION, SUPERVISION AND CURRICULUM DEVELOPMENT

The program, as described on page 123, is open to certified experienced teachers identified as potential administrators, supervisors, curriculum coordinators or supporting staff members from Industrial Arts, Home Economics, and Vocational Technical Education. Admission requirements include those listed on page

In addition, each Applied Science and Technology student applying must schedule an interview with a member of that Faculty. Two years of teaching experience is required — five years is desirable. Application for the program may be made as early as the completion of the baccalaureate or at the completion of the Master's degree. The appropriate forms are available in the Office of Graduate Studies.

INTERDEPARTMENTAL

IDC 557 Administration of Instructional Resources

Analyses of the fundamental elements of instructional resources programs — physical facilities; procedures and standards for administering materials, equipment and production services; budgeting, improving utilization.

IDC 558 Designing Visuals for Communication

Basic principles governing design and production of visuals, and systems for developing them; design and production of projected and non-projected visuals for communication purposes; techniques for employing visuals in communication.

IDC 562 Audio System

An introduction to sound recording — basic theory, operational principles and fidelity of sound system. Relationship of audio system to the communication process and to other media.

IDC 570 Theory and Application of Instructional/Learning Resources

Course content will include learning theory, communications theory and the methods and techniques of applying these to instruction, generally; and audiovisual instruction, specifically.

MASTER OF SCIENCE IN CREATIVE STUDIES

DR. SIDNEY J. PARNES, *Coordinator*
Room 218 Chase Hall

An interdisciplinary graduate program leading to a Master of Science in Creative Studies degree is offered in cooperation with the Creative Education Foundation. The program is designed for qualified students (1) to integrate creative approaches to learning, problem-solving, research, or curriculum development in the particular areas of their undergraduate majors and (2) to prepare themselves to introduce the research-based Creative Studies courses in other institutions.

Admission Requirements

1. Compliance with S.U.C.B. general requirements for admission to graduate degree programs.
2. A minimum of 9 credits in Creative Studies or equivalent. The equivalent might include Creative Problem-Solving Institutes, creative problem-solving courses or workshops, and other creativity programs having similar curricula.
3. Introductory course in psychology, sociology, or philosophy (preferably all three).
4. Written statement of background and purpose.
5. References from professors of Creative Studies and other faculty.
6. Interview and acceptance by Creative Studies graduate committee.

Requirements for Master of Science Degree

	CREDIT HOURS
CRS 610 Nurturing Creative Behavior	3
CRS 615 Master's Seminar	3
CRS 625 Advanced Creative Problem-Solving Institute ..	2-4
CRS 670 and CRS 680 Team-Teaching I and Team- Teaching II	3-6
CRS 690 Master's Project	3-6
CRS 795 Master's Thesis	3-6
Electives by advisement	3-15
(including 3 credits in the study of creativity in relation to undergraduate major)	
TOTAL REQUIREMENTS	
(minimum of 17 in Creative Studies)	30

Financial Assistance

Scholarships for Creative Problem-Solving Institutes are available to graduate students accepted into the Creative Studies Master's Program. One or two \$2,000 stipends with tuition waiver are available per year, on application and acceptance, for Administrative Internship or Resident Directorship.

CRS 559 Workshop in Nurturing Creative Behavior

The program is designed to bring to the participant the latest research findings and developments in the study of creative behavior, and to help enable him to translate these findings into educational or managerial practice. Participants receive instruction based upon a program that has been used during the past 18 years at the Annual Creative Problem-Solving Institutes in Buffalo. Each individual, alone and in sub-groups, works intensively on

projects of direct concern to him in his educational or managerial efforts.

CRS 560 Seminar in Creative Studies

This program is designed to extend participants' understanding and application of the total body of supporting literature in the field of Creative Studies. In addition to his classroom experiences in the Seminar, each participant has access to a unique, comprehensive reference center of books, theses, articles, films, tapes, etc. on creativity. *Prerequisite:* Workshop described above, or Creative Problem-Solving Institute or equivalent.

CRS 570 Creative Problem-Solving Institute (1 credit)

Week-long workshop type program introducing the student to principles and procedures of creative problem-solving. Open only to enrollees of the Creative Education Foundation's Creative Problem-Solving Institute.

CRS 590 Special Project

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

CRS 610 Nurturing Creative Behavior

An investigation of problems encountered in cultivating creative behavior in instructional programs. A critique of the literature on creativity, including the history of man's thought about creativity, various theories of creativity, empirical research, and various procedures which have been developed for nurturing creative talent.

CRS 615 Master's Seminar

An in-depth analysis of processes of synectics and creative analysis related to Creative Studies. Further critique of literature on creativity. Discussion of creative problem-solving in relation to other disciplines such as education, psychology, sociology, history, philosophy, the arts, and sciences.

CRS 625 Advanced Creative Problem-Solving Institute

Individualized programs tailored to meet each student's specific needs, educational background, thesis problem, goals, etc., selected with advisement from some 100 diverse interdisciplinary offerings in advanced programs of the Institute.

CRS 670 Team-Teaching I

Team-teaching experience in first-year Creative Studies semester courses, under direct supervision of the faculty.

CRS 680 Team-Teaching II

Team-teaching experience in first-year Creative Studies semester courses, under direct supervision of the faculty.

CRS 690 Master's Project

One of the following areas to be selected: (1) Creative program and curriculum development in academic area of choice, (2) Problem areas in academic area of choice, (3) Leadership experience in regional Creative Problem-Solving Institutes.

CRS 795 Master's Thesis

Investigation or original experimental research on a problem of interest. Available resources include the Creative Studies Library and data bank, visiting scholars from various disciplines, and joint guidance from other academic departments.

FACULTY OF THE ARTS

DR. HARRY AUSPRICH, *Dean*
Room 204 Rockwell Hall

The Faculty of the Arts includes the departments of Art Education, Design, Fine Arts, Music, and Speech and Theatre Arts. The graduate degree program offered by the Faculty of the Arts is a Master of Science degree in Art Education. Graduate courses given by the Design, Fine Arts, Music, and Speech and Theatre Arts Departments may be elected to satisfy Arts and Sciences requirements in other graduate programs.

ART EDUCATION DEPARTMENT

DR. VINCENT C. ARNONE, *Chairman*
Room 102 Cassety Hall

MASTER OF SCIENCE IN ART EDUCATION

Programs

The Art Education Department offers graduate programs for concentration in alternative areas of study.

Within these required areas, the department has identified course sequences which will enable the student to pursue a concentration in any one of the following:

1. Art Education
2. Art For People with Exceptional Needs
3. Art Education Instructional Communications Development
4. Interdisciplinary Arts/Humanities
5. Studio (Fine Arts and/or Design)

Admission Prerequisites

1. A Bachelor's degree from an accredited college or university with a major in Art Education.
2. A provisional certificate for teaching.
3. Undergraduate cumulative average of 2.5 or better on a 4 point scale.
4. Any additional requirements as may be mandated by the college or department for general admission or for admission to a concentration.

Candidacy

1. General College Policy as specified by college policy (see Admission to Candidacy in Graduate Catalog).

2. Departmental Policy
 - a. Students, after consultation with advisors will propose in writing programs within their area of concentration.
 - b. A student will plan course work and experiences appropriate to the development of the concentration which must be approved by the faculty advisor.
 - c. A list of faculty advisors will be available to students in the Art Education Department Office, CA 102.
3. Student Program File
Students will maintain a department file which will include appropriate materials from all courses or experiences under program aegis. Completion of department requirements for degree approval are contingent upon a final review by a faculty committee.

PROGRAM SEQUENCE

	CREDIT HOURS
Professional Art Education Core Required	9-12
AED 602 Research Workshop in Art Ed. (Pre-req. EDU 695)	3
AED 605 Seminar in Art Ed. (Pre-req. AED 602)	3
During Art Education course 602 and 605 students will identify, define and establish the procedures for completing either a Masters project or Thesis.	
AED 690 Master's Project	3
DES 690 Master's Project	3
FAR 690 Special Project	3
or	
AED 695 Master's Thesis	6
General Studies component	6
EDU 694 Research Methods and Techniques (required)	3
Any one behavioral course (Behavioral Studies or Psychology departments) ..	3
Content Area - Design/Fine Arts	9
Students may select courses from each of the studio departments or concentrate in one department only.	
Unrestricted Electives	3-6
Note: 3 cr. hours. only, if Master's Thesis is elected.	
TOTAL REQUIREMENTS	30
Note: A minimum of 15 hours of graduate work must be completed in 600 or 700 level courses.	

CERTIFICATION ONLY PROGRAM

The certification program's purpose is to provide for students a means of acquiring permanent New York State certification for teaching grades (K-12). The program is designed in terms of the entrance criteria of the student to fulfill certification requirements and is planned to assist the student in meeting individual professional objectives.

Admission to the Program

Each candidate must have

1. an earned bachelor's degree from an accredited college or university
2. provisional New York State certification for teaching in elementary and/or secondary school

Certification Program Requirements

	CREDIT HOURS
General Requirements	6
Behavioral Science	
Psychology	3
Sociology	3
Professional Requirements	6
Art Education.....	6
Program Concentration	18
Eighteen credit hours must be earned through a series of appropriate experiences planned by the student and his advisor. These may include courses, independent study, laboratory experiences or other individualized program components.	
TOTAL REQUIREMENTS	30

AED 500 Art in the Elementary School

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

AED 510 Art Materials Workshop

Studio experiences with various materials appropriate for art and classroom learning activities such as crafts, fibers, sculpture, graphics, painting, etc., extra class studio hours as needed. Elective for Art, Elementary, Secondary, Home Economics, Exceptional Education majors.

AED 590 Special Project

Research or investigation of a particular problem to be planned and carried

out by student, with consultation and advice from instructor. A course that will allow graduate students the opportunity to carry on a study personal to their own academic concerns gained from course work and/or classroom teaching experiences, and with the desire to increase, effectively, classroom learning in Art Education. *Prerequisite:* Approval of advisor and/or instructor who will coordinate, supervise, and evaluate the study.

The student will be expected to have taken any one of the following graduate Art Education courses before pursuing the Special Project: AED 510, Art Materials Workshop; AED 602, Research in Art Education; AED 605, Seminar in Art Education. NOTE: The purpose of the prerequisite course experience is to assist the student in formulating an idea (special project) that the student may wish to pursue in greater depth, on an individual basis.

AED 591 Special Research Study in Art Education

Independent studio experience by a student, with consultation and advice from an instructor related to area of study who agrees to supervise the study; involving studio experiments and experiences not otherwise available in regular course offerings. Specified area included in all college records. Elective for Art Education majors, others by permission. Approval of major advisor and instructor concerned. Two to four semester hours—no assigned class hours.

AED 600 Art Development in the Pre-School Child

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

AED 601 Administration in Art Education

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

AED 602 Research Workshop in Art Education

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

AED 605 Seminar in Art Education

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

AED 620 Art and Therapy

A study of the art experiences/products of children and adults in therapeutic settings through the use of slide lectures, demonstrations, films, video tapes, articles, books, observations, and group experiences.

AED 690 Master's Project

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

AED 695 Master's Thesis

An individual investigation of an original problem to be submitted in typewritten form according to directions given by the Graduate Office; representing a significant contribution to the literature of art or art education, acceptable to the student's advisor and chairman of the appropriate area of specialization. *Prerequisite:* AED 602.

DESIGN DEPARTMENT

DR. CARLTON E. BAUER, *Acting Chairman*
Room 315 Upton Hall

DES 511 General Crafts Workshop

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

DES 590 Special Project

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

DES 591 Special Research Study in (Specified Area) (3-6)

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

DES 592 Independent Studio in Design

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

DES 640 Graduate Studio in Design

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

DES 641 Graduate Studio in Product Design

A concentrated study of product design, on an advanced level; functional and aesthetic problems in the design of useful products; experience with

common and newly-developed materials; tutorial relationship with instructor; extra class assignments, including minimum studio hours equal to class hours.

DES 642 Graduate Studio in Wood Design

The designer-craftsman approach to advanced projects in wood; hand, power and machine tool practice; aesthetic and functional considerations in design; finishing methods, care of equipment; extra 2 field trips required. *Prerequisite:* DES 240 or equivalent.

DES 643 Graduate Studio in Textile Design

Advanced work in textile design and processes; weaving, printing, applique; traditional and experimental techniques; individual projects and explorations; studies of work of designer-craftsmen; tutorial relationship with instructor; extra class assignments, including minimum studio hours equal to class hours. *Prerequisite:* DES 260 or equivalent.

DES 646 Graduate Studio in Jewelry

Technical and aesthetic aspects of jewelry design and construction; advanced experience in fabrication techniques, casting, and stone setting according to student experience level; tutorial relationship with instructor; extra class assignments, minimum studio hours equal to class hours. *Prerequisite:* DES 270 or equivalent.

DES 647 Casting Techniques in Jewelry

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

DES 649 Graduate Studio in Pottery

Advanced study on an individual basis in pottery; practice in throwing & hand-building techniques; study of form and texture for functional and sculptural applications; color and glaze; extra class assignments, including minimum studio hours equal to class hours. Primarily for art majors. *Prerequisite:* DES 250 or equivalent.

DES 650 Graduate Studio in Graphic Design

Developing effective communications in illustration and design; realistic, experimental, and expressive approaches; preparation for single and multicolor reproduction; planning publications; extra class assignments, including minimum studio hours equal to class hours. *Prerequisite:* DES 230 or equivalent.

DES 651 Home and Community Design

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

DES 690 Master's Project

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

FINE ARTS DEPARTMENT

PAUL D. MARTIN, *Chairman*
Room 315C Upton Hall

FAR 610 Graduate Studio in Drawing — 3-9 cr. hrs.

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

FAR 611 Graduate Studio in Painting — 3-9 cr. hrs.

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

FAR 613 Graduate Studio in Graphic Arts — 3-9 cr. hrs.

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

FAR 619 Graduate Studio in Sculpture — 3-9 cr. hrs.

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

FAR 623 Graduate Studio in Photography — 3-9 cr. hrs.

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

FAR 690 Special Project — 3-9 cr. hrs.

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

FAR 691 Special Research Study in Fine Arts — 3-6 cr. hrs.

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

FAR 692 Independent Studio in Fine Arts — 3-9 cr. hrs.

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

FAR 700 Master's Project — 3 cr. hrs.

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

MUSIC DEPARTMENT

PAUL R. HOMER, *Chairman*
Room 201 Albright Hall

MUS 500 Music in Education

A practical course with a variety of musical experiences to develop musical skills and knowledge of the basic fundamentals. Demonstration lessons, and workshops presenting teaching techniques. Intended for classroom teachers, exceptional education, and music teachers. Not for students who have had MUS 317 or MUS 404.

MUS 501 Survey of Music Literature

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

MUS 503 Latin American Music

A survey of the ethnic and European heritage of Latin American Music from early aboriginal sources to contemporary composition. *Classification:* Elective. *Prerequisite:* MUS 301 or its equivalent.

MUS 504 Introduction to Symphonic Literature

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

SPEECH AND THEATRE ARTS DEPARTMENT

DR. JULIA C. PIQUETTE, *Chairman*
Room 206 Cassety Hall

STA 528 Seminar in Creative Dramatics

Philosophy, methods, and materials of informal playmaking with children; attention to special interests and creative projects. *Prerequisite:* STA 418 or equivalent.

**FACULTY OF HUMANITIES AND
SOCIAL SCIENCES**

DR. THEODORE W. KURY, *Dean*
Room A113 New Classroom Building

The Faculty of Humanities and Social Sciences offers graduate course work in the following departments: Economics, English, Foreign Languages, Geography, Health, Physical Education, and Recreation, History, Mathematics, Political Science, Sociology and Social Studies Education. Details concerning the degree program and courses offered by these departments are provided under the appropriate headings in this section of the catalog.

ECONOMICS DEPARTMENT

DR. WILLIAM T. GANLEY, *Chairman*
Room B114 New Classroom Building

ECO 502 Workshop in Economics

Considerations 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, agricultural aspects of foreign policy, economy of the Niagara Frontier, and government regulatory agencies. *Classification:* Elective for M.S. in Education majors.

ECO 510 Economics of Education

Analysis of the economic dimensions of education; supply and demand of educational services; benefits and costs; productivity; educational finance; investment in human capital; externalities.

ENGLISH DEPARTMENT

HENRY J. SUSTAKOSKI, *Chairman*
Room 327 Ketchum Hall

MASTER OF ARTS IN ENGLISH

Prerequisites	36
Bachelor's degree from accredited college or university. Undergraduate cumulative average of 2.75 and average of 3.00 in English on a 4.00 scale. Acceptable scores on the Graduate Record Examination. Thirty-six (36) semester hours in English exclusive of freshman English.	
Language Requirement	
Demonstrated competence in one foreign language. Demonstrated competence in written and oral English. These competencies must be established prior to the completion of eighteen (18) semester hours.	
Required Areas of Study	18-24
Courses to be chosen, under advisement, in the following areas so that the student will have in his combined undergraduate and graduate record <i>at least</i> one course in each area.	
Linguistics or History of the English language	
Chaucer or Milton	
Shakespeare or Elizabethan Writers	
Seventeenth or Eighteenth Century	
English Literature	
Nineteenth Century English Literature	
American Literature	
World Literature	
Twentieth Century Literature	
Criticism	
Research in Literature and Language	
Thesis	0-6
A student may elect, under advisement, ENG 695 Thesis (6 semester hours) or ENG 690 Project (3 semester hours).	
Electives in English or other academic areas under advisement	6
TOTAL REQUIREMENTS	30

MASTER OF SCIENCE IN SECONDARY EDUCATION —ENGLISH

Prerequisites	36
Undergraduate preparation including six hours in composition and/or communication and preparation	

in linguistics, literature for adolescents, English literature, American literature, world literature, speech and/or oral interpretation, and advanced writing. Thirty-six (36) semester hours in English exclusive of freshman English.	
Required English Courses	18
To be specified by advisor after review of the student's previous preparation.	
Research	3-6
Required of all students who are candidates for the master's degree. Each candidate, after a conference with his advisor, must select one of the following:	
ENG 693	Research Design in Teaching of English 3
ENG 694	Research in Literature and Language 3
ENG 690	Project 3
ENG 695	Master's Thesis 6
Professional Education	9
A selection, to be taken under advisement, of nine hours including one course from at least two of the following professional course areas designed to meet the needs of degree students with varied academic and professional backgrounds:	
Testing and Evaluation, such as EDU 511, Evaluation in Education; EDU 537, Evaluation in Secondary School.	
Secondary Curriculum, such as EDU 532, Secondary School Education; EDU 536, Secondary School Problems and Methods; EDU 542, Seminar in Secondary School Curriculum; EDU 544, Middle School Curriculum; EDU 553, Curriculum Planning for the Urban Child; EDU 558, Seminar in Teaching the Disadvantaged Child.	
Human Behavior, such as EDU 503, Educational Psychology; EDU 529, Adolescent Psychology; EDU 531, Systematic Study of Children and Youth; EDU 556, Group Dynamics in Education; EDU 630, Self Processes in Human Development and Education; EDU 685, Social Processes in Human Development and Education.	
Unrestricted Electives	0-6
TOTAL REQUIREMENTS	30

All English courses are numbered according to the system explained below. Course numbers listed in 1972-73 catalog, when different, are enclosed in parentheses after each course.

CENTURY levels:

500—graduate courses (open to all graduate students)

600—graduate courses (primarily for degree students)

DECADE categories:

00-09 Writing and Communication

10-29 English literature

30-39 World literature

40-49 American literature

50-59 Genre (e.g., poetry, fiction, drama)

60-69 Children's literature; young adult literature, English Education

70-79 Linguistics

80-89 Folklore

90-99 Research; project, thesis, etc.

ENG 500 Studies in Individual Writers

A depth analysis of one or a combination of significant authors chosen from a particular historical period, literary movement, etc., in English, American, or other literature. Individual writers to be studied will be identified in the schedule of course offerings. May be taken more than once for credit with departmental approval.

ENG 520 Irish Literature

Gaelic prose and poetry in translation; Irish contributions to literature in English; the poetry of Yeats, the plays of Synge, the 1916 poets, the Blasket writers, and other Irish literature since 1889.

ENG 522 (515) Shakespeare: The Comedies

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

ENG 523 (516) Shakespeare: The Tragedies

Backgrounds of Elizabethan tragedy; study of the aesthetic and philosophic qualities of the major tragedies; readings in criticism.

ENG 530 Literature of Greece and Rome

Readings in English translation and discussion of selected masterpieces; relationship to later literature in English and other modern languages.

ENG 531 Literature of Continental Europe: The Middle Ages

Readings in English translation of representative works of the Middle Ages; importance of this literature as source material for later writers.

ENG 532 Literature of Continental Europe: The Renaissance

Patrich, Boccaccio, Machiavelli, Castiglione, Ariosto, and others in English translation; their relation to the literature of England.

ENG 533 Literature of Continental Europe: Seventeenth and Eighteenth Centuries

Readings in English translation of selected novels, plays, and essays il-

lustrating neo-classical and pre-revolutionary tendencies in France, Germany, and other European countries.

ENG 534 Literature of Continental Europe: The Nineteenth Century

Readings in English translation of selected masterpieces; Rousseau and his disciples; romantic poetry, fiction, and drama; realism, naturalism, symbolism in the various types of literature.

ENG 535 Literature of Continental Europe: The Twentieth Century

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

ENG 536 The Bible as Literature

Representative genres of biblical literature will be read and analyzed in relationship to theme, historical and cultural background, and modern biblical literary criticism.

ENG 538 Literature and the World Today

Current ideas expressed through novels, plays, and critical reports; contribution of the magazine, newspaper and motion picture to the image of America. *Classification:* Not open to English majors.

ENG 540 Regional American Literature

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

ENG 541 Romantic Movement in American Literature

A study of the nature of romanticism. Social, cultural and literary backgrounds of American romanticism. Romantic literary theory. Study of the early Romantics, Poe, Hawthorne, Melville, the Cambridge poets, and Whitman.

ENG 542 Nineteenth Century American Novel

Study of evolution of the novel form from early Gothic and sentimental motifs through Romance and Symbolism to Realism and Naturalism, with special attention to social themes. Such writers as Brown, Simms, Cooper, Twain, Howells, James Frederic, Crane, Chopin.

ENG 545 Emerson and Thoreau

Writings of Emerson and Thoreau against the background of European and American transcendentalism.

ENG 546 Major American Poets

Nineteenth century poets of first rank and their contributions to a national literature.

ENG 554 The Novel in English, 1900-1945

Major American and/or British novels, their artistic and social significance.

ENG 560 Studies in Children's Literature

Types of children's literature; criteria of book selection; reading interests of children; preparation of bibliography. May not be taken for credit by students who have taken ENG 260.

ENG 561 The Heroic Tradition in Children's Literature

Traditional heroic works of literature as they have been interpreted for children. *Prerequisite:* ENG 260 or ENG 560.

ENG 562 Historical Background of Children's Literature

Historical survey of children's literature and of the writers, illustrators, and social forces which have shaped it. *Prerequisite:* ENG 260 or ENG 560.

ENG 563 Classics of Children's Literature

Study in depth of several literary classics in children's literature. *Prerequisite:* ENG 260 or ENG 560.

ENG 564 Fantasy and the Modern Literary Fairy Tale

Survey and evaluation of the significant writers of fantasy for children from Hans Christian Andersen to the present. *Prerequisite:* ENG 260 or ENG 560.

ENG 565 Realistic Fiction for Children

Realistic fiction; regionalism, ethnic and religious groups, children of other lands. *Prerequisite:* ENG 260 or ENG 560.

ENG 566 Poetry for Children

Adult poetry of interest to children; poetry written specifically for children. *Prerequisite:* ENG 260 or ENG 560.

ENG 568 Folklore in Children's Literature

A critical analysis of the traditional elements in children's literature. *Prerequisite:* ENG 260 or ENG 560.

ENG 569 Literature for the Secondary School

Readings in prose and poetry appropriate to the secondary school; examination of the function of literature for young adults in the secondary English program. May not be taken for credit by students who have taken ENG 461 (213).

ENG 570 Aspects of Language: Assumptions and Analysis

This course introduces students to content and concepts of modern language research and applications through exposure both to the analysis of language and to guided readings on language. *Classification:* Required for English majors (if 470 has not been taken previously.) *Prerequisite:* None. *Prohibitions:* May not be taken if ENG 470 has already been taken.

ENG 571 History of the English Language

The methods and goals of historical linguistics. The comparative method and language reconstruction. The relationship of English to other Indo-European languages. Changes in English phonology and morphology from 600 A.D. to the present. *Prerequisite:* ENG 470 or ENG 570.

ENG 572 Comparative Approaches to English Structure

The structure of English will be examined comparatively from three or more theoretical perspectives. One of the perspectives will include a structural approach and another a transformational approach to English grammatical analysis. *Classification:* This should satisfy the grammar requirement for certain majors. Otherwise, it is an elective. It should not be taken if ENG 472 has been taken previously.

ENG 573 Applied Linguistics

The practical application of linguistic concepts and research to educational problems in our society. *Prerequisite:* ENG 470 or 570.

ENG 581 Folklore and Literature

Uses of folklore, in terms of both content and style, in major literary works and periods, with emphasis on English and American literature. *Prere-*

quisite: Six hours of undergraduate or graduate courses in literature, or permission of instructor.

ENG 582 Folklore and History

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

ENG 583 British Folklore

Collection and research in English, Scottish, and Irish folk traditions, with emphasis on developmental work in the nineteenth and twentieth centuries; relationship between British and American folklore scholarship. *Prerequisite:* Permission of the instructor.

ENG 584 The Folk Ballad

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

ENG 586 The Folktale and Other Traditional Narrative Forms

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

ENG 610 Studies in Medieval English Literature

Selected period, genre, or writer of medieval literature. May include Old English, medieval romance, drama, or alliterative poetry; or Chaucer, the Gawain-poet, Malory, or Langland.

ENG 611 Chaucer

A reading of Chaucer's minor poems (*Book of the Duchess*, *Legend of Good Women*, *Parlement of Fowls*, *House of Fame*) and of the major epic, *Troilus and Criseyde* in terms of their social statement and aesthetic design. This course complements ENG 411; both courses may be taken for credit.

ENG 612 Studies in Sixteenth Century English Literature

Selected authors, forms, or literary movements.

ENG 613 Studies in Seventeenth Century English Literature

Selected authors, forms, or literary movements.

ENG 614 Studies in Eighteenth Century English Literature

Selected authors, forms, or literary movements.

ENG 615 Studies in Nineteenth Century English Literature

Selected authors, forms, or literary movements.

ENG 616 Studies in the Novel

Seminar in selected aspects of the novel; selected authors, forms, or literary movements.

ENG 617 Milton's Poetry and Prose

A study of the poetry and prose of John Milton.

ENG 618 Studies in Modern English Poetry

Significant trends and writers in English poetry since 1900; close study of

two or three writers from the following list: Hardy, Housman, Masfield, Eliot, Auden, and Thomas.

ENG 621 (511) Origin and Development of English Drama

Liturgical beginnings of English drama; miracle and morality plays, interludes; rise of English comedy and tragedy, forerunners and contemporaries of Shakespeare.

ENG 624 Seminar in Early Victorian Literature

An in-depth study of selected figures, problems, and movements from 1830-1860. Emphasis on poets and prose writers, including Tennyson, Browning, Arnold, Mill, and Newman.

ENG 625 Seminar in Late Victorian Literature

An in-depth study of selected movements and figures from 1860-1914. Emphasis on Pre-Raphaelites and Decadents, Hardy and Hopkins, Ruskin and Pater.

ENG 631 Studies in Comparative Romanticism

Nature of Romanticism; historical backgrounds of nineteenth century English and American Romanticism; Continental romanticism; study of a limited number of English and American writers such as Wordsworth, Byron, Shelley, Hawthorne, Poe.

ENG 633 Seminar in Comedy

Practice and theory of comedy from Aristophanes to the present.

ENG 634 The Symbolist Poets: A Comparative Study

The symbolist movement in America and Europe, with emphasis upon such writers as Wallace Stevens, W. B. Yeats, Charles Baudelaire, Arthur Rimbaud, Paul Verlaine, Stephane Mallarme, Rainer Maria Rilke, and Frederico Garcia Lorca.

ENG 637 Comparative Drama: Tragedy

An exploration of tragic form and vision from Aeschylus to the present.

ENG 640 Studies in American Literature

Selected aspects of literary culture in the United States from the Colonial period to the twentieth century. Literary movements and periods, intercultural relationships, and the influence of religious and philosophic areas upon literature; focus upon selected areas and key figures.

ENG 648 Studies in Modern American Poetry

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

ENG 650 Studies in Drama: Ibsen to 1945

Selected emphasis from Naturalism, Symbolism, Expressionism, and Lyric Theater, and such writers as Ibsen, Strindberg, Chekhov, Shaw, O'Neill, Pirandello, and Brecht.

ENG 651 Studies in Drama since 1945

Selected emphasis from realistic, surrealist, absurdist, and ritual drama, and such writers as Duerrenmatt, Frisch, Miller, Genet, Lonesco, Beckett, Albee, and Pinter.

ENG 652 (620) Literary Criticism

Examination of primarily the theoretical and, secondarily, the practical

bases of critical analysis and evaluation of literature.

ENG 675 Old English Language and Literature

The study of English language and literature prior to 1100 A.D. The origins of English, early political and linguistic divisions, grammar and phonology, literary traditions and devices, and text analysis. All selections chosen for critical and grammatical analysis will be read in Old English. *Prerequisite:* ENG 470 or 570.

ENG 680 Folklore and Culture

Relationships between folklore and cultural studies, with emphasis on the American and British anthropological schools. *Prerequisite:* Three hours in folklore or anthropology.

ENG 681 Folklore Theory

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

ENG 682 Folklore Field Work

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

ENG 690 Project

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

ENG 691 Research Problems in Folklore

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

ENG 692 The Teaching of Writing

An advanced course in the teaching of writing discussing: the philosophical, psychological, and sociological foundations needed to teach writing; the relation of forms of thinking, rhetoric, and communication theory to writing; the management of a writing program; and an introduction to research in the teaching of writing. *Prerequisite:* A course in advanced writing, creative writing, or journalism, or the permission of the instructor.

ENG ED 693 Research Design in the Teaching of English

An introductory course to research in the teaching of English, designed to help the student develop a thesis proposal for an experimental study of a problem in the teaching of English. *Prerequisite:* Permission of the instructor.

ENG 694 Research in Literature and Language

Examination of basic problems that arise in research; some attention to bibliographical resources and to the preparation of a manuscript according to the MLA Style Sheet. *Note:* It is recommended that this course be taken early in the student's graduate program.

ENG 695 Thesis

An individual investigation into a topic approved by an appropriate faculty member and conducted under his guidance.

FOREIGN LANGUAGE DEPARTMENT

DR. NEIL S. RUDIN, *Chairman*
Room 325 Ketchum Hall

FLE 510 Supervision of Foreign Language Student Teachers

The course open to teachers of foreign languages interested in supervising F.L. student teachers. An opportunity to explore the best techniques for student teacher supervision and evaluation in urban and suburban schools at all levels. *Prerequisite:* at least a B.A. or B.S. degree in Foreign Languages or Foreign Language Education or approval of the instructor.

FRE 501 Seminar in French Prose: Selected Topics

In-depth study of literary topics, analysis of representative works, with related research in cultural history and criticism. *Prerequisite:* Graduate status; undergraduate senior with B average or better in French upper division courses and permission of instructor department chairman and Dean of Graduate Studies.

SPA 501 Seminar in Peninsular Literature: Selected Topics

A treatment of a selected topic in depth, analysis of selected works, with readings in history, literary criticism. Research into specific problems. *Prerequisite:* graduate status; undergraduate senior with B average or better in Spanish upper division courses and permission of instructor department chairman and Dean of Graduate Studies.

SPA 502 Seminar in Latin American Literature: Selected Topics

A treatment of a selected topic in depth, analysis of selected works, with readings in history, literary criticism. Research into specific problems. *Prerequisite:* graduate status; undergraduate senior with B average or better in Spanish upper division courses or permission of instructor department chairman and Dean of Graduate Studies.

FLE 590 Special Project

Research or investigation of a particular problem, to be planned and carried out with guidance of instructor. (For Special Projects in French, German, Italian, Spanish, etc., knowledge of the language is required).

GEOGRAPHY DEPARTMENT

RAYMOND W. WAXMONSKY, *Chairman*
Room A213 New Classroom Building

GEG 500 Geography of Eastern Asia

Physical and cultural geography of China, Japan, Korea, Mongolia, and the

countries of Southeast Asia; emphasis on the major economies and their relationships to the natural environment.

GEG 501 Studies in Economic Geography

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

GEG 502 Geography in the Secondary Schools

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

GEG 503 Studies in Resource Conservation

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

GEG 504 Studies in the Geography of Anglo-America

Regional Divisions: landforms, climates, soils, natural vegetation, drainage, major economies; emphasis on the leading economies of each region and their relationships to the natural environment.

GEG 505 Studies in the Geography of Middle America

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

GEG 507 Map Reading and Analysis

Map essentials; types of maps and symbols; techniques of map interpretation; classification and use of map projections; map collections.

GEG 508 Studies in the Geography of New York State

The physical landscape; cultural geography and settlement; primary economic activities; urban systems and environments; planning and future development of the state.

GEG 509 Introduction to Urban Geography for Elementary and Secondary School Teachers

Spatial aspects of urban development: spatial arrangement of land uses within the American city; differences between these arrangements in American cities of differing functions, sizes, and locations; dynamics of change in city structure and resultant patterns; central place theory and urban structure; and the role of urban geography in public school curricula.

GEG 510 Cultural Geography

Scope and nature of cultural geography; growth and development of cultural regions; investigations into the ideas of culture, culture area, cultural landscape, cultural history, cultural ecology and cultural perception.

GEG 515 Geography of Industrial Location

Analysis of industrial location in a free market economy with special reference to location within the United States; examination of the industrial location process and of the major factors affecting the location of industrial

establishments in the real world.

GEG 520 Seminar in Urban-Metropolitan Area Problems

Spatial aspects of urban-metropolitan area problems; urban land use; dynamics of change in urban areas; role of urban geography in finding solutions to urban problems. *Prerequisite:* Six hours of geography or three hours of urban sociology or urban affairs studies.

GEG 550 Studies in Climatology

Studies of climate classification systems; world macro-climatic regions; applied urban and non-urban aspects of energy and moisture balance micro-climatology. *Prerequisite:* Physical Geography or Meteorology.

GEG 590 Special Project

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

GEG 595 Research Methods and Techniques in Geographic Education

Research methods in geography; identification and development of research problems; research techniques and aids; evaluation of archival, statistical and illustrative materials; preparation of a research paper. *Prerequisite:* Nine semester hours of geography, at least three at the graduate level.

GEG 610 Seminar

Investigation, examination and discussion of topics of current interest in geography. Topics to be announced. *Prerequisite:* Twelve (12) hours of geography or permission of the instructor.

**HEALTH, PHYSICAL EDUCATION, RECREATION
AND DANCE DEPARTMENT**

DR. FLORENCE M. HULETT, *Chairman*
Room 203, New Gymnasium

HSC 500 Workshop on Smoking and Health

A workshop designed for teachers, supervisors and other personnel concerned with individual and community health problems. Emphasis is placed upon development of an understanding of the widespread effects of smoking, its relationship to health and disease, and the implications and application for health teaching.

HSC 510 New York State Summer Institute on Alcohol Problems

An institute designed for teachers, supervisors and voluntary and governmental agency personnel concerned with individual and communi-

ty health problems. Emphasis is placed upon development of an understanding of the widespread effects of alcohol, its relationship to health and disease, and the implication and application for health teaching and therapy.

HSC 520 Drugs, Society, and Health

An advanced course dealing with the multidisciplinary aspects of Drug Use and Abuse. Informational and experiential opportunities will be provided for the student interested in the Drug Problem from either a personal or professional viewpoint. Considerable individual latitude will be granted to class participants in selection of topics for investigation and in self-evaluation related to both licit and illicit drugs.

PED 530 Physical Education and Recreation for the Disabled Child

Psychological, physiological, sociological, and motoric characteristics of the disabled child; modification of physical education and recreation activities; planning the physical education and recreation programs. The course is to be keyed to lab work with children in the College Learning Lab.

HISTORY DEPARTMENT

DR. EDWARD O. SMITH, JR., *Chairman*
Room C 205B New Classroom Building

MASTER OF ARTS IN HISTORY

Prerequisites

Bachelor's degree from accredited college or university. Undergraduate cumulative average of 2.75 on 4.00 scale and average of 3.00 in history. Acceptable scores on the Graduate Record Examination, including the advanced examination in history. Thirty (30) semester hours in history. If applicant does not meet these requirements, history department may grant conditional admission to the program. Such additional work or waiver of general prerequisites shall be set forth by the Graduate Committee at the time of acceptance for admission.

Advisor

The student, with the approval of the department chairman or the Graduate Committee, will select from among the department members an advisor who specializes in his principal area of interest.

Language Requirement

Demonstrated competence in one foreign language (approved by

Graduate Committee) through an examination to be arranged by the history department. This competency must be established prior to the completion of eighteen (18) semester hours. As an alternative to foreign language competence the student, with the approval of the Graduate Committee or the department chairman, may choose to acquire or to demonstrate competence in either statistics or computer programming.

CREDIT
HOURS

Required Courses 18

Courses to be chosen, under advisement, in American, European, or Third World history. Six (6) hours may be taken in related disciplines, such as political science, geography, English, with the expressed approval of the student's advisor.

Seminars 6

Students must elect either History 600 or History 601. In addition, one other seminar (3 hours) must be taken. Students must consult with advisor or department chairman in regard to the selection of the seminars.

Examination

Comprehensive oral examination in two fields of history. The student's advisor, in consultation with the student, will schedule the comprehensive oral examination. The examination must be passed before the thesis is submitted.

Thesis 6

The student, in consultation with his advisor (first reader) and a second reader will prepare a written thesis. The thesis, after approval, must be submitted to the history department in three (3) bound copies.

TOTAL REQUIREMENTS 30

HIS 500 Studies in American History

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

HIS 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.

HIS 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.

HIS 503 Social and Intellectual History of the United States

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

HIS 504 History of the American Frontier

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

HIS 505 Studies in American Colonial History

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

HIS 506 Problems in British History

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

HIS 507 The United States in Contemporary World Affairs

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

HIS 508 Reform and Reformers in American Civilization

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

HIS 509 History of Russian Diplomacy

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

HIS 510 Black American History

Slavery, Northern free blacks, American racial thought, from Colonial era to Civil War; Northern blacks and the Civil War; black thought during Reconstruction and post-Reconstruction eras; "Black Reconstruction," problems of American blacks from 1895 to World War II; leadership, urban migration; 20th century black thought; American segregationist thought.

HIS 511 America Between the Wars: 1919-1941

The 1920's and Harding; American politics, 1920-1930; the economy in the 1920's; the Solid South and nativism; American blacks between the wars; American intellectuals of the 1920's; radicalism between the wars; Hoover and the 1930's; Roosevelt and the New Deal.

HIS 512 American Foreign Policy in the Far East

The concept of the United States as a Pacific power; American reaction to European penetration of China; the Open Door Policy and Dollar Diplomacy; American initiative in opening of Japan; World War I and Disarmament, the road to Pearl Harbor; World War II and American "Containment" Policy; the Korean War and American security pact system in the

Pacific; War and Peace in Southeast Asia; examination (evaluation) of the Nixon Doctrine in the Pacific.

HIS 513 Latin America in the 20th Century

Social and political conditions in Latin America in the early 20th century, the Latin American economies and the industrial world, nationalism, reform, and revolution (1900-1945); economic, political, and international problems (from World War II to Castro); major issues in Latin America today; the United States and Latin America.

HIS 514 Problems in Classical and Medieval History

A study of the Classical Era and Middle Ages through an examination of particular cultural, intellectual, social, economic, and historiographical problems. The student should consult with the professor prior to registration to determine the specific topic of the course.

HIS 515 Modern European Political Movements

Function, structure, behavior, and ideological basis of major European political movements since the turn of the 20th century.

HIS 516 Modern European Diplomacy

Problems and special topics in modern European diplomatic history. The emphasis in this course is on research and the preparation of scholarly papers.

HIS 517 Modern European Imperialism and Colonialism

Historical theories and social science; theories of imperialism; origins of World War I as test case of theories; colonialism in Africa, Asia, and Oceania; Colonialism in the New World; breakup of the colonial empires.

HIS 518 Strangers in the Land; 20th Century Immigrants in the United States

The role of the United States in world population movements during the 20th century; shifts in governmental policy; major groups of 20th century immigrants; how and why they came; patterns of settlement; American nativism; assimilation and alienation of immigrants.

HIS 600 Seminar in the Bibliography of American History

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

HIS 601 Seminar in the Bibliography of European History

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

HIS 602 Seminar in Modern Russian History

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

HIS 603 Seminar in Modern East Central European History

Research in the problems of the nations located between Russia and Germany, and between the Baltic Sea and Turkey, from the middle of the nineteenth century to the present with special emphasis on ideological conflicts and foreign policy.

HIS 609 Local History: Research Methods and Techniques

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

HIS 610 Seminar in Contemporary European History

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

HIS 611 Seminar in American History

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

HIS 695 Thesis

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

MATHEMATICS DEPARTMENT

DR. RICHARD A. WIESEN, *Chairman*
Room 216 Cassady Hall

MASTER OF ARTS IN MATHEMATICS

Prerequisites

1. Bachelor's degree from accredited college or university.
2. Completion of at least 24 semester hours of undergraduate mathematics beyond calculus, including a full year of algebra (our present MAT 301, 302); a semester of analysis (our present MAT 417); and at least one semester of geometry or topology (our present MAT 322 or 471).
3. An average of 2.5 or better on a 4.00 point grading scale in undergraduate mathematics.
4. Written acceptance as a graduate student in the M.A. program by the Graduate Faculty of the Mathematics Department and the Dean of Graduate Studies.
5. A student deficient in item 2 above may remove the deficiency while pursuing graduate study. This can be done only upon a written statement from the student's advisor or the Graduate Faculty of the Mathematics Department. The statement will indicate what deficiency is to be removed and specifically how.

Requirements for Master of Arts Degree

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

a. A student must complete:

MAT 701	Modern Algebra I
MAT 702	Modern Algebra II
MAT 711	Analysis I
MAT 712	Analysis II
MAT 771	Topology

b. Thirty semester hours of graduate mathematics (600 or 700 level) and a comprehensive examination in mathematics based solely on the required courses. A student may elect up to 6 semester hours of graduate work in related fields in lieu of the same number of semester hours of mathematics upon the written approval of his advisor.

c. Twenty-four hours of graduate mathematics, a thesis in mathematics for 6 semester hours and a comprehensive examination based solely on the required courses.

MASTER OF SCIENCE IN SECONDARY EDUCATION—MATHEMATICS

Prerequisites

1. Completion of at least 18 semester hours of undergraduate mathematics beyond calculus, including one semester of algebra (our present MAT 301, 202), a semester of analysis (our present MAT 417), at least one semester of geometry (our present MAT 322, 329), and at least one semester of statistics, topology or applied mathematics (our present MAT 381, 382, 471, 413 or 415).
2. An average of 2.3 on a 4.0 scale in all undergraduate mathematics courses.
3. Acceptance as a graduate student by the Chairman of the Graduate Faculty of the Mathematics Department and the Dean of Graduate Studies.
4. A limited deficiency in item 1 above may be removed while pursuing graduate study with a written statement from the student's advisor or the Chairman of the Graduate Faculty of the Mathematics Department. A copy of this statement will be filed in the mathematics office and with the Graduate Office. A student with a deficiency in item 2 above may be asked to take the Advanced Mathematics Section of the Graduate Record Examination as possible alternate to this requirement.

Courses taken to remove a prerequisite deficiency will carry graduate credit only if approved by the Graduate Faculty.

CREDIT
HOURS

Mathematics Courses 15-21

The student must complete at least 15 semester hours of mathematics at the 600 or 700 level. This course work must include

MAT 701	Modern Algebra I
MAT 711	Analysis I
At least two of the following courses:	
MAT 620	Modern Geometry: Selected Topics
MAT 631	Foundations of Mathematics
MAT 651	Number Theory
MAT 683	Statistical Theory
MAT 696	History of Mathematics

Research Experience 3-6

Required of all students. Each candidate, after conference with his advisor, must select at least one of the following:

MED 595	Research Methods & Techniques in Mathematics Education 3
MED 690	Project in Mathematics Education 1-4
MED 795	Thesis in Mathematics Education. .6

Mathematics Education Courses 6-12

The student must complete at least six (6) semester hours of graduate mathematics education courses selected by advisement from the following list. Up to six (6) semester hours of electives from suitable related areas may be chosen with prior approval by the Mathematics Education Graduate Committee.

Courses and offerings which may be used to complete the 6 semester hour requirement above.

MED 594	Workshop
MED 596	Conference
MED 598	Microcourse
MED 600	Contemporary Mathematics Curriculum Developments
MED 601	Seminar in Teaching of Mathematics
MED 602	Selected Topics in Mathematics for Secondary Teachers

(Graduate students may include no more than six (6) hours of credit for workshops, conferences and microcourses in a master's program).

TOTAL REQUIREMENTS 30

A 2.7 average is required of all graduate mathematics courses taken at this campus. A 3.0 average is required for all graduate mathematics education courses.

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

All 600 level courses and 700 level courses are, in general, designed for students earning degrees in mathematics or science or students with a concentration in mathematics. (See prerequisites for each course with course descriptions.)

MAT 501 Mathematics for Elementary Teachers: Selected Topics from Modern Algebra

Equivalence; congruences; Boolean algebra; groups, rings, integral domain and fields; matrices. *Prerequisite:* MAT 121 and 122 or equivalents.

MAT 521 Mathematics for Elementary Teachers: Geometry

Formal and informal geometry; nonmetric geometry; congruence; measurement; constructions; similarity, coordinate geometry; trigonometric functions, constructions.

MAT 551 Mathematics for Elementary Teachers: Number Systems

Systems of numeration; sets; whole numbers; rational numbers; real numbers; operations; relations; properties, algorithms; elementary number theory.

MTH 552 Mathematics for Elementary Teachers: Number Theory

A study of the structure of the integers, divisibility, primes, congruence classes, linear congruences, diophantine equations. Fibonacci numbers and selected topics. Some topics will be developed and adapted by the students for the elementary classroom.

MAT 581 Mathematics for Elementary Teachers; Probability and Statistics

Organization and analysis of data; elementary probability; probability distributions; sampling; decision-making; regression and correlation. Many topics are to be presented using ideas that can be adapted for the elementary classroom. *Prerequisite:* MAT 121 and 122 or equivalents.

MAT 593 Mathematics for Elementary Teachers: Finite Mathematics

Partitions; permutations; probability measure; conditional probability; vectors; matrices; operations and properties; linear programming; applications. *Prerequisite:* MAT 121 and 122 or equivalents.

MAT 603 Theory of Matrices

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

MAT 615 Lebesgue Integration

Introduction to Lebesgue measure and integration in \mathbb{R}_p , measurable sets and measurable functions, sets of measure zero, convergence in measure, limit properties of Lebesgue integrable functions, Fubini's theorem, L_p spaces, Riesz-Fischer Theorem. *Prerequisite:* MAT 301 and MAT 417.

MAT 620 Modern Geometry: Selected Topics

The topics will be selected from the following list. Foundations, Axiomatic Projective Geometry, Real Projective Geometry, Linear Projective Geometry, Real Projective Geometry, Linear Geometries, Finite Geometries, Non Euclidean Geometries. *Prerequisite:* MAT 322 or equivalent.

MAT 631 Foundations of Mathematics

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

MAT 635 Mathematical Logic

Statement calculus; predicate calculus; formal theories; decidability; completeness; consistency. *Note:* Not open to students with credit for MAT 432 or equivalent. *Prerequisite:* 12 Sem. Hrs. of Math beyond the Calculus to include MAT 301, 302 or 303 or equivalent.

MAT 651 Theory of Numbers

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

MAT 670 (Physics 670) Mathematical Physics

Topics chosen from: eigenvalue problems, Green's function, partial differential equations of second order, boundary value problems, calculus of variations, Fourier series, Laplace and Fourier transform, convolution, transformation theory, tensors, applications of complex variables, group theory and probability theory to physical problems. *Prerequisite:* MAT 315 Differential Equations or equivalent.

MAT 681 Intermediate Probability

A consideration of selected topics which are more advanced than the introductory treatment of probability theory, such as problems of combinatorial analysis, the laws of large numbers, and the theory of stochastic processes. *Prerequisite:* MAT 381 Probability or equivalent.

MAT 683 Statistical Theory

Probability, estimation, confidence sets, tests of hypotheses, decision theory, Bayesian methods, linear models and nonparametric methods. *Prerequisite:* MAT 381 Probability, or equivalent.

MAT 690 Project

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

MAT 696 History of Mathematics

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

MAT 701 Modern Algebra I

Cyclic groups; transformation groups; factor groups; groups with operators; isomorphism theorems; composition series; direct products of groups; Sylow theorems; residue class rings; operations on ideals; extensions of rings. *Prerequisite:* MAT 301 or equivalent.

MAT 702 Modern Algebra II

Rings, integral domains, fields, modules, finitely-generated modules, free modules, simple and semi-simple modules. Decomposition Theorem for semi-simple modules, applications to vector spaces, dual module, solutions of differential equations, matrices for free modules, introduction to homological algebra. *Prerequisite:* MAT 701 Modern Algebra I.

MAT 703 Modern Algebra III

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

MAT 711 Analysis I

Introduction to graduate; functions of several variables, topology of Euclidean space, continuity and uniform continuity, convergence and uniform convergence of sequences of functions partial differentiation, chain rule, implicit functions theorems, Riemann-Stieltjes integration, multiple integrals, Fubini's theorem. Line integrals. *Prerequisite:* MAT 417 Intro. to Real Analysis I.

MAT 712 Analysis II

Introduction to complex analysis; geometry of the complex numbers, functions of a complex variable, Cauchy-Riemann equations, inverse functions, holomorphic functions, power series, analytic continuation. Maximum Modulus theorem, conformality, inverse mappings, complex line integrals, Cauchy's theorem, L'Ouville's Theorem. Jordan Curve Theorem, evaluation residues, improper integrals. *Prerequisite:* MAT 711 Analysis I.

MAT 771 Topology

Topological spaces; bases and subbases; subspaces; continuous functions; product spaces; separation and countability; Urysohn's Lemma; Tietz, extension Theorem; compactness; metrizability; connectedness; locally compact spaces and compactification.

MAT 795 Thesis

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

MATHEMATICS EDUCATION COURSES**MED 594 Workshop***

Emphasis on process and implementation of theory. Involvement of participants in accomplishment of individualized objectives on specific theme.

MED 595 Research Methods and Techniques in Mathematics Education

Nature of Educational Research; Problem Analysis; Descriptive and Inferential Statistics; Experimental Design; Strategy of Historical, Descriptive and Experimental Studies. *Prerequisite:* Nine semester hours of graduate mathematics beyond baccalaureate degree.

MED 596 Conference*

Emphasis on unique and one-time experience on given theme.

MED 598 Micro Course*

Intensive instruction focused on specific, limited objective related to discrete content.

MED 600 Contemporary Mathematics Curriculum Developments

Study of contemporary mathematics curricular developments in the USA and in selected countries and the forces which shape these developments. The historical background influencing current curricular developments. Mathematics curricula as it affects school and society or is affected by school and society.

MED 601 Seminar in Teaching of Mathematics

An exploration of a variety of techniques and content ideas for teaching mathematics.

MED 602 Mathematics for the Secondary School Teacher: Selected Topics

This course will be the study of one or more topics in mathematics relevant to the secondary mathematics curriculum. Topics will be announced in advance.

MED 690 Project in Mathematics Education (1-4 S.H.)**MED 795 Thesis in Mathematics Education (6 S.H.)****POLITICAL SCIENCE DEPARTMENT**

DR. MICHAEL P. RICCARDS, *Chairman*
Room B218 New Classroom Building

PSC 605 Contemporary Africa and Asia

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

*Graduate students may include not more than six (6) hours of credit for workshops, conferences and microcourses in a Master's Program.

PSC 606 International Relations

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

PSC 607 American Constitution and Politics

Foundations of American constitutionalism and the politics of the Constitution; federalism, separation of powers, and role of the states.

PSC 609 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.

PSC 610 Black Politics and Ideology

Examination of Black political and social thought in America, the West Indies, and Africa, with major emphasis upon the U.S.A.

PSC 611 Urban Politics and Administration

A survey of political behavior and governmental administrative practices in urban areas in the U.S. and abroad. Particular attention is given to historical and contemporary problems in the inner-city and to "solutions" proposed by planners, administrators, and client groups.

PSC 612 Studies in Non-Western Cultures: The Middle East

An area study of characteristic cultural features of the countries; examples of interaction with Western world; cultural and social changes underway; examples of problems typical of the underdeveloped nations in the world today.

PSC 690 Special Project

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

SOCIOLOGY DEPARTMENT

DR. HENRY J. WATTS, *Chairman*
Room B307 New Classroom Building

SOC 501 Contemporary Social Problems

Problem areas of American society; sources of information; techniques for discovering and analyzing social problems; analysis of several major problems, selected in accordance with student needs and interests. *Prerequisite:* SOC 101.

SOC 505 Technology, Society, and Self

Examination of the sociohistorical development of rationalism and technology. Assessing the effects of technology upon modern social institutions, and how technology contributes to many modern urban-industrial social problems. Special attention given to the direct and indirect effects of rationalism and technology upon the individual's social consciousness, social behavior, and life style. *Prerequisite:* SOC 101.

SOC 506 Minority Groups in American Culture

Major racial, nationality, and religious minority groups in America treated from the cultural, historical, and familial point of view; current anthropological and psychological data on uniformities, differences, prejudices, and discrimination. *Prerequisite:* SOC 101.

SOCIAL STUDIES EDUCATION DEPARTMENT

DR. JOEL S. POETKER, *Chairman*
Room C215 A New Classroom Building

M.S. IN SECONDARY EDUCATION—SOCIAL STUDIES**Purposes**

The graduate program leading to the degree of Master of Science in Secondary Education with a major in Social Studies is designed to help candidates become educational leaders and innovative change agents as they acquire permanent teaching certification (7-12).

Admission Requirements

Each applicant shall have met all the admission requirements set by the Graduate Office and the following:

1. Bachelor's degree earned from an accredited college or university.
2. Thirty-six semester hours in History and/or the Social Sciences.
3. Be eligible for New York State Provisional Teacher Certification (or approved equivalent).
4. An interview with the department chairman may be required.

Advisement

Each student is assigned an advisor, and it is imperative that students regularly consult with their advisors. All students must have their program of study approved by their advisor and the department chairman.

Required Courses

History and/or Social Science 15

The student must complete 15 semester hours in history and/or the social sciences. This course work is to be selected with advisor approval, and a minimum of 9 semester hours must be concentrated in a single discipline.

Professional Education 15

SSE 513 Seminar in Secondary Social Studies 3

SSE 595 Research Methods in Secondary Social Studies 3

If the student elects not to write a thesis, the student must complete the following 9 semester hours with advisor approval:

SSE 730 Practicum: Innovations in the Social Studies 3

Social Studies Education Elective 3

Professional Education Elective 3

If the student elects to write a thesis, the student must complete the following 9 semester hours:

SSE 730 Practicum: Innovations in the Social Studies 3

SSE 797 Thesis 6

TOTAL REQUIREMENTS 30

Note: At least 15 semester hours course work must be completed in 600 or 700 level courses.

CREDIT
HOURS

CERTIFICATION ONLY PROGRAM

The certification program is designed to provide for students a means of acquiring permanent New York State Certification for Teaching Social Studies in the secondary schools (7-12). This program will help students renew old and generate new teaching competencies.

Admission Requirements

Each applicant shall have met all the admission requirements set by the Graduate Office and the following:

1. Bachelor's degree earned from an accredited college or university.
2. Be eligible for New York State Provisional Teacher Certification
3. An interview with the Department Chairman.

Required Courses

History and/or Social Science 15

The student must complete 15 semester hours in history and/or the Social Sciences. This course work is to be selected with advisor approval and a minimum of 9 semester hours must be concentrated in a single discipline.

Professional Education 15

SSE 513 Seminar in Secondary Social Studies ... 3

SSE 502 Teaching Social Studies 3

SSE 530 Practicum: Secondary Social Studies ... 3

SSE 595 Research Methods in Secondary Social Studies 3

Professional Education Elective 3

TOTAL REQUIREMENTS 30

SSE 502 Teaching Social Studies

Nature of the social studies, its content and methodology. Survey of trends in curriculum, evaluation and instructional resources.

SSE 513 Seminar in Secondary Social Studies

The introductory course for secondary social studies graduate students. A review of the literature and curriculum of the social studies. Deals with philosophical, historical, sociological aspects of the social studies. Required for all social studies students.

SSE 530 Practicum: Secondary Social Studies

Supervised, practical experiences in identifying, selecting, developing, utilizing and assessing instructional strategies in the social studies. Non-degree students only.

SSE 595 Research Methods in Secondary Social Studies

The development of research problems, resources for and the tools of educational research, and preparation of a research paper. Assessment of national curriculum projects. Required of all social studies students.

SSE 600 Independent Readings in the Social Studies

Independent readings and scheduled conferences for the student to study and discuss his areas of concern in the social studies.

SSE 610 The Study of Peace and War in the Secondary School

A number of possible approaches for achieving peace have been proposed by scholars in recent years, and a significant number of materials for presenting these approaches and the more traditional ones have been published. The course will introduce the student to these issues and materials and offer some strategies for teaching them and some criteria for judging them. The teaching of a unit on peace at a site chosen by the student or instructor will be required.

SSE 655 Laboratory Experiences With Social Studies Material

This course will provide the social studies teacher the opportunity to interact with fellow professionals in developing their skills to design, implement and evaluate curriculum materials as required by newer approaches to the social studies.

SSE 685 Planning for Educational Change

Perspectives on planned educational change: models of change, innovations, and adopters, change agent roles, change strategies and techniques, information networks. The student will devise a plan for introducing an innovation in an educational setting.

SSE 730 Practicum: Innovations in the Social Studies

Supervised practical experiences in identifying, selecting and field testing curricular and instructional innovations in secondary social studies. Required for all degree students.

SSE 790 Project

A study undertaken by a student on a problem of special interest; must be submitted in acceptable form according to instructions given by the Graduate office.

SSE 795 Thesis

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

FACULTY OF NATURAL SCIENCES**Dean's Office**

Room 271 New Science Building

The Faculty of Natural Sciences includes the departments of Biology, Chemistry, General Sciences, Geosciences, Physics and Psychology. The Great Lakes Laboratory, a research facility, is also part of the Faculty of Natural Sciences. Degree programs are offered in majors indicated by the departmental designations as well as in interdisciplinary areas such as science education and the pre-professional curricula. Concentrations in environmental science, nuclear medicine technology and criminalistics are also available. Details concerning the degree programs and courses offered in these departments are provided under the appropriate headings in this section of the catalog.

BIOLOGY DEPARTMENT

DR. JAMES D. HAYNES, *Chairman*

Room 313 New Science Building

MASTER OF ARTS IN BIOLOGY**Prerequisites**

1. Bachelors's degree, or its equivalent, from an accredited college or university.
2. An undergraduate minimum grade point average of 2.5 on a 4.00 point basis.
3. Acceptable scores on the verbal, quantitative, and biology sections of the Graduate Record Examination.
4. Three letters of recommendation evaluating their academic and personal qualifications.
5. A minimum of forty-eight semester hours of course work in science and mathematics. These shall include one year each of college physics, organic chemistry, and mathematics. The mathematics requirement may be satisfied by calculus or statistics, depending on the needs of the student's program. Applicants with deficiencies may be admitted with probationary status until such deficiencies are removed.

Requirements for Master of Arts Degree

1. A minimum of thirty semester hours; these shall include six

semester hours allocated as thesis credit.

2. A minimum cumulative average of 3.00 on a 4-point basis. The candidate shall take no more than thirty-six semester hours to achieve this average.
3. Proof of competence in one modern foreign language. Upon recommendation of the candidate's Thesis Committee, this requirement may be met through an appropriate combination of Biometrics and Computer Science.
4. Successful oral defense of a written thesis based on the candidate's research in an area of biology.

MASTER OF SCIENCE IN SECONDARY EDUCATION— BIOLOGY

	CREDIT HOURS
Biology Courses (600-level, by advisement)	12-15
Science Education Courses (Required)	9
SCI 628 Seminar in Secondary Science Education 3	
SCI 632 Curricular Trends in Secondary School Science 3	
SCI 685 Evaluation in Science Education . . 3	
Research Component (Choice of one)	3-6
SCI 695 Research Methods in Science Education 3	
BIO 690 Special Project in Biology 3	
BIO 695 Thesis 6	
Unrestricted Electives (600-level)	3
TOTAL REQUIREMENTS	30

BIO 521 General Ecology

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

BIO 522 Human Genetics

Biological basis of human genetics; study of the incidence, nature, and understanding of various genetic conditions. *Prerequisite:* None. *Special Note:* Not open to Biology Majors or those with a degree in biology.

BIO 523 Basic Human Anatomy and Physiology

Study of basic anatomy and physiology of cells, tissues, and organ systems of the human body. One two hour lecture and one two hour laboratory per

week. *Prerequisite:* None. *Special Note:* Not available for credit toward M.A. in Biology.

BIO 524 Problems in Environmental Biology

Dynamics of popular growth; the nature of environmental deterioration; possible solutions for achieving quality environment and human life. The role of community agencies and organizations. Field trips may be required. *Prerequisite:* Six (6) credit hours of biology or physical science. *Special Note:* Not open to biology Majors or those with a degree in biology.

BIO 525 Man and Evolution

A study of man; his evolutionary history and position in the animal kingdom. *Prerequisite:* None. *Special Note:* Not open to biology Majors or those with a degree in biology.

BIO 526 Field Techniques in Biology

Field identification, measurement techniques, collection, preservation, growth, reproduction, movement, habitats, food habits and distribution of organisms. Two one hour lectures, one two hour laboratory per week. Field trips required. *Prerequisite:* BIO 100 or 104 or their equivalent. *Special Note:* Not open to Biology Majors or those with a degree in biology.

BIO 527 Field Studies in the Conservation of Natural Resources

Problems of the renewable resources, treated as applied ecology in connection with soil, water, air, forests and wildlife including population and food problems. Field instructions and lectures by experts from the State Conservation Department, federal bureaus, and local community organizations; techniques in conservation education. *Prerequisite:* BIO 100 or 104 or their equivalent. *Special Note:* Not open to Biology Majors or those with a degree in biology.

BIO 590 Special Project

Research or investigation of a particular problem, to be planned and carried out by student, with consultation and guidance from instructor. Not applicable toward Masters' degree.

BIO 604 Morphogenesis in Vascular Plants

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

BIO 605 Mycology

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

BIO 607 Biometrics II

Analysis of variance with emphasis on experimental design. Analysis of covariance, bioassay, and non-parametric methods. Class discussions of M.A. Thesis proposals. Two hours of lecture and two hours of laboratory per week. *Prerequisite:* Biometrics or equivalent.

BIO 608 Molecular Genetics

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

BIO 610 Protozoology

Morphology, physiology, and taxonomy of the protozoa; life cycles of selected free-living and parasitic species; importance in environmental inter-relationships and significance in human problems. Four hours per week, including laboratory. *Prerequisite:* 18 semester hours in the biological sciences.

BIO 612 Topics in Ecology

Lectures, seminars, and laboratory and field study relating to a currently important topic in ecology. Topics will be announced in advance. Laboratory or field study may be required. May be taken more than once since different topics will be offered. *Prerequisite:* One semester each of ecology and biometrics or the equivalent.

BIO 613 Enzymology

Fundamentals of enzymology. The molecular structure, chemistry and mechanism of action of enzymes. *Prerequisite:* A course in Molecular Biology or Biochemistry.

BIO 614 Taxonomy of Vascular Plants

Principles and techniques of vascular plant identification and classification. Major emphasis on plant families of Northeastern United States and adjacent Canada. Five hours per week including laboratory or field trip. *Prerequisite:* Genetics, Physiology and Ecology.

BIO 615 Advanced Bacteriology

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

BIO 616 Topics in Animal Physiology

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

BIO 617 Research Seminar

Presentations and discussions of current research projects by graduate students in biology. Each participant will present a seminar on his research. The seminar will meet for a total of 15 hours per semester, the times of the meetings to be arranged. *Special Note:* Required of all M.A. students. Not open to M.S. students except by permission of the instructor.

BIO 618 Ethology

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

BIO 619 Plant Ecology

Trophic relations of plant communities in ecosystems, environmental factors influencing vegetation, theory and practice of sampling and analyzing data, and interpretation of the dynamics of pattern, distribution, and sequential development of plant communities. Two 1-hour lectures and one 3-hour laboratory or field session per week. Additional all-day field trips may be required. *Prerequisite:* A course in biometrics or statistics and a course in taxonomy of vascular plants.

BIO 620 Symbiology

The interactions of symbiotes at various levels and the physiologic, ecologic and genetic factors which influence these interactions. *Prerequisite:* A course in biometrics or statistics and a course in taxonomy of vascular plants.

BIO 625 Physical Ecology

Interaction of plants and animals with physical factors in their environment. Role of radiation, convection, evaporation and conduction in the energy exchange of organisms. Mathematical modeling of the microclimate of plants and animals. Response of organisms to temperature, water and light. Three hours of lecture and three hours of laboratory. *Prerequisite:* One semester of ecology and one year of college physics or permission of instructor.

BIO 626 Topics in Botany

Lecture and discussion related to a specific topic in botany. Topic will be announced before registration for the semester. *Special note:* May be taken more than once since different topics will be offered. *Prerequisite:* Nine hours of botanically oriented courses.

BIO 627 Topics in Zoology

Lecture and discussion related to a specific topic in zoology. Topic will be announced before registration for the semester. *Special Note:* May be taken more than once since different topics will be offered. *Prerequisite:* Nine hours of zoologically oriented courses.

BIO 665 Algology

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

BIO 680 Institute in Biology

Lectures, laboratory and discussion relating to a specific area of biology as defined in a proposal. Topics vary and are announced in advance. *Prerequisite:* Specified in Institute proposal. *Special Note:* Not available for credit toward M.A. in Biology. May be taken for credit toward M.S. in Education.

BIO 690 Special Project in Biology

A project undertaken by one or more individuals on a problem of special interest; to be planned and carried out with consultation and advisement from instructor. Applicable toward M.S. Ed. or M.A. degree.

BIO 695 Research Thesis in Biology

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

CHEMISTRY DEPARTMENT

DR. JOSEPH A. CAPUTO, *Chairman*
Room 313 New Science Building

MASTER OF ARTS IN CHEMISTRY

Prerequisites

1. A bachelor's degree from an accredited college or university.
2. A minimum of 24 semester hours of chemistry, including one year of physical chemistry, with a cumulative average of 2.60 on a 4.00 scale in all chemistry courses. One year of general physics and mathematics through differential and integral calculus.
3. A minimum combined score of 900 on the General Aptitude sections and a minimum score of 500 on the Advanced Chemistry section of the Graduate Record Examination.

Requirements for Master of Arts Degree

1. A cumulative average of 3.00 on a 4.00 scale, for the courses applied toward the degree. A student who receives more than three credit hours of E, or more than six credit hours (representing any combination) of C, D, and/or E will not be eligible to receive the Master of Arts degree in chemistry.
2. Demonstrated competence in a foreign language. A computer language may be substituted in lieu of the foreign language.
3. A successful oral defense of a thesis based upon the candidate's research in chemistry.

Required areas of study

	CREDIT HOURS
CHE 604 Graduate Chemistry Seminar	1
CHE 605 Kinetics and Reaction Mechanisms	3
CHE 625 Structure Analysis I: Spectroscopic Methods ..	3
CHE 626 Structure Analysis II: Non-Spectroscopic Methods	3
CHE 690 Oral Defense of Thesis	2
CHE 795 Research Thesis in Chemistry	6

Electives under Advisement

- a. A minimum of one additional 600-level Chemistry course, or CHE 510, or CHE 535
 - b. Any combination of approved 500, and 600-level courses in the sciences or mathematics
- TOTAL REQUIREMENTS 30

MASTER OF SCIENCE IN SECONDARY EDUCATION—CHEMISTRY

Prerequisites

1. A bachelor's degree from an accredited college or university.
2. A provisional New York State secondary teaching certificate.
3. A minimum of 24 hours of undergraduate chemistry courses including one year of physical chemistry.
4. A minimum of one year each of calculus, general physics, biology, and geosciences.

CREDIT
HOURS

Required Courses 15

Nine hours selected from the following:

CHE 500 Chemistry: Its History, Philosophy and Role in Society	3
CHE 510 Special Topics in Inorganic Chemistry ..	3
CHE 535 Special Topics in Organic Chemistry ..	3
CHE 605 Kinetics and Reaction Mechanisms ...	3
CHE 607 Chemical Thermodynamics	3
CHE 608 Quantum Chemistry	3
CHE 625 Structure Analysis I: Spectroscopic Methods	3
CHE 626 Structure Analysis II: Non-Spectroscopic Methods	3
CHE 642 Biochemistry II	3
CHE 660 Advanced Laboratory Techniques	3

Six hours selected from the foregoing or from among the following:

CHE 590 Special Project	3
CHE 690 Research Project in Chemistry	3
CHE 795 Research Thesis in Chemistry	6

Research 3

Three hours selected from the following:

*CHE 690 Research Project in Chemistry	3
*CHE 795 Research Thesis in Chemistry	6
SCI 695 Research Methods and Techniques in Science Education	3

*Can be counted toward the 15 hr. requirement in chemistry.

Science Education 9

SCI 628 Seminar in Secondary Science Education	3
SCI 632 Curriculum Trends in Science Teaching in the Secondary School	3
SCI 685 Evaluation in Science Education	3

Unrestricted Electives 3-6

TOTAL REQUIREMENTS 30

CHE 500 Chemistry: Its History, Philosophy and role in Society

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

CHE 505 Chemistry for Elementary Teachers

A discussion of general chemistry in line with the suggested State Education Department syllabus for grades K through 9; practice and performance of chemical demonstrations.

CHE 507 Industrial Chemistry

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

CHE 510 Special Topics in Inorganic Chemistry

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

CHE 535 Special Topics in Organic Chemistry

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

CHE 590 Special Project

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

CHE 605 Graduate Chemistry Seminar

Oral presentation and analysis of current research from all areas of chemistry. *Prerequisite:* Permission of the instructor. *Credit:* One semester hour.

CHE 605 Kinetics and Reaction Mechanisms

A study of the methods of determining mechanisms of chemical processes. *Prerequisite:* CHEM 306.

CHE 607 Chemical Thermodynamics

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

CHE 608 Quantum Chemistry

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

CHE 625 Structure Analysis I: Spectroscopic Methods

A study of the absorption and emission of electro-magnetic radiation. *Prerequisite:* CHE 306.

CHE 626 Structure Analysis II: Non-Spectroscopic Methods

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

CHE 642 Biochemistry II

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

CHE 660 Advanced Laboratory Techniques

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

CHE 690 Research Project in Chemistry

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

CHE 795 Research Thesis in Chemistry

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

GENERAL SCIENCE DEPARTMENT

DR. GERALD F. ACCURSO, *Chairman*
Room 260 New Science Building

**MASTER OF SCIENCE IN SECONDARY EDUCATION—
GENERAL SCIENCE**

CREDIT
HOURS

Prerequisites 36
Must include one year in each of the sciences and in mathematics.

Required Courses 15
15 semester hours are required in graduate science and mathematics courses selected by advisement.

Science Education 9

SCI 628 Seminar in Secondary Science
Education 3
SCI 632 Curricular Trends in Teaching Science in
the Secondary School 3
SCI 685 Evaluation in Science Education 3

Research 3-6

Each degree candidate, after a conference with his advisor, must select one of the following requirements:

SCI 695	Research Methods & Techniques in Science Education	3
SCI 690	Project	3
SCI 795	Master Thesis	6
Unrestricted Electives		0-3
TOTAL REQUIREMENTS		30

SCI 521 Laboratory Techniques for Elementary School Teachers

Appropriate laboratory exercises designed to acquaint the elementary teacher with the subject matter, laboratory equipment and techniques necessary to effectively introduce the new Elementary Science Programs.

SCI 523 Science in Transportation

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

SCI 527 Current Research in Science

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

SCI 531 Curricular Trends in Science Teaching in the Elementary School

An examination of recent curriculum developments through a study of philosophies, objectives, and materials; current understandings of the psychology of inquiry; historical events leading to changes in curriculum. *Prerequisite:* None.

SCI 590 Special Project

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

SCI 628 Seminar in Secondary Science Education

Modern research in educational psychology and its application for science teaching; contemporary trends in science education; sociological and philosophical implications of science; recent research in science education; problems of individual students.

SCI 629 Advance Seminar in Science Education

An in depth exploration of problems and research in science education in areas selected by the students. *Prerequisite:* SCI 628 or permission of the instructor.

SCI 632 Curricular Trends in Science Teaching in the Secondary School

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

SCI 635 Current Literature in Science Education

Study of current literature in science education and related areas. *Prerequisite:* SCI 628 or permission of the instructor.

SCI 664 Teaching Science With Media

A media course specifically designed for the specialized needs of science teachers. Utilization and workshop production of overhead projection transparencies, 35mm slides, super 8mm films, audio and video tapes, multi-media programs and calligraphy for the creative enhancement of visual communication in the science classroom.

SCI 685 Evaluation in Science Education

Philosophy of evaluation as applied to science education including historical development and rationale, different models of evaluation and various techniques used in the practical application of the models. Examples and procedures will be directly related to science teaching.

SCI 690 Project

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

SCI 695 Research Methods and Techniques in Science Education

Nature of Educational Research; Problem Analysis; Descriptive and Inferential Statistics; Experimental Design; Strategy of Historical, Descriptive and Experimental Studies. Computer Library programs will be used in statistical tests performed.

SCI 795 Thesis

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

GEOSCIENCES DEPARTMENT

DR. CARL K. SEYFERT, *Chairman*
Room 262 New Science Building

**MASTER OF SCIENCE IN SECONDARY EDUCATION—
GEOSCIENCES**CREDIT
HOURS**Prerequisites for Admission to the****Department of Geosciences** 36

Normally 36 hours in science and math, including at least 15 hours of geoscience, are required for admission to the department program of study. In special cases, individuals with deficiencies may be granted conditional admittance. All prerequisite deficiencies must be removed prior to Admission to Candidacy.

Departmental Degree Requirements 30

1. 30 graduate semester hours selected by advisement and distributed as follows:

- a. science and mathematics 18
 - b. science education 9
 - c. unrestricted elective 3
2. A research component is required.
3. Demonstrated competencies in the areas listed below
- a. Geosciences: historical geology, paleontology, geomorphology, astronomy, oceanography, mineralogy and petrology, meteorology
 - b. other sciences: biology, chemistry, physics
 - c. Science Education: evaluation, secondary curricula, behavioral psychology

The usual method of demonstrating competencies in the sciences is through successful completion of graduate or undergraduate courses in the areas listed. (Graduate credit is available only for courses listed as graduate.) The Department of Geosciences will provide its graduate majors with opportunities for non-credit instruction and competency examinations in the following areas: paleontology, geomorphology, mineralogy and petrology, historical geology, physical geology.

The usual method of demonstrating competencies in science education is successful completion of the following courses: SCI 685 Evaluation in Science Education, SCI 632 Curricular Trends in Science Teaching in the Secondary School, SCI 628 Seminar in Secondary Science Education.

The research component may be satisfied by successful completion of one of the following courses: SCI 695 Research Methods and Techniques in Science Education, GES 690 Research Project in Geosciences, or GES 795 Research Thesis in Geosciences.

GES 502 The Restless Earth

Study of the evidence for and history of continental drift, polar wandering and sea-floor spreading; the effect of such movements on ancient climates and the evolution of certain organisms. *Prerequisite:* 4 semesters of Geology.

GES 504 Field Investigations for Earth Science Teachers

Planning field investigations for use in secondary teaching; considers investigations which can be accomplished in the immediate school vicinity as well as those which require a full day and travel. *Prerequisite:* prior experience or assignment to teach a secondary science course.

GES 506 Geology of New York State

Physiography, stratigraphy, paleontology, glacial and economic geology of New York State; geologic history of the New York region; geology of

selected recreational sites. Includes field trips. *Prerequisite:* GES 101 or equivalent.

GES 535 Astronomy for Earth Science Teachers

The dynamic universe: solar system, stars, galaxies and quasars. Night sky and planetarium observation. *Prerequisite:* Prior experience or assignment to a secondary science course.

GES 539 Topics in Modern Astronomy

The expanding universe, primieval fireball, quasars, missing mass in the universe, black holes, pulsars, neutron stars, origin of the elements. Emphasis on current research after review of the appropriate background material. *Prerequisite:* GES 131 or equivalent.

GES 541 Meteorology for Earth Science Teachers

A study of weather as a response to the unequal distribution of energy from the sun. Individualized to begin at the level of the student. Includes data collecting techniques, interpretation and predictions appropriate for secondary classes. *Prerequisite:* prior experience or assignment to a secondary science course.

GES 590 Special Project

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

GES 601 Economic Geology

Origin, composition, alteration and enrichment of ores, origin of fossil fuels and other non-metalliferous deposits; conservation of geologic resources. *Prerequisite:* 6 semesters of geosciences and one year of chemistry.

GES 602 Geophysics

The study of the physical properties of the Earth and how geophysical interpretations are made. *Prerequisite:* 4 semesters of Geology and one year of Physics.

GES 603 Advanced General Geology

Current topics and recent literature involving geological research. *Prerequisite:* 4 semesters of geosciences. Lecture and laboratory; occasional field trips.

GES 604 Petroleum Geology

Techniques of petroleum geologists; origin, migration and accumulation of petroleum; reservoir rocks and traps; distribution and extent of petroleum supplies. *Prerequisite:* GES 301 or 302 or equivalent, 1 year of Chemistry.

GES 605 Geosciences Seminar

Readings, reports, and discussion of current geoscience problems and research. *Prerequisite:* 6 semesters of geosciences. Lecture and laboratory; occasional field trips.

GES 606 Advanced Invertebrate Paleontology

Methods and techniques used in the identification and classification of selected fossil invertebrate groups. *Prerequisite:* GES 302 or equivalent.

GES 607 Regional Geomorphology of The United States

Detailed study of the factors and forces which led to the development of the surface features of selected areas of the U.S. *Prerequisite:* GES 201 or equivalent.

GES 609 Igneous and Metamorphic Petrology

The petrogenesis of igneous and metamorphic rocks and their relation to the evolution of the earth. *Prerequisite:* GES 401 or equivalent.

GES 690 Research Project in Geosciences

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

GES 795 Research Thesis in Geosciences

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

PHYSICS DEPARTMENT

DEWAYNE A. BEERY, *Chairman*
Room 207 New Science Building

MASTER OF ARTS IN PHYSICS**Prerequisites**

1. A bachelor's degree, or its equivalent, from an accredited college or university.
2. A minimum of forty-eight semester hours of course work in science and mathematics. Applicants showing deficiency in this requirement may be admitted with probationary status until deficiencies are removed.
3. A minimum undergraduate cumulative average of 2.50 on a 4.00 point scale.
4. A minimum average of 3.00 on undergraduate physics courses completed. Subject to the approval of the Physics Graduate Faculty and the Dean of Graduate Studies, applicants who do not meet this requirement may be permitted to prove their acceptability by successful performance in graduate physics courses at this college.
5. Acceptable scores on both the general aptitude test and the advanced physics test of the Graduate Record Examination.

Requirements

1. Completion of at least 30 semester hours of graduate credit with a cumulative average of 3.00 on a 4.00 point scale. This credit may include at most nine credits of C work and no credits of D work.
2. Option with Thesis.
 - (a) The candidate's required 30 credits must include the following:

PHY 616	Advanced Dynamics 3
PHY 618	Advanced Electricity & Magnetism I 3
PHY 606	Advanced Quantum Theory I 3

- (b) The candidate's 30 credits must include an additional nine credits in such formal course work as is approved by the Physics Graduate Faculty.
 - (c) The candidate's 30 credits must include a successfully-completed thesis.
 - (d) The candidate must successfully defend his thesis before a committee of three members of the Physics Graduate Faculty.
3. Option without Thesis: Temporarily discontinued.

**MASTER OF SCIENCE IN SECONDARY EDUCATION—
PHYSICS**

Prerequisites 48
Major Area of Specialization 24
Also required, one year in each of the other sciences and Differential and Integral Calculus.	

Required Courses in Content 12-15
15 semester hours are required in graduate science and mathematics courses selected by advisement.	

Science Education Component Courses		9
SCI 628	Seminar in Secondary Science Education	3
SCI 632	Curriculum Trends in Science Teaching in the Secondary School	3
SCI 685	Evaluation in Science Education	3

Research Component	3-6
SCI 695 Research Methods and Techniques in Science Education	3
or	
PHY 690 Research Project in Physics	3
or	
PHY 795 Research Thesis in Physics	6

Unrestricted Electives 3
TOTAL REQUIREMENTS 30

PHY 510 Physics Laboratory Instruction

Selected experiences involving both new and classical techniques in laboratory and demonstration instruction in Physics and General Science.

PHY 520 Modern Physics Concepts

Introduction for the science-oriented major to theory and application of selected topics in modern physics.

PHY 525 Nuclear Physics Concepts

An introduction to topics involving the concepts and phenomena associated with modern nuclear physics and its applications.

PHY 590 Special Project

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

PHY 603 Advanced Thermodynamics and Statistical Physics

Thermodynamics, its laws, some elementary applications; kinetic theory, some elementary applications; statistical mechanics, classical and quantum statistics, ensembles. *Prerequisite:* PHY 303 and MATH 315 or PHY 414, or the equivalent. *Credit:* Three semester hours; three 1-hour lectures.

PHY 606 Advanced Quantum Theory I

Quantum formalism and its interpretations, origins of the theory, Schrodinger equation, one-dimensional systems, statistical interpretations, WKB approximation; applications to simple systems, separation of variables, central potential, scattering problem, hydrogen problem, Rutherford scattering, the harmonic oscillator. *Prerequisite:* PHY 406, PHY 414, PHY 415 and PHY 417 or PHY 616, or the equivalent. *Credit:* Three semester hours; three 1-hour lectures.

PHY 616 Advanced Dynamics

Review of vectorial particle dynamics; Lagrangian formulation of mechanics; the two-body central force problem; rigid body motion in three dimensions; special relativity in classical mechanics; Hamilton's equations of motion; canonical transformations; Hamilton-Jacobi theory of small oscillations; Lagrangian and Hamiltonian functions for continuous systems and fields. *Prerequisite:* PHY 414, PHY 415, PHY 417 or equivalent. *Credit:* Three semester hours; three 1-hour lectures.

PHY 618 Advanced Electricity and Magnetism I

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

PHY 690 Research Project in Physics

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

PHY 795 Research Thesis in Physics

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

FACULTY OF PROFESSIONAL STUDIES

DR. ROBERT S. SIMPSON, *Dean*
Room 208 Rockwell Hall

The Faculty of Professional Studies includes the Division of Education and the Division of Exceptional Children Education. The Education Division Faculty are members of the following Departments: Behavioral Studies, Curriculum and Instruction, Foundations of Education and Student Teaching. The Exceptional Children Education Division Faculty are members of the following Departments: Communication Disorders, Mental Retardation/Physical Handicap, and Learning Behavioral Disorders. Details concerning the programs and courses offered are provided under these headings in this catalog.

EDUCATION DIVISION

DR. JOHN D. MULHERN, *Program Coordinator*
Room 302 Bacon Hall

TEACHER CORPS AND PEACE CORPS PROGRAMS

DR. WILLIAM LICATA, *Director*
Room 117B Bacon Hall

Teacher Corps

This program is a cooperative effort of the State University College at Buffalo and the Buffalo Public School System. It represents a systematic approach to inner city educational change.

The State University College at Buffalo has cooperated with Teacher Corps since the inception of this federally funded program in 1966. Program cycles are of two-years duration. The present cycle began in July 1974.

The program offers the opportunity for a limited number of highly qualified individuals to undertake a graduate, field-centered teacher education experience leading to a Master's Degree in Elementary Education and permanent New York State

certification. The curriculum stresses a diagnostic-prescriptive approach to teaching in the regular classroom. Students admitted to the program spend at least twenty-five hours per week in inner city elementary school settings. These students also participate in community activities as an integral part of their program experience.

The program includes an in-service education component that provides additional diagnostic-prescriptive teaching skills to Buffalo Public School teachers in the inner city area.

One of the participating inner city schools is designated a community school. This school is a center in which adult needs are met through late afternoon and early evening activities. Many individuals and organizations cooperate in the planning and implementation of these adult-centered activities.

Teacher Corps/Peace Corps

This program is a cooperative effort of the Faculty of Professional Studies, the Faculty of Applied Science and Technology of the State University College at Buffalo, the Lackawanna City School System, and a host developing country. It represents a systematic approach to educational change. It also provides a developing country with the services of highly skilled teachers in Industrial Arts areas such as construction and manufacturing.

Teacher Corps/Peace Corps has been in operation at the State University College at Buffalo since 1971. Teacher Corps/Peace Corps has been in operation at the State University College at Buffalo since 1971. Teacher Corps/Peace Corps program cycles are three years in duration. During the first year of each cycle, the program is field-centered in the Lackawanna City School System. During the second and third years, program participants serve as Peace Corps volunteers in a host developing country such as Tunisia or Korea. The next three-year cycle begins in July 1975.

The program offers the opportunity for a limited number of highly qualified individuals to undertake a graduate experience leading to a Master's Degree in Industrial Arts and permanent New York State certification. The curriculum stresses a diagnostic-prescriptive approach to teaching Industrial Arts, as well as cross-cultural education. During the first year of the program, students spend at least twenty-five hours per week in inner city school settings. These students also participate in community activities as an integral part of their program experience. During the second and third years, students complete program requirements by teaching and learning in a host developing country.

ELEMENTARY EDUCATION, ELEMENTARY AND EARLY SECONDARY EDUCATION

MASTER OF SCIENCE IN EDUCATION

The Education Division of the Professional Studies Faculty offers programs leading to the Master of Science in Education Degree (including permanent certification) and programs designed for non-degree students seeking permanent certification as elementary school (N-6) teachers or elementary and early secondary school (N-9) teachers. Applicants may select from a number of program options dependent upon admission criteria. All successful applicants must fulfill College requirements for graduate study as well as requirements of the Education Division.

Each student accepted for graduate study and his advisor are responsible for planning a series of graduate experiences designed to fulfill program requirements as well as to develop a master teacher with a particular area of competence. The candidate is free to draw upon all resources of the College which contribute to his professional purposes. An area of concentration must be chosen no later than the conclusion of twelve hours of work. Available clusters are listed by departments. Students in the early secondary program will be required to take nine hours of work in the appropriate area of specialization.

Advisement

A form entitled "Suggestions for Your First Registration" is mailed to all Elementary Education students along with their acceptance into the Graduate Program. Initial course selections are to be made by adhering to the instructions included on this form. Students with special problems may secure additional information by contacting the office of the Coordinator of Graduate Advisement, Education Division, Bacon Hall 302.

The Coordinator of Graduate Advisement will serve as interim advisor until such time as an advisor is selected or appointed. An advisor must be chosen no later than the completion of 6 credit hours. It is at this time that students shall apply for Admission to Candidacy.

Students must choose an area of concentration (cluster) at this time and plan the remainder of their program in consultation with their advisor.

The student may exercise 3 options for an emphasis in Reading within the Elementary Education M.S. Cluster.

The student and his advisor, after review of the student's prior experiences and education will plan his graduate work within the framework of the program he has selected. It will be their joint responsibility to examine this program periodically, to assess the growth that is resulting from it, and to revise and enrich it wherever this is appropriate.

CATEGORY I

Admission to the Program

Each applicant shall have

- an earned bachelor's degree from an accredited college or university
- a 2.5 (on 4 point scale) grade point average over the last sixty hours of undergraduate work or a score of 1000 on G.R.E.
- provisional New York State certification for either elementary or elementary and early secondary teaching (or approved equivalent)

Program Requirements

CREDIT
HOURS

A. General Requirements	6
Behavioral Foundations of Education	3
Humanistic Foundations of Education	3
B. Research Requirements	3-9
Research Methods and Techniques (Required)	3
Master's Project	3
Thesis	6
C. Major Field Concentration	15-18
Approved cluster of courses including at least nine hours in Education Division offerings.	
D. Seminar in Elementary Education or Secondary Education	3
TOTAL REQUIREMENTS	30
E. At least fifteen (15) hours of graduate work must be completed in courses at the 600 or 700 level.	

CATEGORY II

Admission to the Program

Each applicant shall have

- an earned bachelor's degree from an accredited college or university.
- a 2.5 (on a 4 point scale) grade point average over the last sixty hours of undergraduate work or a score of 1000 on Graduate Record Exam
- provisional New York State certification for teaching in secondary school or in special fields K-12 (or approved equivalent)

Program Requirements

CREDIT
HOURS

A. General Requirements	6
Behavioral Science	3
Humanistic Foundations of Education	3
B. Research Requirement	3-9
Research Methods and Techniques (Required)	3
Master's Project	3
Thesis	6
C. Elementary Education Concentration	15-18
Approved courses in Elementary Education	9
Reading and Language Arts	6
D. Seminar in Elementary Education or Secondary Education	3
TOTAL REQUIREMENTS	30
E. Demonstrated competence in teaching in an elementary classroom. Consult Division Office concerning fulfillment of this requirement.	
F. At least fifteen hours of graduate work must be completed in 600 or 700 level courses.	

CATEGORY III

Admission to the Program

Each candidate shall have

- an earned bachelor's degree from an accredited college or university
- a 2.5 (on a 4 point scale) grade point average over the final sixty hours of undergraduate work or a score of 1000 on Graduate Record Exam.

D. EDU 501 Elementary School Education or EDU 532 Secondary School Education 3**TOTAL REQUIREMENTS 30****E. Demonstrated competence in elementary school classroom teaching. Consult Division Office concerning fulfillment of this requirement.****CATEGORY III****Admission to the Program**

Each candidate must

- a) an earned bachelor's degree from an accredited college or university

Certification Program Requirements**A. General Requirements 6**

Behavioral Foundations of Education 3

Humanistic Foundations of Education 3

B. Research Requirement 3

Understanding Educational Research 3

C. Program Concentration 18

Eighteen credit hours must be earned through a series of appropriate experiences planned by the student and an assigned advisor. These may include courses, independent study, laboratory experiences and other individualized program components necessary to fulfill existing certification requirements and professional goals. Sufficient credit hours to fulfill requirements for teaching reading must be included
(only 500 level courses may be included)

D. EDU 501 Elementary School Education or EDU 532 Secondary School Education 3**TOTAL REQUIREMENTS 30****E. Demonstrated competence in elementary classroom teaching. Consult Division Office concerning fulfillment of this requirement.****AREAS OF CONCENTRATION (CLUSTERS)**

Candidates are required to choose an area of concentration early in their programs. (No later than at the conclusion of 12 credit hours.) Descriptions of these clusters, with the recommended courses in each, are available in the offices of the respective departments and in the office of the Coordinator of Graduate Advisement.

Available clusters are listed under Departments as follows:

BEHAVIORAL STUDIES DEPARTMENT

DR. HERBERT V. FERSTER, *Chairman*
Room 308 Bacon Hall

CLUSTER	MAJOR ADVISOR
Child Development Consultant	Dr. Ferster, Dr. Khan, Dr. Martorana, Dr. Penn
Early Childhood Education	Dr. Febel, Dr. Khan
Educational Psychology	Dr. Egan, Dr. Ferster, Dr. Fink, Dr. Howe, Dr. Khan, Dr. Rotella, Dr. Penta
Educational Research & Statistics	Dr. Egan, Dr. McCowan, Dr. Rotella, Dr. Sherrie
Elementary School Guidance	Dr. Khan, Dr. McCowan, Dr. Rotella, Dr. Barabasz
Human Development, General	Dr. Converse, Dr. Fink, Dr. Khan, Dr. Martorana, Dr. Moran, Dr. Penn, Dr. Rotella
Human Development, Early Childhood	Dr. Converse, Dr. Moran, Dr. Penn
Human Development, Childhood	Dr. Converse, Dr. Martorana, Dr. Moran, Dr. Penn
Human Development, Adolescence	Dr. Egan, Dr. Fink, Dr. Glenn, Dr. Martorana, Dr. Moran
Human Relationships & Group Dynamics	Dr. Fink, Dr. Glenn, Dr. Howe, Dr. Rotella
College Student Personnel Services	Dr. LaMorte

CURRICULUM AND INSTRUCTION DEPARTMENT

DR. GERALD O. PAYNE, *Chairman*
Room 308 Bacon Hall

CLUSTER	MAJOR ADVISOR
Elementary Education	Dr. Barnett, Dr. Eddins Dr. Hedden, Dr. M. O'Brien Dr. Schimizzi, Dr. Woodworth
Curriculum	Dr. Benz, Dr. Bruno Dr. Pearson
Urban Education	Dr. Fischle
Reading - Teacher or Specialist	Dr. Attea, Dr. Cohen Dr. Nichols, Dr. D. O'Brien Dr. Walker, Dr. Ware
Early Childhood	Dr. Chalmer, Dr. Cooperman
Early Secondary	Dr. Frey, Dr. Elmes
Administration/Supervision (CAS Program)	Dr. Hemink, Dr. Payne Dr. McGowan, Dr. Gittler

ELEMENTARY STUDENT TEACHING DEPARTMENT

DR. HENRY S. DOWSKI, *Chairman*
Room 303 B Bacon Hall

Faculty within the Department advise in the following: Elementary Education, Open Education, Instructional Supervision

Major Advisors: Dr. Amrozowicz, Dr. Dowski, Dr. Flavin, Dr. Frazita, Dr. Irene, Dr. Lehmann, Dr. Muck, Dr. Perez, Dr. Schunak, Dr. Swett

FOUNDATIONS OF EDUCATION DEPARTMENT

DR. ALBERT GRANDE, *Chairman*
Room 303 A Bacon Hall

CLUSTER	MAJOR ADVISOR
History of Education	Dr. Grande

Philosophy of Education	Dr. Grande
Social Foundations	Dr. Diulus, Dr. Palmer
Comparative Education	Dr. Colletta
Cross-Cultural Education	Dr. Colletta

Descriptions of these clusters, with the recommended courses in each, are available in the offices of the respective departments and in the office of the Coordinator of Graduate Advisement.

PROGRAM IN SCHOOL ADMINISTRATION AND SUPERVISION (Certificate of Advanced Study)

DR. GERALD O. PAYNE, *Coordinator*
Room 316-H Bacon Hall

Potential school administrators (principals, supervisors, and supporting staff) may apply for entrance into the Program. Required for official admittance are: provisional certification for teaching, two years of teaching experience, an interview, successful scores on the Graduate Record Examination and the Miller Analogies Test, a master's degree or thirty hours of approved study beyond the baccalaureate degree.

Application for conditional entrance into the program may be made at or after the completion of the baccalaureate degree. Early application is desirable so that individual advisement, an integral feature of the program, can begin as soon as possible.

The Program consists of Fundamentals of Administration, courses in administration and supervision selected under advisement, and the internship and internship seminar experiences. Major emphases are placed on programmatic considerations, institutional and field experiences, and individualization to meet the students' goals. These opportunities produce professional administrators who possess the expertise necessary to serve public education in our current period of rapid, stressful, and complex change.

A typical program would include 30 hours of courses toward an M.S.Ed. or M.A. degree, followed by 30 hours of administrative/supervisory experiences, including the internship.

Students with a reading background at the M.S.Ed. level can plan programs under advisement that meet N.Y. State requirements for administration and supervisory credentials and the requirements recommended by the I.R.A. for the Reading Consultant and the Reading Supervisor.

Students completing the program, in addition to receiving the Certificate, exceed New York State requirements and are recommended for permanent certification as School Administrator and Supervisor. The program is not to be considered as part of doctoral studies.

CREDIT
HOURS

Required courses	9-12
EDU 701 Fundamentals of Administration I	6
EDU 703 Internship in Administration	3
EDU 704 Internship Seminar	3
Specialty courses (under advisement)	18-21
EDU 542 Seminar in Secondary School Curriculum	3
EDU 544 Middle School Curriculum	3
EDU 552 Legal Problems of Education	3
EDU 574 Elementary School Curriculum	3
EDU 607 General School Administration	3
EDU 631 Supervision of Teaching	3
EDU 635 Administrators and the Reading Program	3
EDU 702 Fundamentals of Administration II	6
EDU 706 Problems in School Administration	3
EDU 708 The School Plant	3
EDU 709 Problems in Supervision	3
EDU 734 Supervision of Reading Instruction	3
TOTAL REQUIREMENTS	30

COLLEGE STUDENT PERSONNEL SERVICES

DR. CHARLES P. LaMORTE, *Coordinator*
Room 103 Bacon Hall

The program in College Student Personnel Services is designed primarily for individuals who wish to work with students in a college or university setting. Included in the program will be an overview of the college and university community; the program will also be concerned with the responsibilities of the offices involved with admissions, residence halls, financial aids, registration, international student activities, counseling, college-union activities, placement and the administration of student affairs programs. The program also has relevance for those who wish to work in a variety of community agencies and special programs especially those involving young adults who now have or may have an interest in attending a college or university.

Admission Requirements

1. A baccalaureate or professional degree earned from an accredited college or university.
2. Prerequisite academic work which gives evidence that the applicant should be able to pursue effectively the courses in this program.
The usual prerequisites include 24 semester hours distributed among courses in Sociology or Anthropology, Psychology or Growth and Development, Measurements or Statistics, Philosophy of Education or Problems in Education. There are, of course, substitutions by advisement.
3. A cumulative average of 2.75 or better on a 4 point scale.
4. Three letters of recommendation.
5. The Graduate Record Examination (General Aptitude Test).
6. An interview.

CREDIT
HOURS

Required Courses	27
EDU 616 Problems and Practices in Higher Education	3
EDU 617 Seminar on The American College Student	3
EDU 618 Seminar on Student Personnel Services	3
EDU 622 Techniques of Counseling	3
EDU 623 Advanced Techniques of Counseling	3
EDU 624-625 Internship in Student Personnel Services	6
EDU 694 Research Methods and Techniques	3
EDU 690 Research Project	3
Electives	9
Appropriate courses in Sociology, Education, Anthropology, Psychology and Statistics will be included as electives with the approval of the coordinator of the Student Personnel Program.	
TOTAL REQUIREMENTS	36

Financial Assistance

There are a limited number of assistantships available. Recipients receive room stipend and waiver of tuition.

Objectives of the Program:

- A. To understand Higher Education—How it developed, where it is now, what some of the problems, frustrations and options are now, where it is going.
- B. To discover the significant facets of the milieu in which higher education exists.

- C. To gain insight into one's goals—professional and personal.
- D. To develop special appreciation and perception of the youth culture and of the various minorities and subcultures which exist in our society.
- E. To produce change agents who will work toward the development of desirable change.
- F. To recognize the special importance of the student personnel professional as a humanistic educator, change agent and learning facilitator, within the framework of the university and the society in which one lives.

BEHAVIORAL STUDIES DEPARTMENT

EDU 503 Educational Psychology

Study of various theories of learning; history of educational psychology; measurements of learning; variables and their interpretation; application of learning theory to the teaching situation.

EDU 509 Personality Adjustment in the Elementary School

Dynamics of human behavior; prevention of maladjustment; corrective programs; formation of habits and attitudes; recent clinical research.

EDU 511 Evaluation in Education

Background and current status of evaluation, principles, purposes and procedures of evaluation, effective interpretation and use of evaluative data; methods of recording and reporting pupil progress.

EDU 515 Laboratory Experiences in the Study of Young Children

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

EDU 519 Applied Mental Hygiene

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

EDU 520 Educational Statistics I (Descriptive and Inferential)

The course aims to help the student develop a statistical frame of reference in the solution of educational and psychological problems. Basic descriptive statistical concepts are developed, and their application to inferential parametric and non-parametric statistics are strongly emphasized. Types of statistical data — nominal, ordinal, interval and ratio — are described and their corresponding statistical tests are discussed and practiced.

EDU 523 Principles and Practices of Guidance

The philosophy of guidance, its place in present education; identifying in-

terests, 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.

EDU 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.

EDU 528 Human Relations

Discussion of inter-group problems relating to race, sex, religion, national origin, etc., dividing and integrating factors affecting communications and understanding between individuals and within groups.

EDU 529 Adolescent Psychology

Characteristics and problems of adolescents; relationship of adolescent behavior to earlier development; special provisions of the early secondary school for this age group.

EDU 531 Systematic Study of Children and Youth

Consideration of basic and special approaches to studying human behavior and development with emphasis on implications for teaching-learning processes and child guidance. Designed to help teachers and school counselors organize effective individual and group diagnostic-prescriptive plans, and to acquire skill in using selected child study techniques.

EDU 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.

EDU 540 Studies in Human Growth and Development

Survey of research in child and adolescent growth—changing concepts in mental, emotional, social, and personality growth.

EDU 550 Career Guidance for Elementary Schools

An introduction to career education for elementary teachers and counselors, including developmental trends in career education, theoretical bases and correlates of career choice, and career counseling techniques. A discussion of methods and materials for use by the classroom teacher.

EDU 555 Early Childhood Seminar

New directions and assessment of educational experiences and approaches for children from birth through the primary years; current research; interpretation of aspects of the teaching/learning environment as they affect behavior and development in the early years.

EDU 556 Group Dynamics in Education

Theory and practice of group procedures in the school; development of un-

derstandings, skills and attitudes conducive to successful group leadership and participation; group study and evaluation; the school group in its sociological, psychological and philosophical setting. An experimental group. Prior consultation with the instructor desirable.

EDU 557 Sociodrama and Role Playing in Education

Theory and practice of sociodrama approach in the educational setting; differentiation of role playing, sociodrama and psychodrama. Exploration of doubling, role reversal and other psychodramatic methods in achieving educational objectives. An experiential group. Prior consultation with the instructor desirable.

EDU 565 Family and the Elementary School

Concepts in human growth and development as related to the family and the needs of the elementary school child. The interpretation of behavior dynamics and approaches toward strengthening intercommunication and the development of mutually productive strategies toward improving the learning of the elementary school child.

EDU 570 Behavior and Development of Young Children

Investigation of human behavior and development during infancy and early childhood periods with emphasis on educational implications and applications to individual children.

EDU 572 Behavior and Development of Elementary School Children

Consideration of human behavior and development of children during the elementary and middle school years. Emphasis on educational implications and applications to individual children.

EDU 590 Special Project

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

EDU 594 Workshop*

Emphasis on process and implementation of theory. Involvement of participants in accomplishment of individualized objectives on specific theme.

EDU 595 Understanding Educational Research

The study of scientific methodology applied to education, basic research methods and techniques, library resources, the reading interpretation and evaluation of educational research.

EDU 596 Conference*

Emphasis on unique and one-time experience on given theme.

EDU 598 Micro Course*

Intensive instruction focused on specific, limited objective related to discrete content.

EDU 616 Problems and Practices in Higher Education

A survey course for study of historical perspective and current status of higher education—development of higher education as an historical institution. Study of development of its function and structure with emphasis on curriculum, government, administration and finance.

*Graduate students may include not more than six (6) hours of credit for workshops, conferences and micro courses in a Master's program.

EDU 617 Seminar on the American College Student

Examination of selected topics and issues concerned with adolescents and young adults in college and with the student cultures of which they are a part. Topics such as values, attitudes, identity, alienation, expectations, activism, rights, responsibilities and the impact of the college on students will be considered.

EDU 618 Seminar on Student Personnel Services

Overview of student personnel services in institutions of higher education. The philosophy, structure and administration of the personnel program and of specific services offered at colleges and universities.

EDU 620 Educational Statistics II (Analysis of Variance)

The second of a two-course sequence of advanced level descriptive and inferential statistics. This course deals basically with advanced concepts of correlation and regression and mainly analysis of variance as it applies to educational research studies. Topics include overview of sampling and probability, simple analysis of variance, n-way designs, multiple contrasts, analysis of covariance and statistical tests following the F-test. Topics are discussed and practiced through application on real studies. *Prerequisite:* EDU 520.

EDU 622 Techniques of Counseling

An introductory course in counseling designed to give access to four areas: process, theory, group awareness and practicum. It will attempt to integrate theory and practice using as a frame of reference contemporary issues.

EDU 623 Advanced Techniques of Counseling

Advanced integration of theories and schools of counseling with the practice in the counseling process. Special emphasis on case studies, research and evaluation of counseling. *Prerequisite:* EDU 622.

EDU 624 Internship in Student Personnel Services I

Actual on-the-job experience is provided in a student personnel function under the supervision of a staff member located in the area. This supervisor works closely with the instructor responsible for the course. Individual conferences between the student and the instructor are required. Permission of instructor required.

EDU 625 Internship in Student Personnel Services II

Actual on-the-job experience is provided in a student personnel function under the supervision of a staff member located in the area. This supervisor works closely with the instructor responsible for the course. Individual conferences between the student and the instructor are required. Permission of instructor required.

EDU 630 Self Processes in Human Development and Education

Consideration of self theories as they relate to child and adolescent development; emphasis on educational implications. Explorations of self technique applicable in child guidance and learning.

EDU 633 Developmental Counseling: Elementary School

Dimensions and techniques of developmental counseling—consulting in elementary school settings; emphasis on optimum development of all children. Useful for elementary school teachers and supervisors, child

development specialists, and guidance counselors. *Prerequisite:* Graduate child/human development course or equivalent.

EDU 675 Cognitive Processes in Human Development and Education

Consideration of cognitive theories as they relate to child and adolescent development; emphasis on educational implications. Graduate standing.

EDU 680 Physical/Motor Processes in Human Development and Education

Study of physical/motor structures and processes in human development from infancy through adulthood with special emphasis on applications to teaching/learning in cognitive, affective, and perceptual-motor areas. Consideration of basic approaches for guiding optimum physical/motor development in educational settings, and for preventing avoidable disabilities. Graduate standing.

EDU 685 Social Processes in Human Development and Education

Consideration of processes whereby human beings from infancy through adulthood internalize cultural values/patterns and adapt social roles/behaviors. Special emphasis on teaching/learning applications, and basic approaches for guiding optimum social/moral development in educational settings; consideration of prevention, diagnosis and treatment of social disabilities. Graduate standing.

EDU 690 Project

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

EDU 694 Methods and Techniques of Educational Research

A study of the background of educational research, selection and development of research problems, sources of information and data, methods of educational research, tools and techniques of educational research, collection, treatment, application and interpretation of research data, organizing and writing a research report.

EDU 695 Thesis

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

EDU 710 Child Development Practicum

Supervised experiences in selected aspects of child study and developmental counseling; practical, didactic and seminar components. Student may elect general or age-level emphasis, and special foci within emphasis. *Prerequisite:* EDU 531 and EDU 633 or equivalent; teaching experience or approved substitute; permission of instructor.

EDU 711 Seminar in Techniques of Counseling and Psychotherapy

An in-depth consideration of behaviorist and rational-emotive techniques with emphasis on the development and application of skills. Topics include: systematic desensitization, verbal reinforcement, assertive training and rational-emotive techniques. *Classification:* Advanced graduate students in Guidance or Personnel programs. *Prerequisite:* EDU 622, EDU 623, and EDU 694.

CURRICULUM AND INSTRUCTION DEPARTMENT

EDU 501 Elementary School Education

An examination of contemporary curriculum trends, issues and research influencing instruction in the elementary school. Emphasis will be placed upon the selection and discussion of current developments and controversies affecting selected areas of the elementary school. Selection, development and analysis of contemporary issues or problems will culminate in a research paper appropriate to the student's present assignment or concern. Required of non-degree students.

EDU 502 Practicum in Programmed Instruction

The use of teaching machines and programmed instruction, programming techniques and means of evaluating programs. Laboratory experiences.

EDU 510 Seminar in Teaching Behavior

Objective observation, analysis, modification of teaching/learning act through study of literature, acquisition of skill on use of analysis systems, construction or adaptation of model to be used to help change individual's teaching behavior.

EDU 512 Educational Applications for Media

Exploration of applications of educational media to the teaching-learning process. Emphasis on research findings and their implications for media utilization within specific instructional designs.

EDU 513 Survey of Basic Concepts of Elementary Reading Instruction

A course designed for either large or small group instruction. A review of the research and literature pertaining to the basic concepts underlying reading methods, materials, testing devices, and management programs. The reading process from readiness for reading to mature, effective reading skill. No prerequisite.

EDU 516 Diagnosis and Prescription for the Classroom Teacher

Emphasizes a diagnostic-prescriptive approach to developmental reading. Topics covered include: Analysis of reading success and causes of reading failure; strategies for identifying disabled, average and gifted readers and students who require a modified reading program; materials and teaching skills for working with each of these classes of readers to individualize reading instruction; standardized, informal and criterion referenced tests; utilization of case studies and reports provided by supportive personnel; procedures for student referral; preparation of case summaries and reporting to parents. *Prerequisite:* 513 or the equivalent.

EDU 518 Selected Topics in Media Utilization

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

EDU 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 early secondary students. *Prerequisite:* EDU 694.

EDU 533 The Teaching/Learning Environment of the Elementary School

Identification of learning problems in behavioral and academic areas; philosophical and psychological implications for classroom teachers; methods, materials and techniques for working with individual learners; teacher and pupil roles in the teaching/learning environment; the classroom as a social group.

EDU 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.

EDU 542 Seminar in Secondary School Curriculum

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

EDU 543 Curriculum for the Young Child

Presentation of basic principles and concepts underlying curriculum planning for children from nursery through third grade. Focus on the objectives of learning experiences, identification and description of appropriate learning experiences and materials will be examined. Organizational patterns and curriculum content will be studied in relation to an integrated curriculum.

EDU 544 Middle School Curriculum

Teacher of the early adolescent will acquire knowledge of and practical skill in building middle school curriculum. The course will deal with the background of the middle school, nature of the early adolescent, subject matter in the middle school, and the way in which a middle school curricula can be facilitated.

EDU 545 Teaching Reading in Secondary School

Designed to develop an awareness of the need for reading instruction in the secondary school. Effective secondary reading programs discussed and compared. Effective instructional strategies designed to improve reading of secondary students studied. Strategies for planning and implementation of an effective secondary program covered. All the above topics covered in a context of the nature of the reading process. No prerequisite.

EDU 546 Improvement of Instruction in Language Arts

Major aspects of the elementary language arts program will be explored. Intended to help students acquire skills in working with children and knowledge of research, literature.

EDU 549 The Open Classroom: Theory and Practice

Philosophical and psychological bases for open education; curriculum decision making; strategies for opening classroom structure; instructional approaches; materials design; record keeping; evaluation.

EDU 551 Mathematics Curriculum in the Elementary School

Emphasis on modes of instruction, development of diagnostic skills, needs of slow and rapid learners, selection and use of appropriate teaching materials in the elementary school mathematics programs.

EDU 552 Legal Problems of Education

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

EDU 554 Social Studies in the Elementary School

A study of goals in elementary social studies and their relationships to organizational concerns, approaches, methods, techniques, media and evaluation; the review and development of appropriate research for application to elementary social studies teaching.

EDU 559 Workshop in Learning Centers

Affords teachers an opportunity to study the concept of open classroom, the concept of learning centers, way to organize learning centers. Class will be organized as an open classroom with learning centers with students participating in the experiences.

EDU 560 Workshop in Individualizing Instruction

A summer workshop to explore the philosophies surrounding the concepts of individualizing instruction, applying these concepts to the design of a program which may be implemented in the elementary school. Students are encouraged to apply in teams from a given school or district and are encouraged to gain support for implementing their program from school administrators. *Prerequisites:* Students should have provisional certification and two years elementary school teaching experience.

EDU 562 Reading Workshop for Classroom Teachers

Designed for in-depth study of reading methods, materials and approaches with emphasis on construction of materials to provide for individual differences in program and in content areas.

EDU 563 Improvement of Instruction in Reading in the Intermediate Grades (Middle School)

Designed to help teachers of intermediate and middle school pupils to improve reading programs and reading instruction in their classes. Emphasis is on understanding of the reading skills to be developed during these years by the pupils. Development of a total reading program that coordinates instruction in basic skills, content area curricula and development and extension of wide reading interests is emphasized. The teaching behaviors and management skills that constitute the delivery system for the total reading program are stressed. *Prerequisite:* EDU 513 or equivalent.

EDU 564 Improving Reading in the Content Areas

An analysis of the special reading problems found in the subject area instructional materials used in the intermediate and secondary grades. Topics to be discussed as they relate to the content areas include: The Reading Process, Reading Skills, Evaluation, Readability, and Instruc-

tional Procedures. *Prerequisite:* EDU 513 or EDU 545.

EDU 566 Encouraging Creative Writing in the Elementary School

Understanding the creative process, releasing the creative writing potential of children, creating the appropriate classroom atmosphere, developing techniques and materials for writing stories, poems, and other forms.

EDU 571 Reading in the Primary Grades

Factors in pre-school and primary grades influencing reading success; concept of readiness; current reading philosophies; pre-reading activities; using approaches to beginning reading; skill development; organizing the program; evaluation techniques; research.

EDU 573 Teaching Elementary School Reading Through Supplementary Materials

Develops teacher competency in the use of films, slides, recordings, trade books and community resources as part of the reading program. Use of these materials to develop the content curricula as well as the basic program emphasized. Understanding pupil interests and needs as important factors related to reading is developed. Course *not* recommended for secondary teachers. No prerequisite.

EDU 574 The Elementary School Curriculum

Review of learning processes, purposes of the elementary school; curriculum development; types of curriculum organization; instructional strategies; materials; community resources; individual differences.

EDU 580 Instructional Television Utilization

A college credit course combining televised lessons, on-campus seminars, and related assignments applicable to persons involved in utilizing television programming in business, education, industry, and others. The course focuses on the various uses of instructional television as a communication tool. Production elements for ITV programming are developed through "hands-on" assignments, and critiquing is a part of the seminars.

EDU 590 Special Project

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

EDU 594 Workshop*

Emphasis on process and implementation of theory. Involvement of participants in accomplishment of individualized objectives on specific theme.

EDU 596 Conference*

Emphasis on unique and one-time experience on given theme.

EDU 598 Micro Course*

Intensive instruction focused on specific, limited objective related to discrete content.

EDU 601 Seminar in Elementary Education

The use of educational research methods in studying current problems in Elementary Education; seminar format is designed to encourage the selection and discussion of contemporary educational problems; exploration and selection of a significant problem in the student's area of interest and submission of a research paper. Required of candidates for the M.S.Ed. degree.

*Graduate students may include not more than six (6) hours of credit for workshops, conferences and micro courses in a Master's program.

EDU 607 General School Administration

Principles of school administration; historical beginnings; national, state, and local responsibilities for education; district; township, and county administrative units; boards of education; school services; health, supervision, research, library, and attendance; teacher selection, salary, tenure, inservice education; school building programs.

EDU 608 Administration of Programs for the Young Child

Designed to deal with the role of the administrator in developing an educational environment for young children; organization, management, equipment, and curriculum appropriate to the developmental needs of the young child and his family.

EDU 612 School Business Management and Finance

A study of school district business management functions and financing including such topics as: Accounting, Reporting and Auditing; Program Budgeting Systems; Investments and Debt Service; Purchasing, Inventory and Insurance; Sources of Income; Civil Service Law and Personnel; Collective Negotiations; and Auxiliary Services.

EDU 614 The Teaching of Reading

Importance of reading in present day society, research in child development and learning and its implication in the teaching of reading; trends in the teaching of reading; developmental levels of reading; reading in the content areas; methods and materials; evaluation and guidance of pupil growth in reading. *Prerequisite:* ED 513.

EDU 615 Applying Psychology to the Teaching of Reading

An examination of theories of learning and psycholinguistics as they apply to the teaching of reading. Topics covered: theories of language and language acquisition, learning theories related to learning to read, especially as related to readiness, attention, retention and extinction, transfer and practice, personality factors that affect reading. *Prerequisite:* EDU 513.

EDU 626 Model Programs of Curriculum Development for the Young Child

This course is designed for graduate students and provides an in-depth study of the various organizational patterns and curriculum procedures of model Early Childhood Programs for young children. Research will be studied as it relates to the needs and interests of early childhood and as a basis for critical evaluation of present practices in this field.

EDU 628 Reading Diagnosis and Prescription: Theory

First course of the clinic and remedial sequence for master's degree students in Elementary Education. Topics covered: causes of reading failure; characteristics of problem readers; procedures for diagnosis of reading problems; methods and materials for remedial instruction; working with parents of children with reading problems; the role of the reading specialist in the school. *Prerequisite:* EDU 513 or the equivalent and permission of the instructor.

EDU 631 Supervision of Teaching

Principles of supervision; classroom observation; evaluating teaching; effect of teachers' purposes and research on choice of subject matter and teaching procedures; teacher-pupil relationships; group and individual conferences; induction of new teachers; intersitation; demonstration

teaching; teachers' meetings; bulletins; workshops; evaluation of program.

EDU 632 Reading Diagnosis and Prescription: Clinical Practicum

Designed to follow EDU 628. Gives the student opportunity to apply knowledge of methods, materials, and theory of reading diagnosis and prescription in a supervised clinic setting. Children with reading difficulties are assigned to each student. Student is expected to diagnose and plan for the remediation of each child's reading problem and is required to write summary reports of the pupil diagnosis and plans for remediation for both schools and parents. Students learn and practice techniques of conferring with parents of pupils studied. *Prerequisite:* EDU 513 and 628.

EDU 634 Practicum in Remedial Reading

Designed to follow EDU 632. Culmination of the clinic and remedial focus in the reading concentration. Student has further opportunity to incorporate into his teaching behaviors the skills of diagnosis and prescriptive planning. Develops, under supervision, special instructional skills for the remediation of reading difficulties. Requirements: prescribe, and implement a remedial reading program for one or more pupils referred to the Reading Center, develop diagnostic case study for each pupil, hold parent conferences, prepare final reports to parents and schools for each child. *Prerequisite:* EDU 513, 628, 632.

EDU 635 Administrators and the Reading Program

Administrators, both practicing and in-training, will gain knowledge about their roles in facilitating the reading program. They will become aware of alternatives in staffing, curricular patterns, budgeting, and accountability.

EDU 653 Curriculum Planning for the Urban Child

Familiarity with problems unique to the urban child—environmental conditions, educational background, educational opportunities, life style, effects of limited environment, relationship of urban child to classroom and existing curriculum. Resource persons from the urban community, field experiences in an urban community, films, discussion and research projects will provide the vehicle for examination of existing conditions and approaches to developing a more relevant curriculum for the urban child.

EDU 658 Seminar in Teaching the Disadvantaged Child

Study, analysis and evaluation of classroom procedures relevant to the disadvantaged child. The purpose of the course will be to afford participants the opportunity to re-think and reconstruct the educational program in his classroom in relationship to research, methods and materials, and characteristics of the child. Major topics to be considered are: self-concept, learning and the disadvantaged, curriculum materials, role of parents, community agencies, research findings related to the disadvantaged. *Prerequisite:* EDU 653.

EDU 690 Project

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

EDU 695 Thesis

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

EDU 701 Fundamentals of Administration

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

EDU 702 Fundamentals of Administration II

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

EDU 703 Internship in Administration

Full time experience in administration; planning and directing appropriate educational experiences under guidance and supervision of experienced administrator; seminar to run concurrently. *Prerequisite:* ED 701 and approval of instructor.

EDU 704 Internship Seminar

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

EDU 706 Problems in School Administration

Utilization of organization development techniques and other problem solving and diagnosing skills as means of reducing and resolving problems in school administration. Course focuses on individual and group problem solving, group decision making, communication, diagnosis and analysis, conflict management, data gathering and team development. Simulations and role playing used. *Prerequisite:* EDU 701 and 702.

EDU 707 Computer Applications in Education Administration

Course is designed to acquaint student with recent advances in cybernetic systems as effective tools to improve instruction, organization, administration of education. Laboratory experiences emphasize effective use of data processing systems rather than technical aspects of programming.

EDU 708 The School Plant

A study of the relationships between the physical environment and effective teaching; examination of school designs, construction, equipment; review of legal and financial considerations related to school plant.

EDU 709 Problems in School Supervision

Advanced study of special problems of supervision; the roles of the teacher and supervisor in the total school program; human relations; group dynamics, creative teaching; in-service education; teacher selection and evaluation; self-evaluation by teachers; educational leadership; role of special teachers. Open to CAS candidates only. *Prerequisite:* EDU 631 and 701.

EDU 734 Supervision of Reading Instruction

Designed for advanced graduate students specializing in clinic and

remedial reading. Students are designated Reading Center Supervisors and function as staff members of the Reading Center. Gain experience in supervision of reading teachers as they plan and implement reading programs for pupils with mild to severe reading problems. Students work with resident reading faculty and with students taking EDU 628 and 632 reviewing and evaluating case studies, plans for remediation, final reports to schools and parents. *Prerequisite:* EDU 513, 628, 632, 634 and formal application submitted to the Reading Center Director.

EDU 735 Administrators and the Reading Program

A course for practicing school administrators and supervisors and for students enrolled in the CAS Administration and Supervision Program. Explores the role of the administrator in the development and implementation of total school reading programs. Topics covered: elements needed in effective reading programs, evaluation of reading programs and reading instruction, relationship of the administrator to reading personnel, roles of reading personnel, staff development as part of reading programs, the reading program and public relations, research related to reading program development and instruction. *Prerequisite for students in the CAS Program:* EDU 701. Other students must be currently employed as administrators, supervisors or consultants or reading specialists.

ELEMENTARY STUDENT TEACHING DEPARTMENT

EDU 508 Supervision of Student Teaching

Teacher-education programs; the role of the public school in the student teaching program; student teaching as a cooperative responsibility; the role of the student teacher, supervising teacher, and the college supervisor; analysis of teaching behaviors; preparation for the student teacher; daily and long-term planning; conferences; evaluating student-teaching experiences; human relations in student teaching.

EDU 538 Internship and Seminar I

Full-time internship in an inner-city school under the direction of an experienced teacher. The corps members will be assigned to one class and will have full responsibility for planning and carrying out the program of instruction. The Team Leader will serve to coordinate the efforts of several teams which will include both experienced teachers and interns, therefore permitting cooperative and unified efforts toward planning and carrying out the program of instruction. Special emphasis will be placed on team teaching, and individualized instruction. Community work and involvement will be required but may be limited to the school community. Periodic seminars will focus attention on problems effecting inner-city schools, and their community.

EDU 590 Special Project

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

EDU 594 Workshop*

Emphasis on process and implementation of theory, involvement of participants in accomplishments of individualized objectives on specific theme.

EDU 596 Conference*

Emphasis on unique and one-time experience on given theme.

EDU 598 Micro Course*

Intensive instruction focused on specific, limited objective related to discrete content.

EDU 690 Project

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

EDU 698 Thesis

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

FOUNDATIONS OF EDUCATION DEPARTMENT

EDU 500 Cross-Cultural Approaches to Education

Emphasis on the Cultural Foundations of Education. Application of relevant findings of the social sciences to problems and issues of education in culturally plural (multi-ethnic) settings.

EDU 504 The Community Junior College

Purposes, functions, and characteristics of the Community Junior College; historical and philosophical backgrounds; current issues in higher education; the improvement of instruction; administration and organization; student personnel services; school and community relations; related research.

EDU 505 Simulated Educational and Social Systems

Performance practicums through simulations and educational games; a study of contemporary school and society in its organizational characteristics, functions, values, and conflicts, including analyses of poverty, racism, ecology, social stratification, supply and demand, authority and processes of change; a study of the theory, design, use, and evaluation of simulations and games for the elementary and secondary classroom.

EDU 525 Philosophy of Education

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

EDU 541 Social Foundations of Education

Relationships of school to society; contemporary social problems affecting education, social groups and institutions; school and community relations;

*Graduate students may include not more than six (6) hours of credit for workshops, conferences and micro courses in a Master's program.

nations; national, state and community organizations affecting educational programs and the development of social understandings in pupils.

EDU 561 Institute, Target: Human Understanding

The initial experience in the experimental program for the preparation of teachers in two-year colleges; a six-week workshop directed toward increased understanding of self and others; one-to-one relationships with young adults; consultation with experts in such fields as education, medicine, psychology, psychiatry, and sociology; explorations of ways to put these understandings of self and others to work in teaching process. *Prerequisite:* Approval of instructor.

EDU 568 and 569 Professional-Academic Seminar I and II

An inter-institutional, inter-disciplinary seminar for the students and faculty participating in the experimental program for the preparation of teachers for two-year colleges; identification and exploration of problems encountered in making teaching and learning relevant in the lives of teachers and learners. *Prerequisite:* EDU 561 and approval of instructor.

EDU 590 Special Project

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

EDU 594 Workshop*

Emphasis on process and implementation of theory. Involvement of participants in accomplishment of individualized objectives on specific theme.

EDU 596 Conference*

Emphasis on unique and one-time experience on given theme.

EDU 598 Micro Course*

Intensive instruction focused on specific, limited objective related to discrete content.

EDU 627 Seminar In Foundations of Metropolitan Education

The study and analysis of metropolitan educational problems, current and past, from a multi-discipline approach. The purpose of this seminar will be to examine these influences on our educational system. Can be taken for Foundations sequence or taken as an elective.

EDU 682 Seminar In Colonial American Education

Historical study of education in colonial America, including consideration of the European background and the implications of the Revolutionary Era. Ample opportunities are afforded for the exploration of students' interests within the field.

EDU 690 Project

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

EDU 695 Thesis

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

*Graduate students may include not more than six (6) hours of credit for workshops, conferences and micro courses in a Master's program.

EXCEPTIONAL CHILDREN EDUCATION DIVISION

DR. HORACE MANN, *Director*
Room 201 Ketchum Hall

PROGRAMS

The Division offers graduate programs in Exceptional Children Education with major concentrations in:

1. Communication Disorders
2. Learning and Behavioral Disorders
3. Mental Retardation
4. Physical Handicap

PURPOSES

All Master's Degrees in the field of Exceptional Children Education at SUCB are the Master of Science in Education. In some instances the purpose of such a degree is to upgrade skills and to help candidates whose goal is to acquire certification. In other instances it is to provide entry level programs for students from other fields. Requirements understandably vary for each option the student chooses with new entry students often having to take several prerequisite courses in addition to the thirty hour Master of Science degree.

ADMISSION

Each applicant shall have met all of the admission requirements set by the Graduate Office and Departments to which they are applying.

ADVISEMENT

In view of the various options for Graduate Study provided in Exceptional Children Education it is imperative that students see assigned advisors in their respective programs. The initial contact for such advisement is the Chairman of the Department in which the Master's specialization is being sought. All students must have their program of study approved by an advisor.

PRACTICA

Students majoring in these programs should expect a significant amount of their work to include practica assignments which link theoretical course work to internship settings. The College's laboratory facilities are augmented by area public schools, and by Meyer Memorial and Children's Hospitals, Roswell Park, Crippled Children's Guild, Psychiatric Center of Buffalo, West Seneca In-

stitute for Retarded Children, The Niagara Frontier Vocational Center, Hearing and Speech Center at Buffalo Psychiatric Center, Methodist and Protestant Homes for Children and Baker Hall.

COMMUNICATION DISORDERS

Chairman's Office
Room 208 Ketchum Hall

CREDIT
HOURS

Required Courses 18-21

By advisement from the following:

- EXE 516 Diagnostic Principles and Procedures
- EXE 559 Seminar in Stuttering: Theory and Research
- EXE 609 Seminar in Voice and Articulation
- EXE 611 Graduate Externship
- EXE 612 Neuropathologies of Speech
- EXE 617 Seminar in Cleft Palate
- EXE 621 Communication Problems of the Retarded
- EXE 622 Theoretical Aspects of Language Diagnosis and Therapy
- EXE 624 Seminar in Audiology
- EXE 631 Special Project

Research 3-6

- EDU 694 Research Methods and Techniques 3
 - EXE 690 Project 3
 - EXE 694 Master's Thesis 6
- (Each candidate, after conference with his advisor, must select one of the above requirements.)

Required Courses in Humanistic and Behavioral Foundations 3-9

By advisement from courses in Professional Studies or selected from Humanities and Social Sciences.

TOTAL REQUIREMENTS 30

Note: Students with degrees in education and/or arts and sciences may schedule a thirty hour program in Communication Disorders, providing departmental undergraduate prerequisites have been satisfied. Students seeking certification should consult with the Department Chairman before first registration. All programs must be planned with an advisor and approved by Department Chairman.

LEARNING AND BEHAVIORAL DISORDERS

DR. ARTHUR ACKERMAN, *Chairman*
Room 204 Ketchum Hall

CREDIT
HOURS

Required Courses 12-24

By advisement from the following:

- EXE 505 Survey of Specific Learning Disabilities
- EXE 508 Understanding the Problem Child in the Classroom
- EXE 509 The Gifted Child
- EXE 512 Curriculum Planning for Clinical Teaching
- EXE 513 Assessing Exceptional Children
- EDU 516 Reading Diagnosis and Prescription for Classroom Teachers
- EDU 517 Reading Diagnosis and Prescription: Theory
- EXE 525 Contingency Management in the Classroom
- EXE 527 Guidance of Children Who Are Exceptional
- EDU 534 Reading Diagnosis and Prescription — Clinical Practicum
- EXE 540 Childhood Language Disabilities
- EXE 555 Children with Special Needs
- EXE 610 Expanding Self-Awareness for Effective Teaching
- EXE 615 Graduate Practicum for LBD Clinical Teaching
- EXE 630 Psychoeducational Clinical Practicum
- EXE 631 Special Project

Required Courses in Humanistic and Behavioral Foundations 3-9

By advisement from courses in Professional Studies or selected from Humanities and Social Sciences.

Research 3-6

- EDU 694 Research Methods and Techniques ... 3
 - EXE 690 Project 3
 - EXE 694 Master's Thesis 6
- (Each candidate, after conference with his advisor, must select one of the above requirements.)

Electives 12-24

MINIMUM REQUIREMENTS 30

Note: Students seeking certification should consult with the Department Chairman before first registration. All programs must be planned with an advisor and approved by Department Chairman.

MENTAL RETARDATION

DR. KEITH L. CURRY, *Chairman*
Room 204 Ketchum Hall

Required Courses 12-18

By advisement from the following:

- EXE 507 Secondary Work-Study Programs for the Mentally Retarded
- EXE 514 Curricular Concepts for the Educable Mentally Retarded
- EXE 520 Teaching the Trainable Retarded
- EXE 600 The Trainable Mentally Retarded: Trends, Problems and Issues
- EXE 601 Psychological and Social Aspects of Mental Retardation
- EXE 602 Administration and Supervision of Programs for Exceptional Children
- EXE 603 Internship in Mental Retardation/Physical Handicap
- EXE 605 Seminar in Mental Retardation
- EXE 606 Supervision of Student Teachers in Mental Retardation/Physical Handicap
- EXE 614 Prescriptive Teaching of the Mentally Retarded
- EXE 621 Communication Problems of the Mentally Retarded
- EXE 631 Special Project
- IAE 505 Creative Arts for Mentally Retarded

Elective Courses in other areas of Exceptionality 3-12

- EXE 505 Survey of Specific Learning Disabilities
- EXE 508 Understanding the Problem Child in the Classroom
- EXE 509 The Gifted Child
- EXE 513 Assessing Exceptional Children
- EXE 516 Diagnostic Principles and Procedures in Speech Pathology

CREDIT
HOURS

CREDIT
HOURS

- EXE 525 Contingency Management in Classroom
- EXE 527 Guidance of Children Who Are Exceptional
- EXE 540 Childhood Language Disabilities
- EXE 555 Children With Special Needs
- EXE 610 Expanding Self Awareness for Effective Teaching

Required Courses in Humanistic and Behavioral Foundations 3-9

By advisement from courses in Professional Studies or selected from Humanities and Social Sciences.

Research 3-6

- EDU 694 Research Methods and Techniques ... 3
 - EXE 690 Project 3
 - EXE 694 Master's Thesis 6
- (Each candidate, after conference with his advisor, must select one of the above requirements.)

Electives 0-6

TOTAL REQUIREMENTS 30

Note: Students seeking certification should consult with the Department Chairman before first registration. All programs must be planned with an advisor and approved by Department Chairman.

PHYSICAL HANDICAP

DR. KEITH L. CURRY, *Chairman*
Room 204 Ketchum Hall

Required Courses 12-18

By advisement from the following:

- EXE 505 Survey of Specific Learning Disabilities
- EXE 513 Assessing Exceptional Children
- EXE 514 Curricular Concepts for Mentally Retarded
- EXE 527 Guidance of Children Who Are Exceptional
- EXE 555 Children With Special Needs
- EXE 600 The Trainable Mentally Retarded: Trends, Problems and Issues
- EXE 601 Psychological and Social Aspects of Mental Retardation
- EXE 602 Administration and Supervision of Programs for Exceptional Children

- EXE 603 Internship in Mental Retardation/Physical Handicap
 EXE 604 Curriculum for the Physically Handicapped
 EXE 606 Supervision of Student Teachers in Mental Retardation/Physical Handicap
 EXE 614 Prescriptive Teaching of the Mentally Retarded
 EXE 621 Communication Problems of the Mentally Retarded
 EXE 631 Special Project

CREDIT
HOURS

Elective Courses in other areas of Exceptionality 3-12

- EXE 508 Understanding the Problem Child in the Classroom
 EXE 509 The Gifted Child
 EXE 516 Diagnostic Principles and Procedures in Speech Pathology
 EXE 520 Teaching the Trainable Retarded
 EXE 525 Contingency Management in Classroom
 EXE 540 Childhood Language Disabilities
 EXE 610 Expanding Self-Awareness for Effective Teaching
 EXE 621 Communications Problems of the Mentally Retarded

Required Courses in Humanistic and Behavioral Foundations . 3-9

By advisement from courses in Professional Studies or selected from Humanities and Social Sciences.

Research 3-6

- EDU 694 Research Methods and Techniques . . . 3
 EXE 690 Project 3
 EXE 694 Master's Thesis 6
 (Each candidate, after conference with his advisor, must select one of the above requirements.)

Electives 0-12

TOTAL REQUIREMENTS 30

Note:

Students seeking certification should consult with the Department Chairman before first registration.

All programs must be planned with an advisor and approved by Department Chairman.

EXE 505 Survey of Specific Learning Disabilities

Survey of specific learning disabilities found in elementary school children and problems related thereto; methods of identifying and assessing the problem; theoretical bases of remediation and major educational techniques. *Prerequisite:* EXE 555 or equivalent.

EXE 507 Secondary Work-Study Programs for the Mentally Retarded

A study of basic knowledge, skills and attitudes necessary for planning and coordinating work-study programs for the retarded in the secondary school. *Prerequisite:* EXE 514 or equivalent.

EXE 508 Understanding the Problem Child in the Classroom

Personal and social factors as related to the problem child in an educational setting; case study of an individual pupil; modification of specific problems; group discussion of reports. Enrollment limited to fifteen. Open to graduate students in any division. *Prerequisite:* EXE 555.

EXE 509 The Gifted Child

Study of the nature and needs of children who are gifted; examination of such provisions as acceleration, partial-segregation, enrichment, special classes; criteria for identifying; implications for classroom teacher.

EXE 513 Techniques for Assessing Exceptional Children

A lecture/workshop course devoted to the study and analysis of formal and informal classroom assessment techniques of use in planning instruction for exceptional children.

EXE 514 Curricular Concepts for the Educable Mentally Retarded

Emphasizes basic curricular concepts and theories; compares different curriculum models and administrative arrangements of special classes with principles of learning appropriate to each.

EXE 516 Diagnostic Principles and Procedures in Speech Pathology

Investigation and assessment of diagnostic speech and language tests with emphasis on the more recently developed. Experience in their application in the clinical evaluation of speech problems.

EXE 520 Teaching the Trainable Retarded

Emphasizes assessment and evaluation of the trainable individual; organization of curriculum; selection and development of instructional materials; counseling of parents.

EXE 525 Contingency Management in the Classroom

This course focuses on applying contingency management techniques to solve classroom academic and management problems. It assumes basic familiarity with the theoretical precepts and professional language of behavior modification. Techniques to be learned include: shaping, modeling, positive and negative reinforcement and token systems.

EXE 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.

EXE 540 Childhood Language Disabilities

Survey of language disabilities of children with different exceptionalities; nature and scope of language; identification and description of language deviance; formulation of remedial approaches for children with different

language problems.

EXE 555 Children With Special Needs: Survey of Their Characteristics and Educational Program

Consideration of traditional and evolving concepts of exceptionalities. Designed to help the student understand the impact of exceptionality on the individual and society.

EXE 559 Seminar in Stuttering: Theory and Research

Review of major etiological theories of stuttering and investigations pertaining to these constructs. A review of current research related to the remediation of stuttering behavior will also be undertaken.

EXE 590 Special Project

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

EXE 594 Workshop*

Emphasis on process and implementation of theory. Involvement of participants in accomplishment of individualized objectives on specific theme.

EXE 596 Conference*

Emphasis on unique and one-time experience on given theme.

EXE 598 Micro Course*

Intensive instruction focused on specific, limited objective related to discrete content.

EXE 600 The Trainable Mentally Retarded: Trends, Problems and Issues

An exploration of major problems, trends, and issues related to providing effective programs for the trainable mentally retarded. Changing attitudes in educational, vocational, institutional, and community planning for the trainable retarded will be studied. *Prerequisite:* EXE 520.

EXE 601 Psychological and Social Aspects of Mental Retardation

A study of nature, etiology, diagnosis, classification and social implications of the condition of mental retardation to the individual, family and community. *Prerequisite:* EXE 555 or equivalent.

EXE 602 Administration and Supervision of Programs for Exceptional Children

A study of those aspects of educational leadership necessary to formulate, organize, implement and evaluate quality public school programs and services for exceptional children. *Prerequisite:* EXE 404 or 514.

EXE 603 Internship in Mental Retardation and Physical Handicap

An opportunity to apply the theories and principles learned in cognitive courses to actual practices in administrative, diagnostic, supervisory, recreational and community service roles in programs for the retarded. *Prerequisite:* Certification in field.

EXE 604 Curriculum Workshop for the Physically Handicapped

Emphasizes formulation of realistic curricula for physically handicapped children in the elementary school grade range; selection and development of suitable group and individual activities for instruction of such children. *Prerequisite:* EXE 555 or equivalent.

*Graduate students may include not more than six (6) hours of credit for workshops, conferences and micro courses in a Master's program.

EXE 605 Seminar in Mental Retardation

A study of current interests, problems, issues, practices, research, theories, methodologies and program innovation and change related to the condition of mental retardation. *Prerequisite:* Majors in Exceptional Childred Education.

EXE 606 Supervision of Student Teachers in Mental Retardation/Physical Handicap

Clarifying responsibilities of sponsor teachers; techniques of evaluation and conferring with students; determining content of student teaching experience; ways of helping students become effective teachers of the retarded/physically handicapped. Two years of successful teaching experience as certified MR teacher.

EXE 609 Advanced Seminar in Voice and Articulation Problems

Etiology and treatment of more severe voice problems, severe articulation problems, and esophageal speech. Investigation of current research. *Prerequisite:* EXE 306.

EXE 610 Expanding Self Awareness for Effective Teaching

Designed to increase understanding and acceptance of personal feelings as they affect teaching behavior. The impact one makes on others; his ability to listen and be attentive; the effect one's behavior has in teaching-learning situations with children having learning and behavioral disorders are covered. *Prerequisite:* Majors in Exceptional Children Education Division or permission of the instructor. Only S or U grades given.

EXE 611 Externship in Communication Disorders

Experience in a community speech and hearing clinic three half-days a week providing diagnosis and therapy to wide variety of speech, hearing and language problems. (Meets clinical requirement of 150 graduate hours of ASHA).

EXE 612 Neuropathologies of Speech

Study of neuropathologies related to adult aphasia, cerebral palsy and related motor speech disorders; and brain damage in childhood. Emphasis on diagnostics and therapeutic methods. *Prerequisite:* EXE 307.

EXE 613 Curriculum Planning for Clinical Teaching

A workshop in diagnostic-prescriptive teaching wherein students will diagnose educational needs, prescribe educational programs, implement recommendations and evaluate outcomes within the framework of theoretical instructional systems. *Prerequisite:* EXE 505, experience with exceptional children and permission of the instructor.

EXE 614 Prescriptive Teaching of the Educable Mentally Retarded

Examination of individualized teaching procedures; emphasis placed on psychoeducational diagnosis; development, implementation and evaluation of prescriptive teaching practices.

EXE 615 Graduate Practicum for LBD Clinical Teaching

An individually designed clinical practicum situation for graduate students in Learning and Behavioral Disorders. Specialized needs for application of theoretical learning and behavior models are met through intense direct involvement with disabled children under the guidance of clinical

educational specialists. *Prerequisite:* 20 hours of graduate study, including EXE 512; by permission of instructor *only*, at least one semester prior to registration. Only S or U grades are given.

EXE 617 Seminar in Cleft Palate

Study of multiple problems and clinical management of cleft palate persons, emphasis on diagnostic and therapeutic methods; consideration of etiologic, embryologic, morphologic, psychologic and craniofacial growth factors. *Prerequisite:* EXE 307.

EXE 621 Communication Problems of the Mentally Retarded

Special emphasis on speech and language needs of the mentally retarded; role communication plays in the personal, social and occupational adjustment of the retarded. *Prerequisite:* Certified MR teacher or certified speech clinician.

EXE 622 Theoretical Aspects of Language Diagnosis and Therapy

Theoretical approaches to language, to language disorders, diagnosis and remediation. Emphasis placed on student evaluation of existing diagnostic-therapeutic methods as well as student development of new approaches to helping the language deviant child.

EXE 624 Seminar in Audiology

Review of research and current clinical advances in Audiology. Emphasis will be given to recent areas of measurement and the relationship to diagnostic considerations. Observation and participation in advanced testing diagnostic appraisals. *Prerequisite:* EXE 414 or equivalent.

EXE 630 Psychoeducational Clinical Practicum

Clinic centered diagnostic-prescriptive laboratory experience; students diagnose educational needs, prescribe educational programs; implement recommendations; evaluate outcomes within theoretical instructional systems. *Prerequisite:* EXE 513 and curriculum course; EXE 505.

EXE 631 Special Project

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

EXE 690 Project

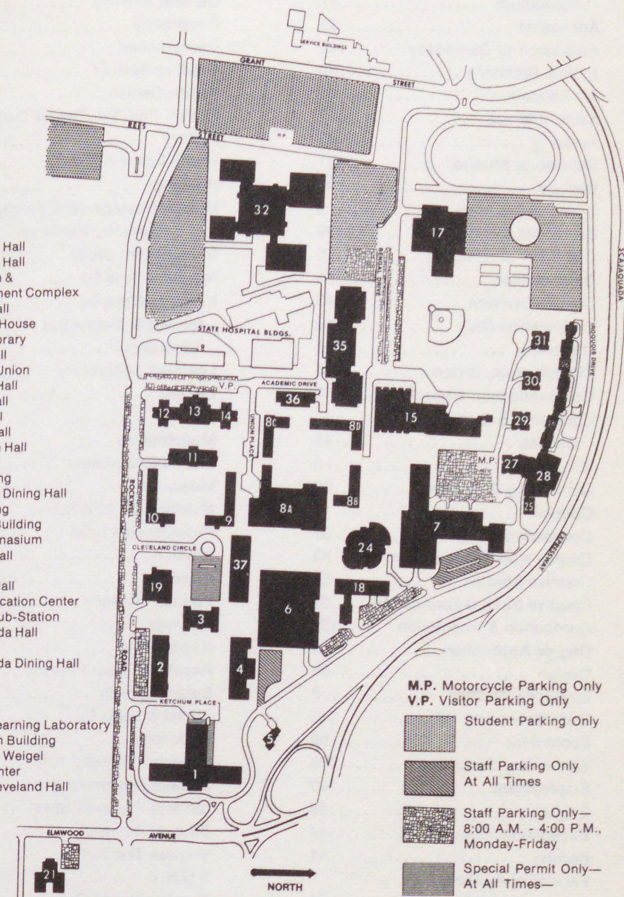
Study undertaken by one or more individuals on a problem of special interest; must be submitted in acceptable form according to directions given by the Graduate Office.

EXE 694 Thesis

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

MAP LEGEND

1. Rockwell Hall
2. Ketchum Hall
3. Research & Development Complex
4. Bacon Hall
5. Campus House
6. Butler Library
7. Upton Hall
- 8A. Student Union
- 8B. Cassety Hall
- 8C. Chase Hall
- 8D. Perry Hall
9. Bishop Hall
10. Neumann Hall
11. High Rise
12. South Wing
13. Twin Rise Dining Hall
14. North Wing
15. Science Building
17. New Gymnasium
18. Caudell Hall
19. Moot Hall
21. Albright Hall
24. Communication Center
25. Electric Sub-Station
26. Scajaquada Hall
27. Tower 1
28. Scajaquada Dining Hall
29. Tower 2
30. Tower 3
31. Tower 4
32. College Learning Laboratory
35. Classroom Building
36. Dr. Paul J. Weigel Health Center
37. Grover Cleveland Hall



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Reference Desk

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

THE UNIVERSITY OF NEW YORK
COLLEGE AT BUFFALO

1976-77
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