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GRADUATE

SUNY BUFFALO STATE
GRADUATE CATALOG 2016–2017
SUNY Buffalo State
1300 Elmwood Avenue
Buffalo, NY 14222-1095
<http://suny.buffalostate.edu>

Nondiscrimination Notice

Pursuant to College policy, the College is committed to fostering a diverse community of outstanding faculty, staff, and students, as well as ensuring equal educational opportunity, employment, and access to services, programs and activities, without regard to an individual's race, color, national origin, religion, age, disability, sex, gender, gender identity, gender expression, sexual orientation, familial status, pregnancy, predisposing genetic characteristics, military status, domestic violence victim status, or criminal conviction.

Employees, students, applicants or other members of the College community (including but not limited to vendors, visitors, and guests) may not be subjected to harassment that is prohibited by law, or treated adversely or retaliated against based upon a protected characteristic.

The College's policy is in accordance with federal and state laws and regulations prohibiting discrimination and harassment. These laws include the Americans with Disabilities Act (ADA), Section 504 of the Rehabilitation Act of 1973, Title IX of the Education Amendments of 1972, Title VII of the Civil Rights Act of 1964 as Amended by the Equal Employment Opportunity Act of 1972, and the New York State Human Rights Law. These laws prohibit discrimination and harassment, including sexual harassment and sexual violence.

Inquiries regarding the application of Title IX and other laws, regulations and policies prohibiting discrimination may be directed to Dr. Karen A. Clinton Jones, Chief Diversity Officer and Title IX Coordinator, Buffalo State College, 1300 Elmwood Avenue, 415 Cleveland Hall, Buffalo, New York 14222; or by phone (716) 878-6210 or fax (716) 878-6234. Inquiries may also be directed to the United States Department of Education's Office for Civil Rights, 32 Old Slip 26th Floor, New York, N.Y., 10005-2500; Tel. (646) 428-3800; Email; OCR.NewYork@ed.gov.

This catalog is current as of May 2017. The college reserves the right to cancel any course described in this catalog and to change any rules governing curriculum, administration, tuition, fees, admissions, regulations affecting students, dates, and course content. Each student is expected to have knowledge of the information contained in this catalog and in other college publications. This catalog describes all graduate programs of the college. For undergraduate programs, consult

the undergraduate catalog (<http://ecatalog.buffalostate.edu/undergraduate>). For programs offered during the summer, consult the summer session schedule.

The offices of the vice presidents supplied copy for their respective areas of responsibility. The Academic Affairs Office coordinated the collection of data for this catalog.

DEAN'S MESSAGE

Welcome to the Graduate School at Buffalo State!

Buffalo State has a proud tradition of offering graduate programs since 1945 and currently offers a wide array of outstanding academic opportunities through its distinctive graduate degree and certificate programs. What you will find at Buffalo State is a wide assortment of distinctive programs that provide students with current theory and advanced training for real-world application. Historically well known for our excellent teacher education programs, Buffalo State has become an institution with a comprehensive set of traditional and applied graduate programs. From English and history, to art conservation, museum studies, and creative studies, to public relations, public administration, criminal justice, and speech language pathology, to applied math, forensic science, Great Lakes Ecosystems Science and biology, Buffalo State offers a rich array of opportunities that provide practical training and skills to advance in today's competitive job market.

Buffalo State undergraduate students can take advantage of a growing number of 4+1 Pathway offerings through select academic departments. These undergraduate-to-graduate accelerated degree pathways provide qualified students with an early start to graduate study, financial cost savings, early graduate degree completion, and more.

Members of the graduate faculty maintain an ambitious research agenda, conduct applied research, publish articles and books, and work alongside community partners to effect change in local institutions and communities. This collective record positions Buffalo State as a leader in scholarly research and service in comparison to other master's-granting institutions across the state. Importantly, our faculty members also are committed to assisting graduate students in honing skills in their chosen fields of study. Our small classes promote productive faculty-student interactions, and provide ample opportunities for both professional and personal mentoring characteristic of the best graduate programs in the nation.

Upon matriculation graduate students become members of the Graduate Student Association (GSA). The GSA provides networking opportunities, and financial support for research, scholarly projects, and travel to professional conferences. It also sponsors a research fair every year in May. Buffalo State is the only comprehensive college in SUNY with a standalone GSA.

The Graduate School is located in Cleveland Hall 204 and serves as the hub for information about our over 60 graduate programs at Buffalo State. An adept, caring Graduate School staff is always welcoming—always ready and willing to

assist students with questions surrounding graduate programs and policies whether they concern applications, admission, program information, graduate assistantships, fellowships, or graduation requirements. They and I look forward to assisting you in whatever ways we can.

I am pleased to welcome you to our vibrant graduate community.

Kevin J. Miller, Ed.D.
Dean of the Graduate School

Accreditations

Buffalo State is accredited by the Middle States Commission on Higher Education
3624 Market Street
Philadelphia, PA 19104
(267) 284-5000

The Middle States Commission on Higher Education is an institutional accrediting agency recognized by the U.S. secretary of education and the Commission on Recognition of Postsecondary Accreditation. Buffalo State also is accredited by the Board of Regents, University of the State of New York. In addition, the following professional organizations have determined that Buffalo State programs meet their accreditation requirements:

- Academy of Nutrition and Dietetics, Accreditation Council for Education in Nutrition and Dietetics (ACEND)¹
- Accreditation Association for Ambulatory Health Care (Weigel Health Center)
- Accreditation Commission for Programs in Hospitality Administration (ACPHA)
- Accrediting Council on Education in Journalism and Mass Communications (ACEJMC)
- American Alliance of Museums (Burchfield Penney Art Center)
- Association of Technology, Management, and Applied Engineering (ATMAE)
- Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA)²
- Council for the Accreditation of Educator Preparation (CAEP)³
- Council for Interior Design Accreditation (CIDA)
- Council on Social Work Education (CSWE)
- Engineering Technology Accreditation Commission (ETAC)⁴

- Forensic Science Education Programs Accreditation Commission (FEPAC)
- International Association of Counseling Services (Counseling Center)
- National Association of Schools of Art and Design (NASAD)
- National Association of Schools of Music (NASM)
- National Association of Schools of Theatre (NAST)

Accreditation papers may be reviewed in the Provost's Office, Cleveland Hall 519.

- ¹ SUNY-Buffalo State's Didactic Program in Nutrition and Dietetics is accredited by:
The Accreditation Council for Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics
120 South Riverside Plaza, Suite 2000
Chicago, IL 60606-6995
(312) 899-0040 ext 5400
[eatright.org/ACEND](http://www.eatright.org/ACEND) (<http://www.eatright.org/ACEND>)
SUNY-Buffalo State's Dietitian Education Program is accredited by:
The Accreditation Council for Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics
120 South Riverside Plaza, Suite 2000
Chicago, IL 60606-6995
(312) 899-0040 ext 5400
[eatright.org/ACEND](http://www.eatright.org/ACEND) (<http://www.eatright.org/ACEND>)
- ² CAA is the accrediting body of the American Speech-Language-Hearing Association (ASHA)
- ³ The initial and advanced level education programs at SUNY Buffalo State are accredited by:
The Council for the Accreditation of Educator Preparation (CAEP)
1140 19th St NW, Suite 400
Washington, D.C. 20036
(202) 223-0077
- ⁴ The Electrical Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of ABET, <http://abet.org>

SUNY BUFFALO STATE

When the college opened its doors in 1871 as the Buffalo Normal School, its purpose was to train teachers to serve Buffalo's fast-growing student population in the public schools. Now, Buffalo State educates more than 10,000 undergraduate and graduate students each year. From the beginning, Buffalo State has consistently focused on making quality education accessible to students while addressing the needs of the Western New York community.

The only State University of New York (SUNY) college located in a metropolitan area, Buffalo State offers its students unparalleled educational, cultural, and recreational opportunities, both on the 115-acre campus and throughout the community. Buffalo was voted as one of the "hottest" cities for 25-34 year olds in 2015 because of job opportunities, cost of living and the variety of social and recreational activities available.

Buffalo State is the largest college in the SUNY system, with 42 master degree programs, four certificate of advanced study programs, and 6 graduate certificate programs, as well as 177 undergraduate programs. The college also offers 11 postbaccalaureate teacher certification (undergraduate status) programs.

Why a Graduate Degree?

The twenty-first century economy has become increasingly complex and advanced study beyond the baccalaureate degree is now preferred for various careers fields and a prerequisite for promotion and advancement in many others. Buffalo State offers many degrees that enhance a student's opportunities and career potential. The college has developed new degrees in urban education, public relations and Teaching English to Speakers of Other Languages (TESOL), that complement established areas such as education, speech language pathology, creative studies, criminal justice, museum studies, forensic science, and higher education administration. Buffalo State is also increasingly connecting to emerging areas in the economy such as data analytics, urban education and public relations in order to provide even more variety for students. Lastly, our graduate programs also prepare students to pursue Ph.D. studies if they choose, and our faculty maintain a robust research agenda in their fields. Nearly 1000 graduate students at Buffalo State discover an enriching, fulfilling and beneficial education when they enroll here.

Why a Graduate Degree at Buffalo State?

Buffalo State has been offering graduate degree programs since 1945. Twenty-two areas of specialization in the master's of science in education are offered—more choices in graduate education study than any other SUNY school.

Specialized graduate degree programs include art conservation, creative studies, learning design and educational technology, literacy specialist and a certificate of advanced study in art conservation. While teacher education remains a tradition at Buffalo State, other graduate programs in adult education, applied economics, and higher education and student affairs administration are unique within SUNY. New and applied programs in public relations, Teaching English to Speakers of Other Languages (TESOL), urban education, music education, great lakes ecosystem science, public and nonprofit management (MPA), museum studies, professional applied and computational mathematics, science education, and students with disabilities 7-12 generalist and students with disabilities 7-12 subject extensions offer exceptional opportunities for professional advancement.

Other distinctive graduate degree programs include criminal justice, industrial technology, applied economics, biology, English, history, and multidisciplinary studies.

Outstanding opportunities for internships and clinical practice abound. Because Buffalo State is located in New York State's second-largest city, the college can arrange many opportunities for field study or research.

Buffalo State's graduate teacher education programs are distinctive in their ability to provide training in urban, suburban, and rural settings. The training prepares teachers to work effectively in culturally diverse settings, enhance teaching and learning, and reach students with a variety of needs and abilities.

Through assistantships and externally funded research projects, an increased number of graduate students are able to attend full time and participate in research and scholarly activities. Most students complete an applied research project as a culminating activity for the master's degree. For example, all art conservation graduate students are required to complete a nine- to 12-month internship with senior conservators in placements in the United States or overseas, and the speech-language pathology program requires clinical practicum work in both on-campus and off-campus externships.

The campus also offers numerous opportunities for specialized study and research with its Great Lakes Center, the Burchfield Penney Art Center, the Speech-Language-Hearing Clinic, the Center for China Studies, the Center for Excellence in Urban and Rural Education, and various departmental initiatives.

Through the Career Development Center, students can obtain help seeking employment, and Buffalo State's alumni network provides employment leads.

The State University of New York

The State University of New York (SUNY), a statewide system of 64 campuses, enrolls more than 400,000 students. It is the largest, most diverse multicampus university in the nation. SUNY is committed to bringing its students the best and brightest faculty and the promise of a caring learning environment. State support keeps SUNY tuition much lower than rates charged at private colleges and universities.

ADMISSION TO A GRADUATE PROGRAM

Buffalo State welcomes qualified applicants seeking intellectual enrichment and professional advancement through advanced study in its master of arts, master of music education, master of public administration, master of science, master of science in education, certificate of advanced study, graduate certificate, and postbaccalaureate teacher certification programs.

Admission is granted jointly by the Graduate School and the academic department in which the student plans to pursue graduate studies. Individual departments establish specific standards by which they judge admission. These program requirements are listed in the program descriptions in this catalog.

Admission materials including the online application and supplemental department forms can be obtained at graduateschool.buffalostate.edu or through the Graduate School Office in Cleveland Hall 204, (716) 878-5601, gradoffc@buffalostate.edu.

Admission Classifications

Degree (Matriculated) Student — a student who has been accepted for matriculation in a master's degree, graduate certificate or certificate of advanced study. An adviser appointed by the department chair develops the student's program of study in consultation with the student. All matriculated students in good standing move automatically to Candidacy after 12 credits. Those students moved to Candidacy are considered officially eligible for a degree because they have been cleared of all provisions and have demonstrated academic achievement suitable for a master's degree. See Candidacy (p. 17) for more information.

Premajor (Nonmatriculated) Student — a student who has been accepted to premajor status instead of the matriculated major due to a deficiency in admission credentials as determined by the academic department. A maximum of 6 credit hours may be applied toward degree requirements upon approval of the major department. Admission in this status does not imply or guarantee admission to a master's degree or certificate of advanced study program. Students accepted in this status may register for coursework with open seating only. Premajor students who wish to matriculate into a major must apply online to the appropriate master's program (unless otherwise directed by the academic department) once all admission deficiencies have been removed. Admission to programs is not automatic.

Postbaccalaureate Teacher Certification Program (Nonmatriculated) Student (Undergraduate Status) — a

student who has earned a baccalaureate degree in a teaching-related content area (or equivalent coursework) from an accredited college or university and intends to complete required coursework for New York State teaching certification eligibility.

Some teacher certification programs may include only undergraduate courses, while others may require coursework at both the undergraduate and graduate levels. If graduate coursework is completed during the certification program and with the approval of the department, these credit hours may be applied toward a master's degree program.

After successfully completing the teacher certification program, students are eligible to apply online for New York State certification at higher.nysed.gov/tcert/teach (<http://www.highered.nysed.gov/tcert/teach>). Contact the Teacher Certification Office (<http://teachercertification.buffalostate.edu>), Chase Hall 222, with questions. No degree or certification is awarded by Buffalo State.

Admission in this status does not imply or guarantee admission to a master's degree program. Students must apply for admission to the appropriate master's program; admission is not automatic upon completion of the teacher certification program.

Nondegree (Nonmatriculated) Student — a student who has obtained a bachelor's degree and who wishes to enroll in graduate coursework for reasons other than completing a master's degree, graduate certificate, or certificate of advanced study. A student who has missed the application deadline for matriculation in a master's or certificate program may also apply for nondegree status. Students denied admission to a degree program may apply for nondegree status.

All students are advised that a maximum of 6 credit hours taken as a nondegree student may be applied toward degree requirements upon approval of the major department.

Not all programs/departments permit nondegree students to take coursework intended for their graduate degree students. Preference will be given to students matriculated in degree programs. Therefore, registration for all nondegree students is on a space-available basis only.

Acceptance in this status does not imply or guarantee admission to a graduate degree program. Coursework may not be applicable to a degree program; department approval is required.

Undergraduates Enrolling in Graduate Courses

Students who have completed more than 106 credits by end of previous semester at Buffalo State may register for graduate-level courses if they have maintained a minimum cumulative GPA of 2.5. A maximum of 6 graduate credit hours may be taken as a senior. The combined enrollment of undergraduate and graduate courses should not exceed 15 hours per semester.

Courses taken in this manner are related to a graduate program of study and will not apply toward an undergraduate degree. These courses may be applied toward an advanced degree if they are acceptable to the department. The six-year time limitation on the completion of the master's degree program applies to these as well as other credits.

An undergraduate request to enroll in a graduate course must be made by contacting the academic department offering the course. Permission must be granted by the instructor and department chair.

4 + 1 Undergraduates Enrolling in Graduate Courses

Students who have been accepted into one of Buffalo State's 4+1 pathways, combining undergraduate and graduate study, may register for graduate-level courses during their senior year based on department requirements and guidance. A maximum of nine credit hours (divided between the first and second semester of a student's senior year) may be taken during the senior year, and students need to maintain academic eligibility, as outlined by the admission requirements into the program, throughout the senior year. The combined enrollment of undergraduate and graduate courses should not exceed departmental guidelines.

The graduate courses taken in this manner are related to a graduate program of student and will not apply toward an undergraduate degree. The six-year limitation on the completion of the master's degree program applied to these as well as other credits.

Admission Requirements

For admission to matriculated graduate study, a student must:

1. Hold an approved baccalaureate degree from an institution that is accredited by an approved regional accrediting agency. In accordance with federal regulations, all students (except Buffalo State graduates) are required to submit a final transcript with a degree posted to the Graduate School by the start of their graduate work for financial aid eligibility.
2. International students must hold a baccalaureate degree that is equivalent to a four-year baccalaureate degree in the United States, from an institution that is accredited by an approved regional or national accrediting agency.
3. Have a minimum cumulative GPA of 2.5 (4.0 scale) in the baccalaureate program or a 3.0 in previous graduate

coursework. If the applicant has attended an institution using the quarter system, credit hours will be converted to semester hours using the following equation:

Quarter Hours	Equals	Semester Hours
1 quarter hour	=	2/3 (.66) semester hours
2 quarter hours	=	1-1/3 (1.33) semester hours
3 quarter hours	=	2 semester hours

Some departments may establish higher standards for admission or require applicants to submit additional materials, such as a department application, letter of intent, letters of recommendation, teaching certificate, or recent test scores. Refer to the Academic Programs (p. 47) section of this catalog or contact academic departments to determine any additional requirements for admission.

The GRE is not required for most programs, however certain programs may require it if students do not meet admission requirements. See program section for additional information. For information on the GRE, visit [gre.org](http://www.gre.org) (<http://www.gre.org>); for information on the Miller Analogies Test (MAT), visit [milleranalogies.com](http://www.milleranalogies.com) (<http://www.milleranalogies.com>). Standardized test scores will be accepted within a five-year period; older scores will not be accepted. The Graduate School administers a computer-based version of the Miller Analogies Test (MAT) year-round, visit graduateschool.buffalostate.edu/requirements for additional information.

Admission to All Education Programs

Applicants for the fall 2015 semester and beyond will be required to have a minimum collegiate GPA of 3.0 and to submit scores from a national test (GRE or MAT or a nationally normed test recommended by your specific program). The MAT test is offered at Buffalo State; contact the Graduate School for information. More information on the GRE can be found at www.gre.org (<http://www.gre.org>).

Applicants who do not yet meet one or more of these minimum criteria should consult with advisors in the specific educator preparation program of choice for suggested pathways to achieve successful candidacy.

How to Apply

Buffalo State maintains a student-managed admissions process that requires an applicant to submit a complete application with all required components to the Graduate School by the appropriate deadline. Thus, applicants are assured the admissions committee has all the necessary information to evaluate their qualifications to avoid delay in the application process. Submitted materials are the property of the Graduate School. Copies of application materials will not be supplied to the student or any other institution.

Degree, Certificate, and Postbaccalaureate Teacher Certification Applicants — Complete and submit the Graduate Admission Application Packet (p. 13).

Nondegree Applicants — Complete and submit the Graduate Admission Application Packet (p. 13) (excluding supplemental application materials). Only the official transcript from the institution granting your highest degree is required.

Admission forms such as transcript request and supplemental department materials are available at the Graduate School in Cleveland Hall 204, or electronically through graduateschool.buffalostate.edu/apply or e-mail at gradoffc@buffalostate.edu.

Application Deadlines

Application deadlines vary by department. Some programs have specific deadlines. Other programs may review applications on a continual basis. Applicants should allow up to four weeks for admissions processing (including the admission decision). Generally, applications must be received at least one week prior to the beginning of classes for programs with rolling admissions. Further information on deadlines can be obtained from the Graduate School, Cleveland Hall 204, (716) 878-5601 or through graduateschool.buffalostate.edu/apply.

Completed Application Packet

A completed application packet includes:

1. A completed Online Graduate Admission Application.
2. A \$65 nonrefundable application fee. Acceptable methods of online payment: Visa or MasterCard. Check or money order is also accepted made payable to Buffalo State.
3. Appropriate supplemental application materials, such as department application, letter of intent, letters of recommendation, copy of teaching certificate, or recent exam scores as stated in the program description. It is the applicant's responsibility to review the individual program admissions requirements before applying to determine if supplemental materials are required. Individual program descriptions may be found in the Graduate Programs (p. 47) section. Supplemental materials are available for download at graduateschool.buffalostate.edu/supplemental-application-materials. International applicants must follow further instructions, found here (p. 13).
4. Official transcripts from all colleges and universities attended must be sent to the Graduate School. Hard copy transcripts must be received in sealed envelopes with other application materials. Buffalo State students are not required to submit transcripts, as the Graduate School will obtain Buffalo State transcripts; however, if applicant attended other institutions these transcripts must be provided even if sent at time of a previous application. In accordance with federal regulations, all students (except Buffalo State graduates) are required to submit a final transcript with a degree posted to the Graduate School by the start of their graduate work for financial aid eligibility.
5. Master of Music Education application is entirely online. See music.buffalostate.edu/.

Note: Failure to report all previous college attendance on the application is considered to be academic dishonesty. Discovery of such dishonesty can result in dismissal from Buffalo State.

Appeal Process for Denial of Admission

Applicants to graduate programs who have been denied admission should first contact the intended academic program or department directly if they wish to inquire as to the basis for the original decision or to request reconsideration. A written request for reconsideration must be received by the graduate program within 14 calendar days of denial. Evaluating the admissibility of applicants to its program is solely the responsibility of the admitting graduate program, and it will issue its reconsideration decision within 14 calendar days of receiving the reconsideration request from the applicant.

Applicants who wish to appeal an admission denial after they have requested reconsideration from the graduate program may submit a *written* appeal, which must include a statement of the basis for the appeal. The appeal is to be submitted to the dean of the Graduate School within 45 calendar days after the date of the initial notice denying admission. Graduate admission appeals will be considered in terms of fair implementation of Buffalo State and program admission policies and only if based on appropriate cause, such as (a) procedural error or (b) judgments based on criteria other than those specified by Buffalo State. Disagreements over evaluation of academic quality or program fit will not be considered as an appropriate basis for such appeals. The dean of the Graduate School will review all relevant documentation submitted by the applicant and graduate program and, in consultation with the dean of the academic school to which the applicant applied, will render a final admission decision. Every reasonable effort will be made to transmit a decision to the applicant within 90 calendar days of the receipt of the student's initial written appeal to the dean of the Graduate School. In reporting the final decision of the dean of the Graduate School to the applicant, the dean of the academic school, and the graduate program, the basis of the decision will be included. If the final decision grants admission to the graduate program, admission will be effective for the next semester unless the final decision is made before the end of the current semester's registration period.

International Applicants

International student degree requirements:

For admission to graduate study, international students must hold a baccalaureate degree from an institution that is accredited by an approved U.S. regional accrediting agency or a degree that is equivalent to a four-year bachelor's degree in the United States. International students must meet all admission requirements of the college. See graduateschool.buffalostate.edu/requirements for more information.

Deadlines

All international applications requiring student visas must be completed by June 15 for fall admission; November 15 for spring admission; and April 1 for summer admission for all graduate programs (except Canadian applicants). Students should also be aware of the individual department application deadline when considering enrollment. In some cases, departments want applications submitted prior to the Graduate School deadlines cited above. If there are questions, contact the Graduate School for further information on deadlines.

A completed international application packet includes:

1. A completed Online Graduate Admission Application.
2. A \$65 nonrefundable application fee. Acceptable methods of payment: Visa or MasterCard.
3. Official or certified true copies of transcripts along with a certified English translation of all transcripts from postsecondary schools outside the United States.
4. A copy of the applicant's passport bio page. Passport must be current and not expired.
5. Financial Statement (FSA-4) (.pdf) (<http://www.suny.edu/media/suny/content-assets/documents/international-student/FSA-4.pdf>)
6. A degree evaluation. Applicants must submit official copies of postsecondary diploma(s)/transcripts to one of the following organizations for a course-by-course evaluation to determine equivalency to a United States bachelor's degree by using one of the following organizations:

Josef Silny and Associates, Inc. (<http://www.jsilny.com>)
International Education Consultants
7101 SW 102 Avenue
Miami, FL 33173
Phone: (305) 273-1616
Fax: (305) 273-1338

World Education Services Inc. (<http://www.wes.org>)
P.O. Box 745
Old Chelsea Station
New York, NY 10113-0745
Phone: (800) 937-3895
Fax: (212) 739-6100

Students should contact the organization or visit its Web site for the most current requirements and to request or download an application. Completed applications listing the SUNY Buffalo State Graduate School as the recipient should be returned to the organization with the required fees and credentials. The organization will forward its evaluation report to Buffalo State. This evaluation can take up to four weeks to complete after all documents are received. Check with the organizations for specific fee structure(s).

Canadian Applicants: Students holding undergraduate degrees from a Canadian college or university should submit official transcripts to the Graduate School. If transcripts follow a system similar to that of the United States, they will be evaluated locally. If not, Canadian applicants will be required to comply with the above international student credential policy.

7. Applicants for whom English is a second language must submit a score of the Test of English as a Foreign Language

(TOEFL) or the International English Language Testing System (IELTS) as documentation of English language proficiency. Applicants with a minimum TOEFL score of 550 or higher on the paper exam or 79 on the Internet exam, or with an IELTS score of 6.0 or higher will be considered for admission. Information on the TOEFL can be found at toefl.org. (<http://www.ets.org/toefl>) Information on the IELTS can be found at [ielts.org](http://www.ielts.org) (<http://www.ielts.org>).

English as a Second Language Program

International students who do not meet the required English language requirement can be admitted to the Buffalo State's Intensive English Language Institute (IELI). Buffalo State's English as a Second Language Program (ESLP) (<http://international.buffalostate.edu/english-second-language-esl>). Intensive English Language Institute students must complete required coursework in the English as a Second Language (ESL) program and take the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) as documentation of English language proficiency.

The ESL program is a non-degree, non-credit bearing program designed to help students with varying levels of English proficiency through coursework, interaction with native speakers of English, and individualized language practice. The program consists of six levels of English language study. Each level consists of 20 hours of class time per week, plus and additional 3 hours of small conversation group practice.

Students who wish to pursue this course of action must first submit a completed graduate admission application and have their application materials reviewed by an academic department. After careful review of the students' academic qualifications and their ability to succeed academically, the student is granted conditional acceptance into the Graduate School and admission into the IELTS. Students must notify the Graduate School within 30 days of their acceptance whether they will pursue the ESL program option. Upon successful completion of these requirements, students may then enroll as a full-time student in their program of study.

For more information and to apply to the Intensive English Language Institute IELI, contact the Office of International and Exchange Programs (<http://international.buffalostate.edu/english-second-language-esl>). For specific questions regarding homeland security rules and regulations, student visas, and I-20 information, contact the Office of International Student Affairs. (See information below).

Other International Student Enrollment Information

Contact the International Student Affairs Office for more information about services for international students: South Wing 410, internationalstudentaffairs.buffalostate.edu, or (716) 878-5331.

Student Visas: International students must show proof of financial support for the duration of studies on the Confidential Statement of Finances form. About \$41,311.00 (USD) per year should be budgeted to cover expenses. By the time they arrive on campus, international students should have arranged for the funds to cover their college career. Payment of all college-related expenses must be made prior to the beginning of each semester.

Once an applicant has been officially accepted to a degree program, the Graduate School will mail an acceptance letter and the paperwork necessary to apply for an I-20 form. The applicant must return these forms directly to the International Student Affairs Office, which will send an I-20 form to the student to obtain an F-1 (student) visa from the U.S. embassy or consulate in their home country.

Mandatory Student Health Insurance: International students are required to purchase SUNY International Health Insurance or have comparable coverage. The cost for the 2017-2018 academic year is \$1,662. If a student possesses comparable health insurance, he or she is still required to purchase the medical evacuation coverage and should contact the Weigel Health Center for the current rate (unless the student's plan includes medical evacuation and repatriation). Services at the Weigel Health Center are available to all registered students free of charge regardless of insurance coverage. Visit weigel.buffalostate.edu/ or call (716) 878-6711 for more information.

Housing: International students may live on or off campus. On campus, they may live in the international residence hall, which remains open during U.S. holidays, or in any other residence hall, provided they move out of the hall during the holidays. Visit the Residence Life Office at residencelife.buffalostate.edu or call (716) 878-3000 for more information.

Incomplete Transcripts

Conditional admission may be granted to applicants whose baccalaureate degree or master's degree has not yet been conferred, or if grades for the current term have not yet closed at the time of application. Applicants must have a final official transcript showing the awarding of the degree sent to the Graduate School as soon as the degree is conferred but no later than 30 days after the beginning of the semester for which applicant was accepted. (The Graduate School will obtain final transcripts for Buffalo State graduates.) Failure to meet this requirement will result in prior acceptance to the college being rescinded. A "hold" will also be placed on the student's record resulting in ineligibility for future enrollment. This may impact Financial Aid eligibility.

Readmission to Graduate Study

Discontinuance Registration Procedure

Students who do not register for and complete one graduate course within two academic semesters (fall/spring) must apply for readmission to graduate study in accordance with established deadline dates and current admission requirements. Students who do not register for course work within one year of initial acceptance must reapply for admission. Those seeking readmission must follow the follow steps below:

1. A completed Online Graduate Admission Application. Follow instructions for applying as directed: graduateschool.buffalostate.edu/apply.
2. A \$65 nonrefundable application fee. Acceptable methods of online payment: Visa or MasterCard. Check or money order is accepted made payable to Buffalo State.

3. Submit all transcripts (undergraduate and graduate) not on file in the Graduate School Office as well as all supplemental application materials as listed in current program admission guidelines.
4. Submit the online application and other supplemental application program department materials to the Graduate School, Cleveland Hall 204, by the appropriate deadline.
5. If degree candidacy was awarded during previous study, the student must complete a new degree candidacy application upon readmission. Any exceptions to the completion of a new candidacy must be approved by the academic department and recorded in Degree Works.

Academic Clemency Procedure

Conditions for academic clemency:

Any student with a Buffalo State graduate GPA of less than 2.0 is eligible to apply for academic clemency when he or she applies for readmission to the college through the Graduate School. The student's last semester of enrollment must have been at least three years prior to the application for readmission. Students can request clemency for up to two semesters of work (consecutive or non-consecutive). These semesters are to be determined by the student in consultation with his/her adviser. A decision of clemency includes all coursework taken within the semester(s) at Buffalo State; it is not selectively applied. Clemency is applied only after a student has registered for an upcoming semester.

1. Clemency cannot be used by students who have already earned a degree for any work completed prior to the award of that degree.
2. Credits for which the student has requested academic clemency will remain on the student's transcript but will not be calculated into the overall cumulative average and will not count toward graduation. The student's transcript will contain a notation of academic clemency.
3. The student will be required to sign a statement indicating his/her understanding of the conditions stated in the academic clemency policy and will file a formal petition with the Graduate School. Such a statement will indicate that computation of the grade point average for admissibility to other graduate programs could include all college work completed.
4. Students approved for academic clemency will be required to meet with their academic adviser in order to determine the appropriate selection of courses.
5. Students will be advised that the decision to file for academic clemency may affect qualification for financial aid.
6. The decision to exercise the academic clemency provision is final and irreversible.
7. The dean of the Graduate School will be responsible for overseeing the implementation of this policy.
8. Students eligible for academic clemency can apply for academic clemency by contacting the assistant dean of strategic and enrollment planning, The Graduate School, Cleveland Hall 204, (716) 878-5601.

Readmission for Returning Service Members

Returning service members seeking readmission after active duty will be readmitted with the same academic status if the following conditions are met:

1. The student gave advance notice (written or verbal) of the call to active duty or submitted a written attestation upon seeking readmission that such service was performed necessitating their absence
2. The absence from school for active duty does not exceed five years
3. The student submits a notification of intent to re-enroll within three years after the completion of service or within two years after recovery from an illness or injury incurred during the service
4. The separation from service was not dishonorable.

Change of Major

Students wishing to transfer from one major to another must apply to the new degree program in accordance with established deadline dates and current admission requirements. Students must also adhere to the federal Satisfactory Academic Progress (SAP) guidelines. Those seeking to change majors should:

1. Complete the Online Graduate Admissions Application. Follow instructions for applying as directed: graduateschool.buffalostate.edu/apply.
2. Submit appropriate departmental supplemental materials (available to download online at graduateschool.buffalostate.edu/supplemental-application-materials) as one packet to the Graduate School, Cleveland Hall 204, by stated deadline.
3. Some departments may require their students to complete a Degree Candidacy Application (<http://graduateschool.buffalostate.edu/candidacy-forms>) at the time of admission to the program. Degree Candidacy applications from the academic department and are listed on the Graduate School website. See Candidacy section for admission to candidacy requirements.
4. Contact the Financial Aid Office (<http://financialaid.buffalostate.edu>) for questions regarding financial aid eligibility.

ACADEMIC REQUIREMENTS

- Candidacy (p. 17)
- Degree Works (p. 17)
- Changes to Approved Degree Candidacy (p. 17)
- Graduate Thesis/Project Continuation Policy (p. 18)
- Graduation/Commencement (p. 18)
 - Commencement (p. 18)
- Initial/Professional Certification in Education (p. 18)
- Project, Thesis, Comprehensive Examinations, and Defense of Graduate Portfolio (p. 18)
- Electronic Thesis Submission (p. 19)
- Time Limit for Degree Completion (p. 19)
- Transfer Credit (p. 19)

Candidacy

Degree Candidacy is a status students receive after the successful completion of 12 credits at Buffalo State. By this time, all provisions that were stipulated at the time of admission must be removed, and students must be in good academic standing. (NOTE: Not all students have provisions placed on their record at the time of admission.) Students are automatically moved to Candidacy unless provisions have not been removed or there are holds on the student record.

Various departments in the Graduate School use a Degree Candidacy Application as a tool for students and advisers to map out a course of study and for advisement purposes. Students must complete the application in consultation with their adviser; it will include course planning, preparation for the capstone experience, and professional development in relation to the degree, graduate certificate, or certificate of advanced study sought.

Degree candidacy applications are available from the academic department and are listed on the Graduate School website: graduateschool.buffalostate.edu/candidacy-forms. Program requirements include:

1. Completion of at least 6 credit hours of graduate-level coursework at Buffalo State.
2. Completion of all required prerequisite courses.
3. A minimum cumulative GPA of 3.0 (B grade) in all graduate-level coursework. No grade lower than a C grade (2.0) is acceptable to meet degree requirements.
4. Removal of all deficiencies and incomplete (I) grades.
5. If requesting transfer credit, the transfer course(s) should be indicated in the note section of Degree Works and communicated to the Graduate School. (For other policies

affecting transfer credit, see the Transfer Credit (p. 19) section.)

6. A minimum of 15 credit hours of coursework at the 600- or 700-level is required in all degree programs.
7. A maximum of 6 credit hours of independent study (XXX 590) may be included in a degree program.
8. Coursework taken to fulfill degree requirements for one degree may not be applied to an equivalent degree.
9. A maximum of 6 credit hours of special topics (XXX 587), workshops (XXX 594), conferences (XXX 596), and microcourses (XXX 598) may be included in a master's degree program.

Students should periodically check with advisers to review the anticipated completion dates.

Degree Works

Students' academic progress toward meeting graduation requirements is recorded in the Degree Works audit system. The Degree Works audit system should be used in close coordination with the process of academic advisement, including course planning, preparation for the capstone experience, and graduation in relation to the degree, graduate certificate, or certificate of advanced study sought. Students and faculty advisers should work to assure that the audit is accurate and up-to-date.

Students should periodically review Degree Works to ensure accuracy and follow-up with their adviser if there is a discrepancy. Some departments may utilize advising PINS which prohibit registration without adviser approval. In these cases, students must see their adviser for advisement prior to registration. For information about advising PINS visit <http://bscbanner.buffalostate.edu/advising-pins>. Students who currently have degree candidacy applications on file can use them for comparison with the Degree Works audit; however, Degree Works is the college's official audit system.

Changes to Approved Degree Candidacy

Once the degree program has been approved, changes can only be made with the approval of the student's department and should be registered in Degree Works (p. 17). The transfer courses must be indicated on the note section in Degree Works.

Graduate Thesis/Project Continuation Policy

Graduate students who do not complete their capstone thesis or project requirement by the end of the term in which they have registered will receive an IP grade on their transcript. Once a student has

1. registered for the maximum number of credits included in their graduate programs's standard curriculum,*
2. received an IP grade in the required thesis or project course(s),
3. not completed the thesis or project requirement after two additional semesters have elapsed (not including summer or J-term),

the student must register for 722 Thesis/Project Extended (non-credit bearing but billable for 1 credit at existing graduate tuition rates) for each fall and spring semester until the thesis or project has been completed. If the student does not register for the 722 course, he or she will become an inactive student and will have to reapply for admission to the Graduate School and pay all other appropriate fees before the capstone project or thesis can be completed. Reapplication must be made in accordance with the established deadline dates and current admission requirements. See Readmission (p. 15).

722 courses will receive a grade of NR. Once a student has completed the thesis or project, the IP grade(s) will be changed to the appropriate grade.

**A list of credits required in each graduate program will be created and reviewed by the academic departments. This list will be maintained and updated as necessary by the Graduate School.*

Graduation/Commencement

In order for a graduate student to be awarded a master's degree or certificate of advanced study, the following minimum requirements must be met:

1. Completion of the Application for Graduation (<http://graduateschool.buffalostate.edu/forms>), submitted to the Graduate School, Cleveland Hall 204, by the specified deadline. Failure to apply by the deadline date may delay the granting of the degree and may result in the omission of the student's name from the commencement program.
2. Completion of at least the minimum number of required graduate-level credit hours as determined by each academic program.
3. A minimum cumulative GPA of 3.0 (B grade) in all graduate coursework.
4. Completion of all coursework and degree requirements within the six-year period immediately preceding the date of graduation.
5. Completion of a minimum of 15 credit hours of 600- or 700-level coursework.
6. Receipt by the Graduate School of official transcript(s) of approved transfer credit as listed in the note section of Degree Works. Transfer credit must meet all requirements as defined in the Transfer Credit (p. 19) section.

7. All graduate and undergraduate courses with a grade status of I, IP, N, or X must be completed and appropriate grades submitted.
8. Coursework taken to fulfill degree requirements for one degree may not be applied to an equivalent degree.
9. All financial obligations to the college must be met, and all college property must be returned.
10. Students who write a master's thesis must submit the final submission of their approved theses (to be done electronically) through Digital Commons (p. 19) before a diploma will be issued.
11. Master of Science Multidisciplinary Studies candidates must submit the final submission of their approved research methods paper and master's project to the Graduate School Office before a diploma will be issued. Students should discuss the submission process with their project adviser.

Students who do not meet the requirements for graduation by the semester for which they applied must submit a new application for graduation, in accordance with established deadlines, for the semester in which the requirements will be completed.

Commencement

Commencement is held once each year at the end of the spring semester in May. Students eligible to participate in commencement are those who complete their degree requirements in December (previous), January (previous), May (current), or August (anticipated). Visit the commencement Web site for more information: commencement.buffalostate.edu.

Initial/Professional Certification in Education

Buffalo State's graduate degree programs in education are registered with the New York State Department of Education. All graduates who meet state certification requirements are recommended by the college for the appropriate certification. Students eligible for initial/professional certification can apply online at www.highered.nysed.gov/tcert/teach (<http://www.highered.nysed.gov/tcert/teach>). Contact the Teacher Certification Office (<http://www.buffalostate.edu/teachercertification>), Chase Hall 222, (716) 878-6121, with questions.

Project, Thesis, Comprehensive Examinations, and Defense of Graduate Portfolio

Degree programs require a project, thesis, comprehensive examination, or defense of graduate portfolio as evidence of mastery of the chosen field. Individual program descriptions in this catalog contain specific degree requirements. Contact hours stipulated for projects and theses will vary, depending

on the nature of the work and departmental requirements. See Graduate Thesis/Project Continuation Policy (p. 18).

Electronic Thesis Submission

The Graduate School requires the final submission of approved theses to be done electronically through Digital Commons, an electronic publishing mechanism sponsored and maintained by E.H. Butler Library (<http://library.buffalostate.edu>). The submission is free to students and allows for wide distribution of student work via the world-wide web. Students should discuss the submission process with their thesis adviser. Information about Digital Commons and past theses can be found at digitalcommons.buffalostate.edu/.

Time Limit for Degree Completion

All coursework and degree requirements must be completed within the six-year period immediately preceding a student's graduation. Coursework completed more than six years prior to date of graduation cannot be used to satisfy degree requirements unless approved by the adviser, department chair and school dean.

Transfer Credit

There is no automatic transfer of credit toward a graduate degree or certificate of advanced study. A maximum of 12 graduate-level credit hours of transfer work from an approved regionally or nationally accredited institution may be applied to a degree program or certificate of advanced study upon departmental/adviser approval. Academic departments reserve the right to allow fewer transfer credits. The applicability of transfer credit to a graduate certificate program is determined by the department. The 12-credit maximum does not apply to the master's degree program in multidisciplinary studies, which allows a maximum of 15 credit hours of transfer work upon the principal adviser and advisory committee (if required) approval.

Specific restrictions:

1. Transfer work must be a coherent part of the required program of study and be approved by the major department.
2. Transfer work must be completed within the six-year period immediately preceding the date of graduation.
3. Only grades of B (3.0) or better are acceptable for transfer. Grades of S (satisfactory) or P (pass) are not acceptable.
4. Coursework taken to fulfill degree requirements for one degree may not be applied toward another equivalent degree.
5. For graduate certificate programs, at least 50% of the total credits must be completed through study at Buffalo State. Departments reserve the right to require more than 50% be completed through study at Buffalo State.
6. Official transcripts must be submitted to the Graduate School from the institution at which the coursework being requested for transfer was completed. The institution

must be accredited by an approved regional or national accrediting agency.

7. Transfer credit requested from institutions using the quarter system will be converted to semester hours using the following equation:

Quarter Hours	Equals	Semester Hours
1 quarter hour	=	2/3 (.66) semester hours
2 quarter hours	=	1-1/3 (1.33) semester hours
3 quarter hours	=	2 semester hours

Transfer credit requests should be presented for consideration at the time the student applies for admission to the college or as soon as the coursework is completed. Approved transfer credit(s) will be included in the note section of Degree Works (p. 17) and communicated to the Graduate School.

ACADEMIC POLICIES

Graduate students must assume full responsibility for knowledge of rules and regulations of the college and department requirements concerning their individual degree programs. Requirements and programs are subject to change, and students must be aware of current regulations.

Academic Misconduct

All students are expected to display honesty and integrity in completing course requirements and complying with college academic regulations. Academic misconduct refers to plagiarism or cheating on examinations or assignments and is inconsistent with the aims and goals of Buffalo State. Specifically, students may neither use the work of another individual without proper acknowledgment nor perform work for another individual. Other examples of inappropriate academic conduct include prior acquisition or possession of an examination or submission of false data. As a result of a sustained allegation of academic misconduct, a low or failing grade for part or all of the coursework may be given to the student at the discretion of the instructor. No penalty for an alleged instance of academic misconduct may be imposed unless the student has been apprised of the allegation, the penalty, and the procedures of due process that are available.

A statement outlining formal college policies and procedures to be followed in cases of alleged academic misconduct is on file in each dean's office, the Academic Standards Office, in the Student Life Office and at bscintra.buffalostate.edu/dops/policysect8/080400.pdf

Cases of severe infractions of acceptable standards may be brought before the Academic Misconduct Board, chaired by the director of Academic Standards, and may result in academic dismissal.

Academic Probation and Dismissal

All graduate students are required to maintain a minimum cumulative GPA of 3.0 (4.0 scale). A student is automatically placed on probation if the GPA falls below 3.0.

Matriculated full-time students are given one semester, and matriculated part-time students are given 9 credit hours to achieve a 3.0 GPA, provided total credit hours do not exceed the degree program by more than 6. Failure to achieve a 3.0 GPA within the specified time results in academic dismissal. In addition, failure to maintain a minimum 3.0 GPA during

each semester of academic probation results in academic dismissal.

Premajor (undeclared) students must have a 3.0 GPA by the completion of 12 or more credit hours. Failure to achieve a 3.0 GPA by the completion of 12 or more credit hours of graduate-level coursework results in academic dismissal. A student with fewer than 12 credit hours automatically is placed on academic probation should the GPA fall below 3.0. Failure to achieve a 3.0 GPA by the completion of 12 credit hours results in academic dismissal. In addition, failure to maintain a minimum 3.0 GPA during each semester of academic probation results in academic dismissal.

Nondegree students have until the completion of the next semester in which enrolled to bring his or her GPA to 3.0 after being placed on academic probation. Failure to do so renders the student ineligible for further registration.

A student who has been academically dismissed must wait one full year from the time of dismissal before applying for readmission.

A student may be readmitted to the college only once after an academic dismissal. If readmitted, the student is automatically returned to academic probation if his or her cumulative GPA is below 3.0. The student then has one full-time semester or 9 credits of part-time study to achieve a 3.0 cumulative GPA, and must maintain a minimum of 3.0 GPA during each semester of academic probation. Failure to do so results in final academic dismissal.

Academic probation may also affect financial aid eligibility. Students must meet Satisfactory Academic Progress (SAP) standards to receive federal financial aid. For more information see the Financial Aid website (<http://financialaid.buffalostate.edu/graduate-federal-sap-policy>) or office at (716) 878-4902 and/or finaid@buffalostate.edu.

Alternative Methods of Earning Credit

- Course by Contract (p. 21)
- Cross Registration (p. 21)
- Independent Study (XXX 590) (p. 21)
- Special Topics (XXX 587), Workshops (XXX 594), Conferences (XXX 596), and Microcourses (XXX 598) (p. 21)

Course by Contract

Students who have been accepted to a graduate degree program and are in good standing may request to take a course by contract by contacting the department offering the course. The instructor must be a member of the college's graduate faculty, and the course must be among those already approved by the college.

Under this option, a graduate faculty member provides the student with a course outline, bibliography, and a statement of responsibilities and dates by which these are to be met. The number of student-instructor conferences, the type of evaluation, and the culminating activity is determined by the faculty member and the student prior to registration for the course. These requirements must be filed with the department chair. Before initiating a graduate course by contract, the student must register for the course using the Individual Graduate Study Application form, obtained from the department office, the Graduate School, or graduateschool.buffalostate.edu/forms. This form must be signed by the instructor, the department chair, and the school dean by the Individual Study Application deadline. Consult the academic calendar online at suny.buffalostate.edu/academic-calendar.

Cross Registration

Graduate students may cross-register to take graduate coursework at any SUNY institution. Students should be registered for at least one course at Buffalo State in order to cross register at another institution. Students are eligible to cross-register on a space-available basis for one course per semester (fall and spring semesters only). Students are only eligible to cross-register for a course that is not available at their home college and is listed and approved on the cross-registration form. Students will be billed directly by their home college for all credit hours including cross-registration.

Cross-registration forms are available in the Registrar's Office or online (<http://registrar.buffalostate.edu/cross-registration>). They must be signed by the student's adviser and returned to the Registrar's Office for signature. Students then take signed forms to the campus where the course will be taken, where they follow the registration procedures of that campus.

Transcripts are forwarded automatically to Buffalo State at the end of the semester. Courses taken through cross registration are recorded as if they had been taken at Buffalo State; the credit hours and grades are included in the student's cumulative GPA.

Independent Study (XXX 590)

Independent study provides an opportunity for a student to pursue a topic that may be covered only briefly or not at all in a regular course offering. Independent study is never a substitute for a regular course.

Independent study may be offered by any member of the college's graduate faculty. All independent study is listed by the appropriate content area prefix and the number 590 (e.g.,

CRJ 590). A maximum of 6 credit hours of independent study may be included in a master's degree program.

Students must register for graduate-level independent study by completing the Individual Graduate Study Application, available from academic departments, the Graduate School, or graduateschool.buffalostate.edu/forms. The application must include a written paragraph describing the proposed course, including the purpose, objectives, method of instruction (e.g., readings, individual consultations with instructor, etc.), and method of evaluation (e.g., research paper, examination, etc.). The application must be signed by the instructor, the department chair, and the school dean by the Individual Study Application deadline. Consult the Academic Calendar for appropriate deadlines, online at suny.buffalostate.edu/academic-calendar

Special Topics (XXX 587), Workshops (XXX 594), Conferences (XXX 596), and Microcourses (XXX 598)

Special topics, workshops, conferences, and microcourses are graduate courses offered—at variable times and places—on particular themes outside the usual schedule of classes. These courses also carry variable credit. Special topics emphasize an in-depth examination of rapidly and significantly changing disciplinary issues, topics, or practices. Workshops emphasize process and implementation of theory, and they involve participants in the accomplishment of individualized objectives on a specific theme. Conferences emphasize a unique, one-time experience on a given theme. Microcourses offer intensive instruction with a specific, limited objective. A maximum of 6 credit hours of special topics, workshops, conferences, and microcourses may be included in a master's degree program.

Course Load

1. Full-time status: Full-time academic status typically consists of a course load of 9 graduate-level credit hours per semester. Some departments, though, require that students take more credits for accreditation purposes (check with your department).
2. Graduate assistants: Full-time academic status for graduate assistants is 6-9 graduate level credit hours per semester. Final assignments are determined by the department supervising the GA appointment.
3. Last semester of study: Full-time academic status is granted to students in their final semester of study if they are working full-time on a master's project or master's thesis. Advisers and department chairs need to verify the student's workload in these cases.
4. Finances: In determining billing status, students pay tuition based on the number of credits they register for — up to 12 credits.
5. Financial Aid: To be eligible for financial aid, students must be enrolled as matriculated students in an eligible program of study. Other guidelines vary depending on the type of aid. Various state and federal financial aid programs require that students be registered for

12 graduate credits; loans typically do not. Students should contact the Financial Aid Office (<http://financialaid.buffalostate.edu>) or the Graduate School (<http://graduateschool.buffalostate.edu>) or details and personalized counseling.

6. Fully employed part-time students registered in the fall and spring semester should limit themselves to a maximum of two courses each semester.

Grade Point Average (GPA)

To earn a graduate degree or certificate, a student must maintain a minimum cumulative GPA of 3.0 (B grade) on a 4.0 scale in all graduate courses completed at the college. Transfer credits are not included in the average. Undergraduate coursework completed while working toward the graduate degree is not included in the average but is shown on the transcript. Grades received for coursework completed at another institution through cross registration are included in the average.

At the graduate level, grades of C (2.0) or higher may be applied toward credit requirements for a master's degree. Typically, no more than 9 credit hours with a grade of C can be accepted toward a master's degree, and some degree programs permit even fewer than 9 credit hours of C work. Grades of C- (1.67) or lower are not used to satisfy degree requirements. Grades of C- or lower may be repeated (see Repeating Courses (p. 23)).

Leave of Absence/Withdrawal from College

Leave of Absence

Matriculated graduate students who wish to leave the college for academic, financial, medical, military, or personal reasons may be granted leaves of absence of one full calendar year. Leaves may be renewed one time, for a maximum absence of up to two full calendar years. Students who do not either renew their leave of absence before its expiration or register for courses for the semester after their leave expires will be deactivated as students and must apply for readmission to the college when they are interested in resuming their progress toward a degree. Upon return from a leave of absence, students will be allowed to complete the program requirements in place at the time they took the leave of absence. Students who change their majors (p. 16) when they return will be required to meet the curriculum of the new program in place at the time of their return. Students should seek financial aid eligibility consultation and academic advisement before registering for courses for their return semester.

If a student wishes to take a leave of absence during a semester already in progress, a Leave of Absence form (<http://registrar.buffalostate.edu/forms-and-services>) must be received in the Registrar's Office no later than the last day of classes in that semester. A leave of absence will begin on the date a student initiates the leave of absence request; this date will be used to calculate financial aid eligibility.

Withdrawal from College

To maintain good academic standing and eligibility for readmission to the college, students finding it necessary to withdraw must do so officially. Failure to file for withdrawal will result in the recording of an E grade in each course in which the student is registered. When it is impossible to withdraw in person, it must be done in writing from the student to the Dean. Students withdrawing officially with no outstanding obligations or commitments to the college are considered to be in good academic standing. The Chair and Associate Dean must sign the Withdrawal from College form (<http://registrar.buffalostate.edu/forms-and-services>). A request to withdraw from the college must be received in the Registrar's Office no later than the last working day before the Critique and Evaluation Period.

Grading

The college uses letter grades (including plus/minus) to indicate the scholarly achievement of a student at the completion of a course. All grades are awarded at the sole discretion of the faculty member in charge of the course. A grade must be submitted for each student on the course roster at the end of the semester. Students are apprised of class evaluation policies in each class at the beginning of the semester. Questions regarding grading policies or a grade received in a particular course should be addressed to the instructor or the instructor's department chair.

Change of Grade

Grades submitted at the end of the semester are considered final. In case of a clerical error or other extenuating circumstance resulting in an incorrect grade, a request for a grade change must be submitted by the instructor, with full written justification, to the appropriate associate dean. In the event that the original instructor is incapacitated or otherwise unavailable, a change of grade may be submitted by the department chair. The appropriate associate dean must approve all grade changes and forward the grade change form to the Registrar's Office, Moot Hall 210.

Explanation of Grades

S (Satisfactory), and U (Unsatisfactory) grades are reserved for graduate theses, student teaching or other field experience that is not suitably evaluated using standard letter grades. SD (Satisfactory with Distinction) is reserved for graduate theses. S, SD and U grades may be given only for courses so designated. Incomplete (I) Grades: An instructor may submit a grade of I (Incomplete) only when circumstances leading to a student's failure to complete course requirements are known to be beyond the student's control (e.g., serious illness or unavailability of material) and only when the department chair or program coordinator has been properly notified. The student must complete course requirements and the instructor must submit a grade change by the 10th week of the following spring or fall semester or the grade automatically converts to an E (Failure). In the event that the instructor who granted the I grade is unable to evaluate whether the student has fulfilled the course requirements during the stipulated time period,

the chair or program coordinator takes responsibility for evaluating the student's work and changing the grade.

A grade of N (Grade Delayed) may be submitted in the case of research work, or internship that carries forward from one semester to another. When the work is completed, the instructor submits a grade change, replaced the N with a final grade.

A grade of IP (In Progress) is reserved for graduate students who have not completed their thesis or project requirement. When work is completed, the instructor submits a grade change, replacing the IP with a final grade. A grade of N (Grade Delayed) may not be submitted for a thesis or project.

A grade of NR (Not Required) must be submitted for any Thesis/Project Continuation (721) or Thesis/Project Extended (722) course.

A grade of W (Withdrawn) may be submitted only when a student has officially withdrawn from a course.

Grading System

Letter Grade	Description
A	Superior
A-	Above Average
B+	
B	Average (required minimum cumulative GPA)
B-	Below required average, but may be used to meet degree requirements
C+	
C	
C-	Below required average, but may not be used to meet degree requirements
D+	
D	
E	Failure or unofficial withdrawal
EV	Failure, never attended
S	Satisfactory
U	Unsatisfactory
P	Pass; may not be given for graduate coursework
F	Fail; may not be given for graduate coursework

The following letters are used to indicate status:

Letter Grade	Description
I	Incomplete
IP	In progress
N	Grade delayed
NR	Grade not required
X	Grade not submitted
W	Withdrawn

Repeating Courses

A student may repeat a given course once for which a C-, D+, D, E, or EV grade was earned. The repeated course must have the same prefix, number, title, and credit. The repeated course must be taken at Buffalo State. Only the passing grade and those credit hours completed will be used to calculate the GPA. Graduate students may repeat a maximum of two courses of the total degree program.

All grades remain on the permanent record. A passing grade will not replace a U grade, since the U is not computed in the GPA. Courses with letter grades A through C cannot be repeated. Illegally repeated courses are not used to calculate the cumulative GPA.

Practicum courses may differ. Contact the academic department.

Repeating courses affects financial aid. Contact the Financial Aid Office (<http://financialaid.buffalostate.edu>) for the current policy.

Once a student has completed a master's degree or certificate of advanced study, a final average for that degree or certificate is computed. Courses for that degree or certificate may not be repeated, and that final average is not affected by any subsequent coursework completed at Buffalo State.

Registration

Students are expected to complete registration within two weeks after they become eligible to register and to attend the first meeting of all classes in which they have enrolled.

Admission to All Education Programs

Applicants for the fall 2015 semester and beyond will be required to have a minimum collegiate GPA of 3.0 and to submit scores from a national test (GRE or MAT or a nationally normed test recommended by your specific program). The MAT test is offered at Buffalo State; contact the Graduate School (<http://graduateschool.buffalostate.edu>) for information. More information on the GRE can be found at www.gre.org (<http://www.gre.org>). Applicants who do not yet meet one or more of these minimum criteria should consult with advisors in the specific educator preparation program of choice for suggested pathways to achieve successful candidacy.

Advisement

The department chair/graduate coordinator designates a member of the graduate faculty to serve as an adviser to the student and to assist in planning the course of study. It is the student's responsibility to seek a conference with the adviser before registration, application to degree candidacy, and application for graduation.

Change of Name, Address

Students are responsible for notifying the Graduate School of any change of name or address so that registration information and other mailings can be properly directed. Download the Data Change Form (<http://graduateschool.buffalostate.edu/forms>) and submit it along with name change proof by fax to (716) 878-5630, email gradoffc@buffalostate.edu or mail to: The Graduate School, Cleveland Hall 204.

Dropping Courses

Students may drop courses online via self-service Banner through the first week of a fall or spring semester or the first two days of a Summer Session or January Term without financial penalty. Officially dropping a course removes all record of the course from the student's transcript, and no financial penalty is assessed.

Gmail

Check your Gmail account regularly, especially during registration. If you are on a waitlist, you should check your Buffalo State Gmail at least daily. Email notifications are sent when a seat becomes available. All correspondence to faculty members or college staff should be sent from your Buffalo State student Gmail account.

Immunization Requirement

All students born on or after January 1, 1957, are required to submit proof of immunization against measles, mumps, and rubella. All students must submit a completed Meningitis Information Response Form (<http://weigel.buffalostate.edu/forms>) indicating immunization or decision not to obtain immunization. Students who do not submit proof of immunizations are not permitted to register. Contact the Weigel Health Center to submit proof of immunizations or for more information at (716) 878-6711 or <http://weigel.buffalostate.edu>.

Withdrawal from Courses

Students who wish to discontinue a course after the drop/add period but before the final withdrawal date (the end of the 10th week of the semester or the equivalent point in a Summer Session or January Term; see Academic Calendar (<http://suny.buffalostate.edu/academic-calendar>)) may withdraw online via self-service Banner.

A course from which a student has officially withdrawn remains on the transcript, recorded as W, but does not count in credit hours or GPAs.

Instructors are required to apprise students of their academic standing no later than the end of the ninth week of the semester (or the equivalent point in a Summer Session or January Term; see Academic Calendar (<http://suny.buffalostate.edu/academic-calendar>)). If a student stops attending but does not officially withdraw from a class, a grade of E (Failure or unofficial withdrawal) is recorded.

An exception may be made for unusual circumstances beyond the student's control. In such cases, procedures for Waiver of Academic Regulations apply. Withdrawal from a course may affect eligibility for financial aid in current and future semesters. For additional information about financial aid eligibility, refer to the Financial Aid section (p. 34) of this catalog or financialaid.buffalostate.edu.

Students withdrawing from coursework may be eligible for a tuition refund in accordance with the schedule (<http://buffalostate.edu/graduate/tuition-refunds.htm>). No refunds are issued beyond the end of the refund period.

A student who does not register for any course or withdraws from all courses during his or her first semester should inform the Graduate School.

Auditing Courses

Graduate students who are registered for one or more courses may audit courses, provided they have the approval of the department chair and the course instructor. An auditor attends a course without formal recognition, is not on the official class list from the Registrar's Office, is not required to meet the course requirements, is not charged tuition or fees for the course, and does not earn credit for the course.

Special audit: Individuals age 60 or older may audit courses on a space-available basis with the approval of the instructor. Arrangements can be made through the Admissions Office (<http://admissions.buffalostate.edu>), Moot Hall 110, (716) 878-4017.

Certificate Programs Offered

Buffalo State offers various graduate certificate programs. All of the programs are registered with the New York State Education Department as "Advanced Certificate" programs. The programs are offered and delivered by Buffalo State as the Advanced Graduate Certificate, or Certificate of Advanced Study. As required by NYS regulation, all graduate course work applicable to any of these graduate certificate programs must be applicable to one or more graduate degree programs offered by Buffalo State.

Credit Requirement

Credit requirements for graduate certificate programs vary greatly and are established in program design at the time of establishment and registration. Generally, the Advanced Graduate Certificate requires in the range of 12–21 graduate credits; and the Certificate of Advanced Study, generally involving study beyond the master's level, requires 15–43 graduate credits beyond the baccalaureate.

Program Regulations

Individual graduate certificate programs may include various additional requirements beyond those stated here. The official curriculum as detailed in the Graduate Catalog should always be examined to determine if additional requirements exist within the graduate certificate program.

Residence Study Requirements

For graduate certificate programs, at least 50% of the total credits must be completed through study at Buffalo State. Departments reserve the right to require more than 50% be completed through study at Buffalo State.

Statute of Limitations and Advanced Standing

All requirements for the certificate must be completed within six calendar years from the date of initial registration in the program. Prior course work completed and presented by the student for advanced standing in the program at the point of admission shall be subject to review and approval for inclusion by action of the program faculty.

State Mandated Seminars for Education Programs

In addition to academic requirements, students who are enrolled in teacher education programs leading to Initial Certification or Initial/Professional certification are required to complete all seminars specifically required by New York State for program completion and graduation, including School Violence Prevention and Intervention (SAVE); Identification and Reporting of Child Abuse and Maltreatment; Alcohol and Other Drug Avoidance; Fire and Arson Safety; HIV and the Classroom; and Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training). These seminar requirements are subject to change. Candidates who hold Initial Certification in New York State who are seeking Masters Degrees leading to Professional Certification, are required to show proof of having completed DASA Training. No additional workshops are required at that level.

Transcripts

Official Transcripts

Official transcripts are ordered online and there is a \$9 fee per request (<http://registrar.buffalostate.edu/transcript-ordering>). Online transcript orders that select the Buffalo State Registrar's Office pick-up option require proper photo ID at the time of pick-up. Transcript requests will not be processed for students who have incurred a financial obligation to the college.

Unofficial Transcripts

Current students who know their Banner ID and PIN can access self-service Banner to view or print an unofficial transcript to assist in academic planning. There is no fee for viewing or printing an unofficial transcript. Unofficial transcripts are not available to students who do not have access to the Banner SSB portal.

Verification of Records

Current students who have access to the Banner SSB portal (under student records tab) can print an online enrollment

verification (https://banner.buffalostate.edu/pls/PROD/twbkwbis.P_GenMenu?name=homepage).

Unit of Credit

The semester hour is the unit of course credit. It represents completion of one 50-minute class period per week for one semester. A course having three class periods a week will earn 3 semester hours of credit. Studio and laboratory classes usually earn 1 credit for each two hours of attendance unless otherwise indicated. The college expects student preparation of two hours for each hour in class.

Quality Point System

The quality point system is used for determining GPAs, as follows:

Letter Grade	Description
A	4.0
A-	3.67
B+	3.33
B	3.0
B-	2.67
C+	2.33
C	2.0
C-	1.67
D+	1.33
D	1.0
E	0.0
EV	0.0

No other letters carry quality point value.

Term GPA

A student's term GPA is computed by dividing the total number of quality points by the total number of credit hours attempted in one semester. Only grades carrying quality points are included. For example, consider a student with the following courses and grades at the end of a semester.

Course	Grade	Credit	Quality Point Value	Points
MAT 161	B-	4	(x2.67)	10.68
SOC 101	A	3	(x4)	12.00
ENG 250	E	3	(x0)	0
HEW 101	C	1	(x1.33)	2.00
PHI 220	D+	3	(x1.33)	3.99
Total		14		28.67

The student has attempted 14 credit hours, successfully completed 11, and earned 28.67 quality points. The formula for computing this student's term average follows: $28.67 / 14 = 2.04$

$(\text{Term Quality Points} / \text{Term Credit Hours}) = (\text{Term GPA})$

If the student had taken an additional 3-credit-hour course, DES 371, and received a P grade, the average would not change. If the student received an F grade in DES 371 using the pass-fail option, the average would not change.

Student Complaints, Grievances, and Appeals

Buffalo State complies with New York State Education regulations requiring that campuses have procedures in place for filing complaints and seeking resolution of perceived problems.

Academic Appeals: Waiver of Academic Regulations

Students are expected to adhere to all regulations of the college. However, unusual and extenuating circumstances may warrant a modification of certain regulations.

Students should not request a waiver of any regulations without very strong evidence to justify the waiver.

Requests for waivers are made by completing an Academic Appeals Petition in the Academic Standards Office (<http://academicstandards.buffalostate.edu>), Twin Rise 100.

The assistant dean for University College/director of Academic Standards, makes decisions on requests for waivers that do not relate to a student's major after consulting with the Academic Appeals Committee. The assistant dean's decision is final. A minimum of one month is necessary to process academic appeals.

Decisions on requests for a waiver related to a student's major are made by the appropriate department chair in accordance with procedures established by the department or area faculty.

Complaints to State Education Department

Any individual who continues to feel aggrieved after pursuing the options outlined previously, is unable to resolve the problems, or believes the institution has not properly addressed the concerns may file a written complaint with one of the following:

State University of New York
Central Administration
State University Plaza
Albany, NY 12246

New York State Education Department
Office of College and University Evaluation
Education Building
5 North Mezzanine
89 Washington Avenue
Albany, NY 12234

Middle State Commission on Higher Education
3624 Market Street
2nd Floor West
Philadelphia, PA 19104

Student Academic Grievance Procedures

The procedures that follow pertain to alleged violations or misapplication of college and/or course policies. They are also directed at a student grievance alleging that the student has been treated unfairly, in violation of established academic policy or practice. These procedures reflect the college's commitment to a fair and prompt resolution of student academic grievances.

These procedures begin with an informal process, but include a formal process that centers on hearings and recommended resolution of the grievance in a way that maximizes the opportunity for a full and impartial solution. Request to waive or otherwise alter college academic policies shall continue to be the province of the Academic Appeals Committee (see Waiver of Academic Regulations (p. 26) section).

The procedures below do not deal with grievances that are based on issues of sexual harassment or discrimination. Such grievances are handled through the Equity and Campus Diversity Office (<http://equity.buffalostate.edu>). Similarly, complaints that deal with other nonacademic issues are administered by the Dean of Students Office (<http://deanofstudents.buffalostate.edu>) (see previous section).

For academic grievances, students are advised to retain all documentation from the course, including (but not limited to) the syllabus, tests, quizzes, papers, and any graded evaluations. These materials are required to substantiate any grievance.

1. *Jurisdiction*

A grievance shall include, but not be restricted to, a complaint by a student:

- a. That college regulations and/or policies have been violated or misapplied to him or her.
- b. That he or she has been treated unfairly, defined in terms of established academic policy or practice governing or affecting students at the college.

2. *Time Limit*

- a. At the informal level before the fifth week of the following semester.
- b. At the formal level before the 10th week of the following semester.

3. *Grievance Resolution Process*

The process includes the possibility of hearings at two levels: the department and the school.

- a. At the department level, a student with a complaint should attempt to resolve the complaint informally with the faculty or staff member involved. The assistance of the chair may be sought to resolve the dispute to the satisfaction of both parties. A student must initiate the process no later than five weeks into the following semester. The student who is not able to achieve resolution with the instructor may initiate a formal grievance or grade appeal process no later than 10 weeks into the following semester by preparing a written statement, which includes:
 - i. A statement of the case in detail.

- ii All information about the conference with the instructor.
- iii A statement of the reasons the student believes he or she is aggrieved or, in the case of a grade, why it should be reconsidered.
- iv All relevant supporting materials, which should be identified and listed in an index.

The student shall submit complete copies of the written statement and attachments to the chair of the department and the faculty member identified in the grievance. The chair shall carefully review the statement, confer with the student and instructor, and attempt to reach a resolution of the dispute. The chair may ask members of the department to serve as a committee to review the materials and assist him or her in reaching a decision. The chair's response must be made within 10 days of the date of the student's request.

In conformance with state regulations, the department shall maintain adequate documentation about each formal complaint and its disposition for at least six years after final disposition of the complaint. If the department chair is the party against whom the grievance is brought, the student should initiate a review at the dean's level, which follows.

- b. If the matter is not resolved to the student's satisfaction at the departmental level, he or she may request a hearing at the school level by writing to the dean of the school and forwarding the documentation to that office. The request must be made within 10 academic days of the receipt of the recommendation of the department chair.

The dean or designee shall convene a three-person committee drawn from a panel of available faculty within 10 days. Such committee shall include one faculty member from the department in which the faculty member resides. Furthermore, after the committee is constituted, the faculty member and the student have the right to review the committee membership and request alternate members in the event it is believed a member of the committee is not neutral. The committee shall meet and review the materials presented and solicit a response from the instructor to each count of the student's case. In the case of a grade appeal, the committee will familiarize itself with the standards and objectives of the course and evaluative material presented. Concerns shall be limited to consideration of the fairness of the application of the standards and objectives, and whether the standards and objectives were made known to the student in a reasonable manner. The difficulty of the standards shall not be an issue.

The burden of proof shall be on the student, who may be asked to appear before the committee.

In the case of a grade appeal, if the majority of the committee feels no case can be made, the original grade will remain. If it finds that the standards and objectives were not reasonably known to the student or were unfairly applied, it may recommend a different grade and give its reasons for so recommending. The

committee shall report its findings in writing to the student, the instructor, and the dean.

If the panel recommends a different grade, the instructor shall have 10 working days from receipt of the panel's report to inform the dean of the school of the intent to change the grade. If necessary, the dean may direct that the grade be changed. A change of grade shall not be interpreted as an admission of unfairness in grading.

In the case of a grievance, if the majority of the committee members adjudge the grievance to be without foundation, written notification of their findings will be forwarded to the student, the instructor, and the dean of the school. If, in the judgment of the committee, there is a basis for the grievance, a written report will be forwarded to the dean of the school with specific recommendations for redress. Copies shall be forwarded to the student and the instructor.

The dean of the school will notify all parties of his or her final decision regarding the grievance within 10 working days of receipt of the committee's findings and recommendations.

In conformance with state regulations, the dean's office shall maintain adequate documentation about each formal complaint and its disposition for at least six years after the final disposition of the complaint.

4. *Committees*

Committee members shall be drawn from a list of faculty nominated by departments. In naming the committee to hear a grievance, the dean shall take care to ensure that no member has an interest in the case being heard.

5. *Confidentiality*

Once the grievance committee has been convened to hear a complaint, principals and committee members shall have the obligation to maintain the confidentiality of the proceedings and of all materials presented.

6. *Review*

This procedure must be reviewed after two years. The review process should identify any irregularities in grade changes. To facilitate this review, a copy of all documentation/findings at the formal level shall be retained in the department office.

Student Complaints Regarding Academic Issues

The procedures outlined in the next section pertain to complaints about academic issues other than those dealing with waiver of college wide academic regulations or graduation issues, which are addressed by petitions to the Academic Appeals Committee. The college seeks to resolve student grievances as promptly and informally as possible. No adverse action will be taken against any student initiating a complaint.

Students who feel aggrieved regarding any aspect of the academic program have a right to request a resolution by bringing the matter to the attention of the appropriate college

personnel. The academic appeals process regarding a waiver of academic regulations is outlined in the Waiver of Academic Regulations (p. 26) section. If the perceived problem pertains to a grade or the conduct of a particular course, students should follow the Student Academic Grievance Procedures (p. 26) explained below.

Student Complaints Regarding Discrimination

If the complaint involves alleged harassment or discrimination based on race, sex, ethnicity, national origin, sexual orientation, religion, age, disability, or marital or veteran status, the student should use procedures administered through the Equity and Campus Diversity Office (<http://equity.buffalostate.edu>), Cleveland Hall 415. Acts of discrimination should be reported immediately to this office for confidential discussion of the alleged acts. Students have 90 days from the alleged act of discrimination or 90 days after receipt of a grade to file a complaint. A copy of the procedures may be obtained from the Equity and Campus Diversity Office.

Student Complaints Regarding Distance Learning

New York State Residents

SUNY students should attempt to resolve complaints with the campus itself. However, any New York State resident who is unable to resolve the problems should contact:

State University of New York System Administration
Provost's Office
State University Plaza
Albany, NY 12246

Non-New York State Residents

Students should try to resolve the complaint with campus personnel first. If the problem does not get resolved, students can work with an agency in their home state to have their complaint addressed. The U.S. Department of Education regulations require each State to have a process to handle complaints for all institutions in the State, except Federally run institutions (including the service academies) and tribal institutions such as tribally controlled community colleges.

The State Contact Information at the linked list has been collected by the State Higher Education Executive Officers (SHEEO), and it will be updated as additional information becomes available. SHEEO provides further resources relating to state authorization of distance education at <http://sheeo.org/stateauth/stateauth-home.htm>. Students should contact the agency listed in their home state if they seek further assistance.

Student Complaints Regarding Nonacademic Issues

If the complaint involves nonacademic issues, the student should deal with procedures administered by the Dean of

Students Office (<http://deanofstudents.buffalostate.edu>), Campbell Student Union 311. However, students are encouraged to seek resolution of the perceived problem directly in the unit in question before initiating processes that are more formal.

Students Unable to Attend Classes on Certain Days Because of Religious Beliefs

1. No person shall be expelled from or be refused admission as a student to an institution of higher education because he or she is unable, due to religious beliefs, to register for or attend classes, or to participate in any examination, study, or work requirements on a particular day or days.
2. Any student in an institution of higher education who is unable, because of his or her religious beliefs, to attend classes on a particular day or days shall, because of such absence on the particular day or days, be excused from any examination or any study or work requirements.
3. It shall be the responsibility of the faculty and the administrative officials of each institution of higher education to make available to each student who is absent from school, because of his or her religious beliefs, an equivalent opportunity to register for classes or make up any examination, study, or work requirements that he or she may have missed because of such absence on any particular day or days. No fees of any kind shall be charged by the institution for making available to the said student such equivalent opportunity.
4. If registration, classes, examinations, study, or work requirements are held on Friday after 4 p.m. or on Saturday, similar or makeup classes, examinations, study, or work requirements shall be made available on other days, where it is possible and practical to do so. No special fees shall be charged to the student for these classes, examinations, study, or work requirements held on other days.
5. In effectuating the provisions of the Education Law, it is expected that faculty and administrative officials will exercise the fullest measure of good faith. No adverse or prejudicial effects shall result to any student for availing himself or herself of the provisions of this section.
6. Any student who is aggrieved by the alleged failure of any faculty or administrative official to comply in good faith with the provisions of this section shall be entitled to maintain an action or proceeding in the supreme court of the county in which such institution of higher education is located for the enforcement of his or her rights under this section.
7. The term "religious beliefs" shall mean beliefs associated with any corporation organized and operated exclusively for religious purposes, which is not disqualified for tax exemption under Section 501 of the United States Code.
8. At Buffalo State College, we sharpen the mandate of the state and endorse the policy that prohibits administering evaluative examinations on Rosh Hashanah, Yom Kippur, and Good Friday.

Notification of Rights under the Family Education Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights include:

1. The right to inspect and review the student's education records within 45 days of the day the college receives a request for access. A student should submit to the registrar, dean, head of the academic department, or other appropriate official a written request that identifies the record(s) the student wishes to inspect. The college official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the college official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of the student's education records that the student believes are inaccurate, misleading, or otherwise in violation of the student's privacy rights under FERPA. A student who wishes to ask the college to amend a record should write the college official responsible for the record, clearly identify the part of the record the student wants changed, and specify why it should be changed. If the college decides not to amend the record as requested, the college will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
3. The right to provide written consent before the college discloses personally identifiable information from the student's education records, except to the extent that FERPA authorizes disclosure without consent. The college discloses education records without a student's prior written consent under the FERPA exception for disclosure to school officials with legitimate educational interests. A school official is a person employed by the college in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the college has contracted as its agent to provide a service instead of using college employees or officials (such as an attorney, auditor, or collection agent); a person serving on the College Council; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks; and National Student Clearinghouse officials. A school official has a legitimate educational interest if the official needs to review an education record to fulfill his or her professional responsibilities for the college. Upon request, the college also discloses education records without consent to officials of another school in which a student seeks or intends to enroll. Buffalo State hereby designates the following categories of student information as public or directory information.

Such information may be disclosed by the institution for any purpose, at its discretion.

- a. Name, address, electronic mail address, telephone listing, dates of attendance, enrollment status (e.g., undergraduate or graduate; full-time or part-time), class level, and academic adviser.
- b. Most recent educational agency or institution attended; major field of study; degrees, honors, and awards received.
- c. Participation in officially recognized activities and sports, weight and height of members of athletic teams, date and place of birth, photographs.

Currently enrolled students may withhold disclosure of any category of information under the Family Educational Rights and Privacy Act of 1974. To withhold disclosure, written notification must be received by September 15 in the

Registrar's Office

Moot Hall

Buffalo State

1300 Elmwood Avenue

Buffalo, NY 14222-1095.

Nondisclosure of information will commence thereafter and be effective until September 14 of the following year. Written notification to withhold disclosure must be made each academic year.

Buffalo State assumes that failure on the part of any student to specifically request the withholding of categories of directory information by the deadline date indicates individual approval for disclosure.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by Buffalo State to comply with the requirements of FERPA. The name and address of the office that administers FERPA is

Family Policy Compliance Office

U.S. Department of Education

400 Maryland Ave., SW

Washington, DC 20202- 5901.

Assessment

Buffalo State is committed to fostering the academic achievement and personal development of its students. To carry out this commitment, the college continuously gathers information about the effectiveness of its academic programs, the progress of students toward educational and personal goals, and the achievements and perspectives of alumni. This information is used to monitor program effectiveness, to recognize educational trends and opportunities, and to develop a sound, factual basis for academic planning.

Each Buffalo State student is expected to participate in the college's assessment efforts. Academic programs use various assessment methods. Student participation in these activities may be a completion requirement for some degree programs.

FINANCES

Electronic bills (eBills) are now the exclusive billing method for all Buffalo State student account balances. Paper bills are no longer mailed to students. Students should print their QuikPAY statement if needed. All e-billing notifications will be sent to your Buffalo State student email address.

Students are required to pay tuition and fees upon receipt of invoice with cash, credit card, or through a deferred payment plan. Deductions will be made under various financial aid programs upon approval of the Financial Aid Office.

Room and board charges must be paid prior to arrival on campus. These charges are usually included in the bill covering tuition and fees. **The rates listed below are subject to review and may change without prior notice.**

Further information concerning payment is available in the Student Accounts Office, Moot Hall 260, (716) 878-4121, studentaccounts.buffalostate.edu.

Explanation of Terms

Full time—A student registered for 12 or more credit hours a semester is considered a full-time student.

Part time—A student registered for 1 to 11 credit hours a semester is considered a part-time student.

Semester—An academic year at the college consists of a fall semester and a spring semester. Yearly expenses are twice the semester rate.

Resident (for tuition purposes)—As established by the State University Board of Trustees, an individual university registrant is considered a New York State resident and is charged in-state tuition rates when that individual is determined to have a permanent and principal home in New York State for 12 months prior to registration. Those who do not meet this requirement are presumed to be out-of-state residents and are charged out-of-state tuition rates unless satisfactory proof is presented to show that domicile in New York State has, in fact, been established.

Tuition

Tuition for full-time Buffalo State College graduate students is \$5,435 per semester for New York State residents and \$11,105 per semester for out-of-state students. Tuition for part-time graduate students is \$453 per credit hour for New York State residents and \$925 per credit hour for out-of-state residents.

Tuition for Undergraduate Coursework

Matriculated (degree-seeking) graduate students pay graduate tuition rates for any undergraduate coursework taken, regardless of its applicability to the student's degree program.

Postbaccalaureate, premajor, undeclared, and nondegree students are charged undergraduate tuition rates for undergraduate coursework and graduate tuition rates for graduate coursework. Full-time registration cannot be less than \$3,335 or more than \$5,435 (New York State resident tuition rates).

Fees

Graduate Student Fee

A mandatory graduate student fee of \$42.00 per semester for full-time students and \$3.50 per credit hour for part-time students is collected from matriculated students to fund the Graduate Student Association.

College Fee

A mandatory college fee of \$12.50 per semester for full-time students and \$.85 per credit hour for part-time students is collected by all units of the State University system to finance the operating budget.

Health Fee

All full-time students are required to pay a \$157.50 per semester health fee; part-time students pay \$13.15 per credit hour per semester. This fee provides basic medical assistance to students on campus through the Weigel Health Center. A mandatory health fee is collected by all units of the State University system.

Waiver for off-site distance-education students

Students enrolled exclusively in off-campus or distance learning courses with no on-campus meetings may be eligible for a waiver or refund of the student health fee (not the mandatory health insurance), provided they are not concurrently enrolled in on-campus courses. If a student is enrolled in both on-campus and off-campus or distance learning courses, the health fee applies to all courses for which the student is registered. Fee waiver is granted for Buffalo State students who meet one of these three conditions:

- Those who are enrolled in study-abroad
- Those who reside outside of Erie and Niagara counties and are enrolled exclusively in on-line courses that never meet on campus

- Those who reside outside of Erie and Niagara counties and are enrolled exclusively in other types of classes that never meet on campus

Fee waivers are not automatic. A student seeking fee waivers must apply for them.

Technology Fee

A mandatory technology fee of \$167.50 per semester for full-time students and \$14.00 per credit hour for part-time students is collected to provide enhancements to campus technology.

These fees are refunded only when registration is canceled during drop/add period.

Parking Fee

Students who wish to park on campus pay \$70 per academic year and \$10 for summer-only permits.

The parking fee is refundable within the first two weeks of class upon surrender of the parking permit.

Room and Board

Residence hall room rates are \$4,008 per semester for a double-occupancy room. Room rental does not include telephone service, which students arrange with the telephone company. Student Apartment Complex rooms start at \$5,250 per semester; Moore Complex starts at \$4,514 for double occupancy. Meal plan rates vary, starting at \$1,875 per semester.

Miscellaneous Expenses

Miscellaneous expenses will vary depending on the student's academic program, personal spending habits, and commute distance.

Mandatory Student Health Insurance

The Buffalo State College student health insurance plan has been developed especially for Buffalo State College students. The plan provides coverage for sickness and injuries that occur on and off campus and includes cost-saving features to keep the coverage as affordable as possible.

All full-time domestic undergraduate and graduate students who attend Buffalo State College are eligible and automatically enrolled in the Buffalo State College student health insurance plan unless an online waiver providing proof of health insurance coverage is completed by the applicable deadline.

Part-time domestic students are eligible to purchase this coverage, during open enrollment; however, they are not automatically enrolled in the plan. Spouse and dependent coverage is available.

Please visit weigel.buffalostate.edu for enrollment information or to complete the online waiver or contact the Weigel Health Center at (716) 878-6711.

International students must purchase the SUNY International Health Insurance or have comparable coverage.

International Student Health Insurance

All international students must be enrolled in a group health insurance plan either through SUNY Buffalo State or a private group plan that has comparable coverage. Students with a private health insurance policy with comparable coverage to the SUNY-mandated health insurance may request to waive the SUNY Buffalo State insurance with approval by Weigel Health Center. The premium is \$1,302.00 per year for August 15, 2017, through August 14, 2018. Premiums are prorated for coverage during the academic year. The premium is subject to change each year. All American students studying abroad must carry this insurance.

Summer Session Tuition and Fees

Tuition and fees are charged at the credit-hour rate for all courses taken during Summer Session.

An Estimated Budget

Estimated college costs can be found in the following table for the 2017–2018 academic year. Costs may vary according to a student's place of residence, academic program, and individual needs. All tuition rates, fees, and fines are subject to change without notice as directed by the State University Board of Trustees.

Estimated Budget Per Semester for 2017–2018 New York State Resident

Cost Type	Commuter	Resident
Fixed costs (per semester)		
Tuition	\$5,435.00	\$5,435.00
Fees	\$379.50	\$379.50
Total fixed costs	\$5,814.50	\$5,814.50
Variable costs (per semester)		
Books and supplies	\$519.00	\$519.00
Maintenance at home	\$2,735.00	
Room & Board		\$6,743.00
Miscellaneous expenses	\$750.00	\$750.00
Transportation	\$840.00	\$604.00
Total variable costs	\$4,844.00	\$8,616.00
Estimated total costs/semester	\$10,658.50	\$14,430.50
Estimated annual costs (two semesters)	\$21,317.00	\$28,861.00

Automatic Payment Plan

The college has established a payment plan to assist students and their families in meeting the cost of tuition, fees, and room and board. Information and online enrollment are available from the Student Accounts Web site at studentaccounts.buffalostate.edu.

Refund Policies

All financial refunds are sent to students in the following order:

1. Transferred electronically to the student's bank account if a direct deposit application is on file in the Student Accounts Office;
2. Mailed to the permanent address of record on file in the Registrar's Office.

Graduate students are responsible for informing the Graduate School of any address change. Download an address change form at graduateschool.buffalostate.edu/forms and fax it to (716) 878-5630.

Tuition Refunds

Tuition refunds will be processed only if the student officially withdraws through the Registrar's Office. Students given permission to cancel their registration are responsible for payment of tuition according to the following schedule:

Spring and Fall Semesters

Date of Course Withdrawal	Tuition Liability
First week of class ¹	0%
Second week	30%
Third week	50%
Fourth week	70%
After fourth week	100%

Summer Sessions

Date of Course Withdrawal	Tuition Liability
First two days of Session A, B, or C	0%
Third day through end of first week of Session A or B	50%
Third day through end of first week of Session C	65%
Second week of Session A, B, or C	100%

¹ The first week of class ends on Saturday of the week in which classes are scheduled.

Board Charges

Refunds are calculated according to college and federal regulations and guidelines, less a \$20 service charge for processing. No refunds are given after the drop/add period at the start of each semester. Contact the Buffalo State Campus

Dining Services Office, Campbell Student Union 223, for additional information.

Room Rentals

During the fall and spring semesters, a refund can be made only if a student withdraws due to circumstances beyond his or her control. Questions covering refunds are addressed in the residence hall license.

Service Fees

The following fees are administered to comply with mandatory State University of New York policy:

Late Registration Fee

Registrations on "late registration day" (the first day of classes) or later are charged a mandatory \$40 late registration fee that cannot be waived or deferred. Exceptions are registrations for graduate workshops, independent study, special projects, contracts, and courses requiring performance auditions. Registrations for independent study, special projects, or contracts turned in after the second week of classes that generate the only registration for a student also are assessed the \$40 late fee.

Billing Fee

A billing fee of \$30 is assessed to each delinquency notice sent by the college. Late filing of financial aid does not waive this fee. All financial aid should be filed by March 1.

Late Payment Fee

A \$30 fee is charged if the semester bill is not paid by the due date.

Late Drop/Add Fee

A \$20 late drop/add fee is charged for each transaction after the first week of classes. Independent study, special projects, or contracts added after the second week of classes also are charged this fee.

Academic Transcript Fee

There is a \$5 fee for each transcript request.

Returned-Check Fee

A \$20 fee is charged for each check returned by the bank or any declined credit card transaction. The fee is nondeferrable and cannot be waived. An additional billing fee is charged on any transaction covering a course and/or room registration. If payment is not received within 10 days from the date of notification, the account is referred to the New York State Attorney General's Office for collection and handling.

Graduate Admission Application Fee

A nonrefundable \$65 processing fee must accompany the application for admission to a graduate program at Buffalo State. Payment of the fee is not contingent on any action or decision the college may render on the application, or on any subsequent decision by the applicant to withdraw the application.

New York State Debt Collection Mandate

The State University reserves the right to withhold academic records from any student who has not satisfied or made provision to satisfy all obligations incurred in the State University system. Unpaid accounts are, in due course, turned over to an external collection agency. Collection costs are added to the amount of indebtedness.

Teacher Waiver Certificates

Supervising (critic) teacher tuition waiver certificates may be redeemed in accordance with the regulations printed on the certificate. A student must be a full-time teacher in the district to use a waiver certificate. A certificate may be redeemed for any term scheduled to begin after the effective date but before the expiration date on the certificate.

Waivers may be transferred between professional employees of the same school district. Transferred certificates must be signed by the district administrator.

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 college fees, which must be paid by the student. Transferred waivers are not accepted after the fourth week of classes. For Summer Session, transferred waivers are not accepted after the first registration date of any session.

FINANCIAL AID

The goal of the Financial Aid Office is to assist students with securing sufficient funding to cover their educational expenses. According to our records, the vast majority of graduate students receive some form of financial aid (federal; state; institutional; private) while attending SUNY Buffalo State.

Staff members in the Financial Aid Office, Moot Hall 230, are available year-round to assist students and their families with the financial aid application process. The staff adheres to the industry's Codes of Conduct (<http://financialaid.buffalostate.edu/conduct>).

Contact the Financial Aid Office at (716) 878-4902 and/or finaid@buffalostate.edu. Additional information is available on-line at financialaid.buffalostate.edu.

Application Procedures

There are multiple steps in the financial aid application process. Students must file the Free Application for Federal Student Aid (FAFSA) after January 1st of each year to apply for aid for the upcoming year.

Federal Student Aid

The Free Application for Federal Student Aid (FAFSA) can be found on-line at fafsa.gov (<http://www.fafsa.gov>). To expedite this process a student will need to have an FAFSA ID (<https://fsaid.ed.gov/npas>) (replaces the Federal Student Aid PIN). The FAFSA ID (<https://fsaid.ed.gov/npas>) serves as the individual's electronic signature on official financial aid documents.

After submitting the FAFSA, (<http://www.fafsa.gov>) a student will receive a Student Aid Report (SAR) from the federal processor. This form contains the data the student entered on the FAFSA (<http://www.fafsa.gov>). The Department of Education will send it to the student either by e-mail (3-5 days; if signature page used: 2 weeks) or postal mail (7-10 days; if signature page used: 2 weeks). Students must review the SAR carefully for errors (the form highlights items that may need attention) and follow directions for making corrections. Students are encouraged to submit corrections promptly to avoid long delays in processing of their application. Students should retain a copy of the SAR for their records.

Graduate Tuition Scholarship Opportunity Program (EOP, SEEK, HEOP)

The State University of New York offers a Graduate Tuition Scholarship Opportunity Program to eligible students who are New York State residents and graduates of SUNY's Educational Opportunity Program (EOP); City University of New York's Search for Education, Elevation, and Knowledge (SEEK) Program; or the Higher Educational Opportunity Program (HEOP) conducted by private colleges. Applicants must provide written verification of participation in EOP, HEOP, or SEEK.

For additional information, contact the Graduate School, Cleveland Hall 204, (716) 878-5601, graduateschool.buffalostate.edu/scholarships

SUNY Graduate Diversity Fellowship Program

The Graduate Diversity Fellowship Program is a SUNY-wide initiative that offers fellowships to students who have been admitted to graduate or professional study. This program is intended to assist in the recruitment, enrollment and retention of students in doctoral and master's level programs who can demonstrate that they contribute to the diversity of the student body, especially those who can show that they have overcome a disadvantage or other impediment to success in higher education. Applicants must be U.S. citizens or permanent residents. A student who is awarded a Graduate Diversity Fellowship must enroll full time (9 graduate credit hours in his or her degree program) each semester to receive a stipend and/or tuition scholarship. College fees are paid by the student. Fellows must maintain a 3.0 cumulative GPA each semester to continue to receive funding and may receive funding for up to three semesters. Fellowships are available for fall and spring semesters only. For more information, visit the Graduate School. (<http://graduateschool.buffalostate.edu/fellowships>)

Graduate Assistantships

Graduate assistantships (<http://graduateschool.buffalostate.edu/assistantships>) are available through various academic departments and administrative offices on campus. Duties of graduate assistants consist of nonteaching functions such as grading papers,

monitoring exams, assisting in administrative assignments, or participating in research projects.

Assignments range from 10 to 20 hours per week and provide stipends from \$2,500 to \$6,000 per academic year. A graduate assistant may receive a tuition award and a stipend. A tuition scholarship, if awarded, is for a maximum of 9 graduate credits each fall/spring semester. Stipends and/or tuition awards do not cover college fees, which are the responsibility of the student.

Graduate students appointed to an assistantship must be in good academic standing in a degree program with a minimum GPA of 3.0 and maintain registration (nine credit hours) concurrent with the appointment.

A list of available assistantships can be found at jobs.buffalostate.edu/.

Military, Veteran, and Dependent Benefits (Location: Cleveland Hall Room 210)

Military, Veterans, and/or Dependents (i.e., Spouse/Child) may be able to receive aid for approved postsecondary study. To find out what your eligibility is, please contact the Veteran and Military Services at (716) 878-5907.

Aid for Students with Disabilities

Students with disabilities pursuing higher education may be eligible for assistance through the state Adult Career and Continuing Education Services – Vocational Rehabilitation (ACCES-VR) or Office of Children and Family Services, Commission for the Blind and Visually Handicapped (CBVH). Criteria and funding vary. Applications and eligibility requirements may be obtained at the Buffalo-area offices or at your local area offices for ACCES-VR and CBVH.

Aid to Native Americans

The U.S. Bureau of Indian Affairs offers need-based grants for college study to applicants who are enrolled tribal members of an American Indian, Eskimo or Aleut tribe, band, or group recognized by the Bureau of Indian Affairs. An application is necessary for each year of study and must be accompanied by an official needs analysis from the Financial Aid Office after submission of the Free Application for Federal Student Aid (FAFSA).

First-time applicants also must submit tribal enrollment certification from the bureau, agency, or tribe that records enrollment for the tribe. Applications are available from the education office of the tribe, band, or group with which you are affiliated or possess membership. For further information, contact the Bureau of Indian Education at (202) 208-6123 or bie.edu (<http://www.bie.edu>).

New York State also offers grants to Native Americans who are members of one of the Native American tribes located on reservations within New York State. Applications and program details may be obtained from the Native American Indian Education Unit, State Education Department, Room 461EBA, Albany, NY 12234, (518) 474-0537.

Summer Session Aid

Summer financial aid is available at Buffalo State. Students wishing to apply for summer financial aid must complete the supplemental Summer Aid Application form that becomes available by early-April each year.

Summer aid eligibility is dependent upon a student not having exhausted their eligibility during the fall and spring semesters. Therefore, it is advisable that students seek advice from the Financial Aid Office prior to registering for classes.

Eligibility

Eligibility for Federal Work-Study (p.)

Eligibility for the Federal TEACH Grant (p.)

Eligibility for Federal Perkins Loan (p.)

Eligibility for Federal Direct Unsubsidized Loan (p.)

Eligibility for Federal Direct PLUS Loans for Graduate Students (p.)

Eligibility for Federal Work-Study

The Federal Work-Study program provides employment opportunities in various on-campus offices and in off-campus community service agencies. Students who qualify for the Federal Work-Study program will be paid at an hourly rate and receive bi-weekly paychecks for the hours worked. Federal Work-Study will not be credited to your account. It is the responsibility of the student to secure employment. Federal Work-Study positions are limited; therefore, there is no guarantee of eligibility from one year to the next. Students are encouraged to complete the FAFSA by March 1st to receive full consideration to participate in the Federal Work-Study program.

Eligible students will receive a letter before the start of the semester with details regarding the steps to visit the job database in Online Resource for Career Advancement (ORCA). Students who do not qualify for Federal Work-Study or who are not successful in securing a job may be able to secure employment with the assistance of the Career Development Center in Cleveland Hall 306.

Eligibility for the TEACH Grant

TEACH Grant eligibility is determined after the fall or spring semester starts. Those students who meet the eligibility requirements will be invited to apply for the TEACH Grant. Students must complete Entrance Counseling and an annual Service Agreement.

In exchange for receiving a TEACH Grant, students must agree to serve as a full-time teacher in a high-need field in a

public or private elementary or secondary school that serves low-income students.

A TEACH Grant recipient must teach for at least four academic years (within eight calendar years). If a student fails to complete his or her service obligation, all amounts of TEACH Grants that were received will be converted to a Federal Direct Unsubsidized Loan. Students must then repay this loan to the U.S. Department of Education. Interest will be assessed from the date the grant(s) was disbursed. Note: TEACH Grant recipients will be given a six-month grace period before entering repayment if a TEACH Grant is converted to a Federal Direct Unsubsidized Loan. All federal loans require students to be enrolled in at least six (6) credit hours of required coursework each semester.

Eligibility for Federal Perkins Loan

The Perkins Loan is a low interest federally funded loan program for students who demonstrate exceptional financial need. Students who have been awarded a Federal Perkins Loan will be required to complete an electronic Master Promissory Note (e-MPN) and entrance counseling. Students complete these tasks at SUNY Student Loan Service Center's website <http://slsc.albany.edu/ecsi/prom.html>. These requirements must be completed and received by the college before the loan can be disbursed. Failure to do so by the deadline will mean forfeiture of the loan. Once a Federal Perkins Loan MPN is on file at the college, subsequent loans should not require additional MPNs. Recent changes to the Perkins Loan Program can be found at <https://studentaid.ed.gov/sa/types/loans/perkins>.

Perkins Loans to continuing graduate borrowers can be made only through September 30, 2016.

Eligibility for Federal Direct Unsubsidized Loan (p.)

Federal Direct Unsubsidized Loan is a low-interest loan for eligible students to help cover the cost of higher education. Students are not required to demonstrate financial need to receive a Federal Direct Unsubsidized Loan. Students can pay the interest while in school and during grace periods and deferment or forbearance periods, or students can allow it to accrue and be capitalized (that is, added to the principal amount of your loan). Students that choose not to pay the interest as it accrues will have an increased total amount to repay because interest will be charged on a higher principal amount.

If you are a first time Federal Direct Loan borrower you must sign a Master Promissory Note. The electronic Master Promissory Note (e-MPN) is the agreement to pay back any Direct Loans. The e-MPN is available on-line.

On-line Entrance Counseling is required for first-time Direct Loans borrowers. Entrance Counseling will educate students on the rights and responsibilities associated with receiving funds that must be repaid. To satisfy your on-line Entrance Counseling requirements, students must complete the tutorial and pass a quiz. Failure to comply with this requirement will prevent the disbursement of the student's loan proceeds.

The U.S. Department of Education issued FAFSA ID (<https://fsaid.ed.gov/npas>) (replaces the Federal Student Aid PIN) is required to complete Entrance Counseling and the e-MPN.

Eligibility for Federal Direct PLUS Loans for Graduate Students
Graduate students can borrow a low, fixed interest rate guaranteed Federal Direct PLUS Loan up to the cost of attendance less any other aid received to help cover educational expenses. This loan requires the student to be credit-worthy.

Buffalo State must determine the student's maximum eligibility for the Federal Direct Unsubsidized Loan before a student can receive a Federal Direct PLUS Loan.

The first time a graduate student applies for a Federal Direct PLUS Loan, he/she will need to complete a Federal Direct PLUS e-MPN. This e-MPN is separate from the Federal Direct Unsubsidized Loan e-MPN.

Award Notification

After you are accepted, the Financial Aid Office will send a SUNY Award Letter detailing the aid you are eligible to receive based on program eligibility requirements. Students must accept, revise or decline award(s) by the prescribed deadline date. Failure to accept aid by the deadline date may result in the loss of some types of financial aid.

The Financial Aid Office will send initial paper SUNY Award Letters to all new students. All students are responsible to monitor their campus e-mail and their financial aid status on-line via the Banner.

Continuing students will receive their notification via campus e-mail directing them to view their awards on-line at the Banner. All students are given the opportunity to reduce or decline any award offered. Some aid programs require additional steps to complete the application process.

Overawards

Each year, a number of students receiving aid are overawarded. This occurs, in part, when students are awarded other forms of assistance (e.g., scholarships; tuition waivers; loans) from outside agencies after they have accepted their award package. Students may have portions of their federal aid reduced or canceled as a result of overawards, which may leave an outstanding balance on their college accounts. Students should notify the Financial Aid Office in writing immediately if they receive additional funds that were not included in their award package.

Withdrawal from Classes

If a student who has received financial aid funds withdraws, takes a leave of absence, or drops out during a semester, a portion of the financial aid may need to be repaid to the granting institution. In some situations, students may have incurred full liability for charges but only have "earned" a portion of the aid they were awarded. In such cases, the unearned portions of aid will be returned, but students will still owe the full balance to the college. Students who unofficially withdraw (i.e., stop attending classes without formally withdrawing from school) may also be subject to returning a portion of the aid they received. Students considering

withdrawal should consult with staff in the Financial Aid Office prior to taking any actions.

Return of Title IV (R2T4) Funds

Federal regulations mandate a Return of Title IV Funds calculation when a student receiving Title IV financial aid (e.g. Direct Loans) completely withdraws. If a student never attends, ceases enrollment or withdraws from all courses in the semester and he/she received federal financial aid, the college must determine if these funds are required to be returned to the appropriate financial aid programs within forty-five (45) days.

R2T4 Calculation

The R2T4 calculation may result in a reduction of the student's federal loan(s) and grant(s) if he/she attended 60 percent or less of the semester. The R2T4 calculation is based on the following:

- The number of days the student attended
- The institutional charges assessed
- The total amount of federal Title IV aid awarded, accepted and or disbursed

As a result, the school and the student may be required to return any "unearned" federal aid received.

Unofficial Withdrawal

Federal Title IV financial aid is processed for a student under the assumption that the student will attend courses for the entire period for which the financial assistance is provided. A registered student who failed to earn a passing grade in at least one course is presumed to have "unofficially withdrawn" for federal Title IV financial aid eligibility purposes.

The Financial Aid Office will work with the student and his/her faculty members to ascertain official proof regarding the student's last date of attendance (known as the withdrawal date) for the semester and perform the R2T4 calculation to determine the "unearned" federal financial aid that must be returned to the designated program(s). The student will be notified by U.S. Postal mail regarding the results of R2T4 calculation.

Academic Withdrawal

While there is no academic penalty associated with the 'W' grade, there may be Financial Aid implications regardless of the reason (e.g. medical; etc.). Any student who received federal Title IV financial aid funding (e.g. Direct Loans) will have their eligibility recalculated in order to determine:

- the amount of financial aid the student is eligible to retain
- the amount of "unearned financial aid" that must be returned

Additionally, the calculation will be based on the earliest date documented that the student provided official notification of his/her intent to withdraw.

Withdrawal from Modular (Mini-Session/Term) Courses

A student who withdraws from a modular course(s) before the start of a future course within the same payment period (semester) will be considered as withdrawn for Return of Title IV (R2T4) purposes.

An exception is made if the student provides written notification affirming his/her intent to attend a future course (prior to the start of the course) within the payment period or the student provides affirmation of attendance by enrolling/registering in a future course within the same payment period after the original withdrawal date. Written notification **MUST** be received prior to the first day of the future course.

Notification of attendance in a future course must be made in writing by submitting the Affirmation of Future Attendance form to the Financial Aid Office, Moot Hall 230.

It remains the responsibility of the student to provide accurate and timely notification of future course attendance.

Unearned Aid

A determination regarding the percentage of the semester the student completed must be performed and this will reveal the percentage of the federal Title IV aid that the student has earned. The total amount of federal aid disbursed to the student, or that could have been disbursed to the student minus the amount of federal aid earned by the student equals the amount of federal loan(s) and grant(s) that is unearned and that must be returned: (688.22(e)).

Total Title IV Disbursable Aid
- (minus) Title IV Aid Earned

= Title IV Loan(s) and Grant(s) to be Returned

If the college is required to return any unearned aid, we will reduce or cancel the federal award(s), debit the student's account and return the unearned portion of aid to the U.S. Department of Education.

This adjustment may result in a balance due to Buffalo State College. It is the student's responsibility to repay the "unearned" portion of aid that was charged back to the student account. Students will receive notification of this action via a U.S. Postal letter and he/she will receive an updated student bill.

Post-Withdrawal Disbursement

A post-withdrawal disbursement of federal Title IV aid occurs when the amount of federal aid earned by the student is greater than the amount of the federal aid disbursed for the semester. A student eligible for a post-withdrawal disbursement will receive written notification from the college. Students receive a notification via U.S. Postal mail that they have the right to accept or decline, some, or all, of the offered post-withdrawal loan disbursement(s).

R2T4 Distribution of Financial Aid Refund

Refunds returned to the U.S. Department of Education on behalf of the student are distributed among the financial aid programs in the following order:

1. Federal Direct Unsubsidized Loan
2. Federal Perkins Loan
3. Federal Direct PLUS Loans for Graduate Students

Scholarships

Buffalo State offers scholarships to students demonstrating outstanding leadership qualities, academic abilities

and/or financial need. Students may review current scholarship opportunities on the Financial Aid Office (<http://financialaid.buffalostate.edu/scholarships>) Web site. Additionally, staff in the Financial Aid Office, Moot Hall 230 can assist students in locating scholarships offered by agencies not affiliated with Buffalo State.

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Barnes & Noble at Buffalo State Bookstore

Campbell Student Union
(716) 878-5509

buffalostate.bncollege.com/ (<http://buffalostate.bncollege.com>)

The bookstore carries a wide range of merchandise, including textbook rental, new, used and digital textbooks; trade books; special-order books; emblematic clothing; art, school, and office supplies; greeting cards; gifts; and computer supplies. The store features Starbucks Café. The store accepts cash, personal checks, and credit cards. A bookstore deferment program is available. The bookstore is a service of Barnes & Noble College Bookstores Inc.

Burchfield Penney Art Center

(716) 878-6011

[burchfieldpenney.org](http://www.burchfieldpenney.org) (<http://www.burchfieldpenney.org>)

In November 2008, the new Burchfield Penney Art Center opened to the public. The \$33 million structure is the first new art museum to be built in Buffalo in more than a century and is the first "green" art museum in New York State. The museum is home to more than 7,800 works by more than 600 artists from Western New York, including the largest public collection of works by Charles E. Burchfield. The Burchfield Penney is accredited by the American Association of Museums. General admission to the Burchfield Penney is free to faculty, staff, and students of Buffalo State. Gallery hours are:

Day of Week	Hours
Tuesday, Wednesday, Friday and Saturday	10:00 a.m. to 5:00 p.m.
Thursday	10:00 a.m. to 9:00 p.m.
Sunday	1:00 to 5:00 p.m.

The Museum Store, offering one-of-a-kind gifts by Western New York artisans and merchandise celebrating Burchfield, is open during gallery hours.

Campbell Student Union

Student Life Office
Campbell Student Union 400
(716) 878-4631
studentlife.buffalostate.edu/

The Campbell Student Union, located in the center of campus, houses an eclectic blend of student services, activities, and recreation. The bookstore and Information Center are located in the union, as are the Offices of the Associate Vice President and Dean of Students, the Associate Vice President for

Student Success, Campus Dining Services, United Students Government, International Student Affairs Office, Student Life Office, and the campus radio station, WBNY-FM 91.3. The union offers a variety of programming space, dining services, Internet access, Java-U Café, ATM machines, and several informal lounge and study areas, as well as the recently renovated Residential and Retail Dining Services.

Campus Academy for the Scholarship of Teaching and Learning

South Wing 510
(716) 878-3292
suny.buffalostate.edu/orgs/castl

Buffalo State is one of 12 international institutions selected as leaders in the Carnegie Academy for the Scholarship of Teaching and Learning (CASTL). CASTL is a network of campuses around the world that provide structure and support for faculty and staff to identify ways to enrich teaching and learning in higher education. The work of faculty involved in CASTL leads to relevant, meaningful, and educational experiences for students.

Campus Dining Services

Campbell Student Union 223
(716) 878-5214
dineoncampus.com/bsc/ (<https://www.dineoncampus.com/bsc/>)

Campus Dining Services, located in the Student Union, provides students with a variety of food choices. Meal plans are available for both resident and commuter students. Meal plans are convenient, flexible, and economical, and they are tax-free and deferrable against financial aid. Vending machines are located throughout the campus.

Career Development Center

cdc.buffalostate.edu/
Volunteer & Service Learning Center
vslc.buffalostate.edu
Cleveland Hall 306
(716) 878-5811

The Career Development Center (CDC) provides a full range of career counseling services to help students select a major, plan a career, apply to graduate school, and identify internship and employment opportunities. They also connect student with current occupational information, including salary, qualifications and educational requirements. Assessment and exploration programs are available to assist in selecting a career well-suited to students' interests, strengths, and other personal characteristics. In addition to hosting ORCA, a website listing full-time, summer, and part-time jobs, as well as internships and volunteer opportunities, the CDC links students with employers through job fairs, on-campus interviews, and job-search programs. The CDC also houses the Volunteer and Service-Learning Center (VSLC), where students can find a wide-range of both long and short-term volunteer opportunities including Alternative Break,

Community Service Days, and Volunteer Fair. The VSLC also supports service-learning courses, giving students the opportunity to apply what they learn in the classroom and make a difference in the community.

Center for Excellence in Urban and Rural Education

Caudell Hall 107
(716) 878-3610
ceure.buffalostate.edu

CEURE—Center for Excellence in Urban and Rural Education—is committed to the enhancement of high-need urban and rural schools through the recruitment, retention, and continuing education of highly qualified teachers, as well as the support of reform efforts and research about effective schools. To support educational reform and school improvement, CEURE partners with schools, community groups, foundations, and other institutions of higher education across Western New York.

CEURE offers a variety of programs and services to school partners and campus colleagues. Partnerships are developed in conjunction with our undergraduate and graduate teacher education programs and include such collaborative efforts as:

- Recruitment incentives for high-need areas and underrepresented constituencies.
- Specialized staff-development programs for teachers and administrators.
- Alternative certification opportunities for high-need subject-area teachers.
- Internship opportunities.
- Future and nascent teacher mentorship and support programs.
- School partnership projects that employ teacher education majors as tutors.
- Grant submission and program implementation.

Child Care Center (Buffalo State Child Care Center)

Campus West
(716) 878-5335

childcarecenter.buffalostate.edu/

The Buffalo State Child Care Center is open to the children of Buffalo State students, faculty, and staff. The Center is also open to children of community members. Accredited by the National Association for the Education of Young Children (NAEYC) and licensed by the New York State Office of Children and Family Services, the Center accepts children between the ages of 6 weeks and 5 years on a first-come, first-served basis. A summer school-age program is also available for children (up to age 12). The Center is committed to providing developmentally appropriate programs in a safe, predictable environment, where children can develop socially, emotionally, cognitively, and physically.

Continuing Professional Studies

Cleveland Hall 210
(716) 878-5907
suny.buffalostate.edu/academics/cenc

The Continuing Education Office offers a comprehensive array of learning opportunities to meet the needs of all potential students. Working in partnership with the college's academic and public service units and research centers, the office extends the college's offerings to people of all ages and cultures within Western New York and beyond. A variety of methods is offered, including distance-education programs, workshops, seminars, traditional courses, and credit- and noncredit-bearing certificate programs.

Buffalo State recognizes that mature students bring prior knowledge gained through life experiences and skills, and often can credit this knowledge toward a degree. This process, known as Prior Learning Assessment, can allow students to be eligible to achieve college credit for skills and knowledge they already have gained through work or other life experiences. A fee is assessed for any credits awarded.

The Continuing Education Office meets the training and development needs of many area employers. The center provides custom-designed courses, seminars, workshops, organizational and training needs analysis, and employee development programs. The center works with each organization to provide individualized programs, either on site or at the college's conference and training facilities.

Counseling Center

Weigel Health Center, Second Floor
(716) 878-4436
suny.buffalostate.edu/counselingcenter

The Counseling Center provides professional psychological services to students experiencing developmental or situational difficulties that may interfere with their ability to take advantage of the educational opportunities at Buffalo State. The staff includes licensed psychologists, a substance-abuse counselor, social workers, and a part-time psychiatrist. Information shared in counseling is confidential and is protected to the full extent of the law.

Dean of Students

Campbell Student Union 306
(716) 878-4618
suny.buffalostate.edu/deanofstudents

The dean of students works closely with students and student groups to further their intellectual, emotional, and social development. The dean serves as an advocate for the rights of students, and the college's judicial system and mediation services are administered through the dean's office. As a spokesperson for students, the dean helps address important student-life issues and helps foster a positive atmosphere conducive to educational excellence. The dean assists students

with their campus needs and promotes high standards of academic performance, social behavior, and citizenship.

Disability Services Office

South Wing 120
(716) 878-4500, fax: (716) 878-3804
suny.buffalostate.edu/offices/disabilityservices

Buffalo State ensures access to on-campus academic programs, services, and activities on campus to qualified individuals with disabilities in accordance with guidelines established by the Rehabilitation Act of 1973, Section 504, and by the Americans with Disabilities Act of 1990. This office provides advocacy and coordinates appropriate accommodations for students with disabilities. To receive services, students must contact the office, provide appropriate documentation, and meet with staff. Together, students and staff plan for support before assistance is given.

E. H. Butler Library

(716) 878-6300
library.buffalostate.edu

E. H. Butler Library is committed to supporting the scholarship, research, and creativity of the Buffalo State academic community with more than a million research materials, including more than 670,000 printed books, a growing number of electronic books, and access to full-text articles from thousands of periodicals.

Butler Library's Information Commons brings together important services to help you successfully complete your academic projects. Librarians are available to provide expert research assistance. The Writing Help Center, a partnership with the College Writing Program, assists students with writing and composition of all kinds. Computing Help Desk staff members provide technical assistance with campus computers, printers, and network issues. The Bengal ID Card Office offers support in all areas of operation relating to the official card used for dining, printing, vending machines, and library services.

Computer labs are located on the first floor of the library, and wireless access is available throughout the library building. StudyQuad and QuietQuad, open 24 hours a day during the fall and spring semesters, feature computers with a variety of software applications, an assistive technology room, quiet study space, and group study rooms.

Argo Tea offers gourmet coffee and tea, as well as a variety of snacks.

Our specialized collections include the Curriculum Materials Lab, which contains books for children and adolescents, and textbooks for elementary and secondary grades; Archives/Special Collections, which houses the official and historical documents of the college dating from the 1860s to the present; and the Creative Studies Library, a non-circulating collection that supports the International Center for Studies in Creativity at Buffalo State.

Equipment Loan

Bulger Communication Center 204
(716) 878-4535
ir.buffalostate.edu/equipment-loan.html

IR Equipment Loan provides various types of A/V equipment for use on campus- including Smart Carts, sound systems, conferencing devices, banner stands, and A/V accessories. The office also offers training and consultation for event setups involving audio or video needs. Faculty, staff, students, and student groups at Buffalo State can borrow equipment for on-campus use, free of charge.

Graduate Student Association

The Graduate Student Association (G.S.A.) (<http://gsa.buffalostate.edu>) is the representative body for matriculated graduate students at Buffalo State. It was established by voting graduate students during the spring semester of 2012. The organization was developed to provide a voice to the graduate student population at Buffalo State and to support them in professional development opportunities. For more information, please contact gradstudentassoc@buffalostate.edu. (gradstudentassoc@buffalostate.edu)

Graduate Student Housing

Buffalo State College provides housing for graduate students based on requests and availability. If interested in on-campus housing, please contact the housing secretary of Residence Life at (716) 878-3000 or visit the Residence Life Office. (<http://residencelife.buffalostate.edu>) There are several off-campus options for students. Students are also encouraged to utilize Commuter Student Services (<http://studentlife.buffalostate.edu/commuters>).

Great Lakes Center

Science and Math Complex (SAMC) 319 and Porter Avenue, Buffalo
(716) 878-4329
greatlakescenter.buffalostate.edu/

The Great Lakes Center brings together more than 25 affiliated faculty members from eight academic departments at Buffalo State to conduct research in aquatic ecology, fisheries, environmental toxicology and chemistry, urban ecology, watershed dynamics, and environmental education.

The center consists of a complex of laboratories on the main campus and an aquatic research laboratory on a 4.5-acre site at the junction of Lake Erie and the Niagara River. The Great Lakes Center also maintains two 28-foot vessels, a 25-foot heavy lifting work boat, several Boston Whalers, an electrofishing boat, jon-boats, and a number of smaller boats for near-shore work, as well as a variety of sampling instruments.

Instructional Support Services

Bulger Communication Center 106
(716) 878-3877
rite.buffalostate.edu/iss.html

Instructional Support Services provides support for the design and development of online, hybrid, and web-enhanced courses. We offer workshops on campus supported technology to support the integration of technology in teaching and learning. The office also supports students by providing assistance with Blackboard and can assist students in locating online courses within the SUNY system open.suny.edu/ (<http://open.suny.edu>). Additional assistance with Blackboard be located on the Instructional Resources Blackboard Website rite.buffalostate.edu/student-support.html, contacting the Open SUNY Support Help Desk at 1-844-673-6786 (1-844-OPENSUNY) or by submit an online request on the Open SUNY website open.suny.edu/support/contact-us/current-students/ (<http://open.suny.edu/support/contact-us/current-students/>).

Intercollegiate Athletics

Houston Gym 234
(716) 878-3816

<http://www.buffalostateathletics.com/>

The 70,000-square-foot Sports Complex, home to the NCAA Division III Buffalo State Bengals, comprises the Ice Arena; Houston Gymnasium with its pool, dance studios, and basketball, racquetball, and volleyball courts; and the Sports Arena. The Sports Arena boasts a 3,500-seat basketball arena, a one-tenth-mile (160-meter) indoor track, the 1,800-seat Ice Arena (Buffalo's only collegiate ice rink), and the Buffalo State College Intercollegiate Athletics Hall of Fame. Surrounding athletics facilities are Coyer Field, a softball field, practice fields, a quarter-mile (400-meter) outdoor track, and tennis courts. Students can sign up for intramural activities (including team and individual sports) or use athletic facilities with a valid Buffalo State ID. There is a membership fee to use the state-of-the-art fitness center located in Houston Gym.

International and Exchange Office

South Wing 410
(716) 878-4620

This office oversees the functions of several centers and offices:

Center for China Studies

South Wing 420
(716) 878-6328
suny.buffalostate.edu/centers/ccs

The center promotes and coordinates research, scholarly exchanges, academic programs, and economic development with China.

International Education Office

South Wing 410B
(716) 878-4620

suny.buffalostate.edu/studyabroad

This office coordinates Buffalo State-sponsored international study in Australia, Canada, England, Italy, and Netherlands, Puerto Rico, and Spain. Faculty and staff may develop short-term study sessions in other countries as well.

International Graduate Programs for Educators Office (Formerly: International Learning Styles Center)

South Wing 430
(716) 878-6832

suny.buffalostate.edu/ilsc

The International Graduate Programs for Educators (IGPE) Office assumes the responsibility for the development, management, and delivery of a master of science program in multidisciplinary studies, as well as professional development for education professionals working at American/International Schools. Courses are delivered at the school site, electronically or through a combined approach of on-site/online instruction, depending on the course as well as the needs of the cohort.

International Student Affairs Office

Campbell Student Union 400
(716) 878-5331

suny.buffalostate.edu/internationalstudentaffairs

The International Student Affairs Office offers a variety of services to international students, including academic advisement and personal counseling. In addition, the office helps students regarding visas, work permits, and immigration regulations. A three-day orientation program is provided for new international students at the beginning of each semester. The office also administers English-language competency and placement exams in conjunction with the English Department.

International Center for Studies in Creativity

Chase Hall 244
(716) 878-6223

creativity.buffalostate.edu/

The International Center for Studies in Creativity is an internationally recognized unit within Buffalo State. Center faculty conduct research, teach and work with a variety of groups and organizations to improve the understanding of creativity and creative problem-solving.

The history and development of the center are tied to the work of Alex F. Osborn, developer of the brainstorming technique and the creative problem solving (CPS) process. Osborn, director of the New York City-based advertising agency Batten, Barton, Durstine, and Osborn, used his work to encourage innovative thinking among his associates and, later, among young people. His successor, Sidney J. Parnes

(professor emeritus), founded the center at Buffalo State in 1967.

The center's programs have a tradition of more than 40 years of research, development, and teaching in the field of creativity studies. Documentation of the program's effectiveness shows a positive impact on students' personal and professional growth. The educational program consists of courses that can lead to an undergraduate minor or a master of science degree in creative studies or a graduate certificate in creativity and change leadership. Courses help students to become better thinkers and problem solvers, and to work more effectively with groups. Skills developed in creative studies courses help improve performance in other classes and provide a competitive edge in the job market. Our alumni work in business and industry, education (all levels), the social sciences, technology, and the arts. Companies or organizations interested in change or change management find creative studies skills to be particularly useful.

In conjunction with E. H. Butler Library, the Creative Studies Special Collection comprises the largest collection of materials on creativity in the world. The collection includes print and nonprint resources, including books, curricular materials, software programs, dissertations, research projects, and theses on creative thinking and its cultivation. The Creativity-Based Information Resources (CBIR) database, maintained by the center, includes annotations of periodical literature, chapters, software, assessments, and other resources relating to the study of creativity, invention, and innovation. For more information, visit <http://library.buffalostate.edu/creativity>.

The center's academic program is enhanced by the Alex F. Osborn Visiting Professorship, which has attracted to campus some of the most important minds in creativity research to date.

Performing Arts Center

Rockwell Hall 210

(716) 878-3032

<https://buffalostatepac.org/>

The Performing Arts Center (PAC) at Rockwell Hall, an 856-seat multipurpose theater, hosts more than 180 events each year. Faculty and students of the Theater and Music Departments regularly present concerts here. The PAC is also home to the Buffalo City Ballet, Neglia Ballet, and numerous other community and campus events.

Sponsored Program Operations and Pre-Award & Contract Services

Buckham Hall B206

(716) 878-6700

sponsoredprograms.buffalostate.edu/

The Research Foundation at Buffalo State, a nonprofit educational corporation, processes all grant proposals for research, educational projects, training programs, and equipment acquisitions submitted by faculty, staff, and

students. Assistance is provided in identifying federal, state, and private support of researchable topics, proposal preparation, fiscal administration of funded grants and contracts, and evaluation of completed projects.

Externally funded research at the college yields numerous opportunities for graduate and research assistantships. The office works closely with the Research Foundation of the State University of New York's central office in Albany.

Residence Life Office (On-Campus Housing)

Porter Hall
(716) 878-3000
residencelife.buffalostate.edu/

Graduate students who choose to live on campus generally choose to live in Moore Complex apartments, in which three to four students share a bathroom, living room, and kitchen.

The Residence Life Office supports, complements, and enhances the academic mission of the college through a dynamic residence life program that encourages individual growth and development for a diverse residential student population. Management systems ensure the orderly and effective administration of all aspects of the program, including facility management, housekeeping, and security.

Year-round housing also is provided on a space-available basis in Twin Rise North. Room and board fees must be paid in full before room assignment can be finalized.

Off-campus housing is available near campus.

Resources for Information, Technology and Education

Twin Rise 206
(716) 878-4611
rite.buffalostate.edu

Resources for Information, Technology, and Education supports computing hardware, software, and networking for instruction, research, and administrative activities on campus. There are many public and department-specific networked labs as well as wireless access available across campus. Labs are equipped with up-to-date computers and a variety of standard and curriculum-specific state-of-the-art software to support the educational needs of the campus. Campus computing- and technology-related questions can be directed to the RITE Support Desk, rsd@buffalostate.edu, located in E. H. Butler Library. Visit the RITE website (<https://rite.buffalostate.edu>) for additional information and supporting materials.

Services and Facilities for Graduate Students

Buffalo State's impressive research, cultural, academic, athletic, and performing arts facilities offer unlimited learning

and social opportunities for those enrolled in graduate studies. In addition, the college's professional staff and offices can assist with career planning, child care, computing, counseling, dining, health care, or living arrangements (on or off campus). Special services are available for minority students, students with disabilities, international students, and veterans.

Speech-Language-Hearing Clinic

Caudell Hall 150
(716) 878-3530
speech.buffalostate.edu/speech-language-hearing-clinic

The Speech-Language-Hearing Clinic provides individual and group speech, language, and hearing services to clients of all ages. Services are provided by graduate students in the Speech-Language Pathology Department under the direct supervision of clinical faculty and professional staff members who are licensed by New York State and hold the Certificate of Clinical Competence from the American Speech-Language-Hearing Association.

State-of-the-art equipment is available to aid in the diagnosis and remediation of a variety of disorders, including articulation and phonological disorders; language impairments in children; aphasia; auditory processing disorders; voice and fluency disorders; and traumatic brain injury. Communication enhancement services are available to non-native speakers of English. Services are free to Buffalo State students.

Teacher Certification Office

Chase Hall 222
(716) 878-6121
suny.buffalostate.edu/teachercertification

The Teacher Certification Office recommends Buffalo State graduates to the New York State Department of Education for teacher certification after they have completed an approved program and met all other requirements. It also assists students completing certification-only and postbaccalaureate study leading to teacher certification. The office verifies program completion for graduates applying for out-of-state certification and is a resource for a variety of teacher certification-related topics.

University Police

Chase Hall 100
(716) 878-6333
police.buffalostate.edu

The State University Police Department at Buffalo State is the law-enforcement agency responsible for crime prevention and control, criminal investigations, traffic and parking supervision, physical plant security, disaster coordination, community policing, and the maintenance of public order. The department offers many special services, including personal-safety awareness education, a motorist assistance program, a safety escort service, a property identification system, and a found-property department.

To make arrangements for educational programs, complete the request form at police.buffalostate.edu/educational-programs.

Parking Rules and Regulations

The rules governing motor vehicles on campus are intended to ensure maximum pedestrian and vehicular safety and to establish the most convenient arrangements possible for students, staff, and visitors. Motor vehicles may park in any of the designated areas shown on the campus map. Only vehicles with special permits authorizing them to park in spaces designated for persons with disabilities are allowed to park in such spaces. All vehicles parked on the grounds of Buffalo State must display valid college parking permits. Maps and parking permits are available in the Parking Services office, Chase Hall 126 and at suny.buffalostate.edu/parking.

Parking is prohibited:

- On all roadways
- In all fire lanes
- On lawns, grass, or grounds
- On or over painted lines in parking areas or crosswalks
- In such a way as to interfere with free and proper use of a roadway or pedestrian crossings

The department may authorize towing of any vehicle found to be in violation of the college's rules and regulations. Violations will result in parking fines and/or summonses. The college assumes no responsibility for automobiles and/or their contents. Rules regarding parking for persons with disabilities are strictly enforced. Parking tickets may be paid online at suny.buffalostate.edu/parking, in the Parking Services Office, Chase 126 (by Visa or MasterCard), or in the Student Accounts Office, Moot Hall 260. Payments may also be made via US Mail to SUNY Buffalo State Parking Services, Chase 126
1300 Elmwood Avenue
Buffalo, NY 14222
(check or money order only). For more information, call the Parking Services Office at (716) 878-3041.

Crime Statistics Availability

A copy of the Buffalo State campus crime statistics as reported annually to the U.S. Department of Education will be provided upon request. Please direct all requests to the Chief of University Police, Chase Hall
Buffalo State
1300 Elmwood Avenue
Buffalo, NY 14222
(716) 878-6332
Information also can be obtained from the U.S. Department of Education Web site at <http://ope.ed.gov/security> or University Police's Web site.

Veterans Certification Office

Moot Hall 141
(716) 878-5045

The Veterans Certification Office assists current and prospective students who are veterans, servicepersons, or dependents or survivors of veterans with Veterans Affairs educational benefits. Information on current regulations

affecting educational benefits, tutorial assistance, and dependency allowance also is provided.

Weigel Health Center

(716) 878-6711
weigel.buffalostate.edu/

The Weigel Health Center provides health and wellness services for all registered students. In addition to diagnosing and treating illness and injury, the professional staff stresses health education and preventive medicine. Students are seen on an appointment basis or a walk-in basis if a clinician is available. There is no charge for most services. Laboratory services are available at Weigel Health Center. Some services may be sent to an outside lab which may result in insurance co-pays.

The Health Promotions program provides the campus community with workshops, trainings, events, and campaigns. Topics include: bystander intervention, wellness, stress, sexual health, tobacco prevention, alcohol and other drug abuse prevention. Internship and volunteer opportunities are available to students. Educational resources also are available for student research or classroom projects.

All students must be in compliance with New York State law regarding immunizations. Measles, mumps, and rubella immunizations are provided at no charge at the center for those students who need vaccinations. Students must be in compliance to register for classes. New York State Public Law and SUNY Buffalo State also requires that all students enrolled complete and return the Meningitis Information Response Form to Weigel Health Center. The form is available at weigel.buffalostate.edu/.

All full-time students (12 credit hours or more) are required to have health insurance. Students with their own health coverage must submit proof of insurance by completing an insurance waiver [online] by stated deadlines. Students who have not completed waivers will be automatically enrolled in and charged for the SUNY Buffalo State Plan. Students who lose their existing insurance coverage at any time after completing the waiver are NOT automatically enrolled in the student health insurance plan: students must request enrollment to be covered under the college's student health insurance plan. Students are required to complete the online waiver annually before the September 30th deadline to prevent being charged for and enrolled into the college's insurance plan. Part-time students are not automatically enrolled but may apply for coverage. Insurance provided by the College is administered by Consolidated Health Plan (CHP), utilizing Cigna Provider Network. The plan is affordable; has no deductible, with \$10 copay for in-network doctor visits. Additional benefit information is available through the CHP website: consolidatedhealthplan.com/group/82/home (<https://consolidatedhealthplan.com/group/82/home>).

International students must purchase SUNY International Health Insurance or have comparable coverage. Waivers to opt out of the SUNY International Insurance must be submitted through this link: hthworldwide.force.com/SUNY/ (<http://hthworldwide.force.com/SUNY/>).

Whitworth Ferguson Planetarium

fergusonplanetarium.net ([http://
www.fergusonplanetarium.net](http://www.fergusonplanetarium.net))

The Whitworth Ferguson Planetarium serves as a unique Buffalo State resource for the Western New York community. Students studying astronomy, geology, and other courses use the planetarium as an immersive visualization laboratory. The planetarium offers public programs about the planets, stars, constellations, and recent advances in the exploration of the universe as well as programs for schoolchildren, scout groups and a variety of other private groups.

GRADUATE PROGRAMS AT BUFFALO STATE

Graduate Programs at a Glance

Major Program	Degree	HEGIS Code	Buffalo St. code	Department
Adult Education (p. 50)	M.S.	0807	MS-ED ADE	Adult Education
Applied Economics (p. 51)	M.A.	2204	MA-NS AEC	Economics and Finance
Art Conservation (p. 51)	M.A. and C.A.S.	1099	MA-AH CNS; CAS-AH CNS	Art Conservation
Art Education (p. 53)	M.S.Ed.	0831	MSED-AH AED	Art and Design
Biology (p. 55)	M.A.	0401	MA-NS BIO	Biology
Biology Education (7-12) (http://ecatalog.buffalo.edu/graduate/graduate-programs/biology-education-7-12)	M.S.Ed.	0401.01	MSED-NS BIS	Biology
Business and Marketing Education (p. 55)	M.S.Ed.	0838.01	MSED-ED BME	Career and Technical Education
Career and Technical Education (p. 57)	M.S.Ed.	0839.03	MSED-ED CTE	Career and Technical Education
Chemistry Education (7-12) (p. 58)	M.S.Ed.	1905.01	MSED-NS CHS	Chemistry
Childhood and Early Childhood Curriculum and Instruction (p. 59)	M.S.Ed.	0829	MSED-ED CUR	Elementary Education and Reading

Childhood and Early Childhood Education (Birth-Grade 6) (p. 61)	M.S.Ed.	0802	MSED-ED CEC	Elementary Education and Reading
Creative Studies (p. 63)	M.S.	4903	MS-SP CRS	Creative Studies
Criminal Justice (p. 65)	M.S.	2105	MS-SP CRJ	Criminal Justice
Earth Science Education (7-12) (p. 65)	M.S.Ed.	1917.01	MSED-NS EAS	Earth Sciences and Science Education
English (p. 68)	M.A.	1501	MA-AH ENG	English
English Education (7-12) (p. 69)	M.S.Ed.	1501.01	MSED-AH ENS	English
Foreign Language Education (1-6 Extension; 7-12) (p. 71)	M.S.Ed.	1199	MSED-AH FLE	Modern and Classical Languages
Forensic Science (p. 72)	M.S.	1999.20	MS-NS FSC	Chemistry
Great Lakes Ecosystem Science (M.S.) (p. 74)	M.S.	0420	MS-NS GLS	Great Lakes Center
Great Lakes Ecosystem Science (M.A.) (p. 73)	M.A.	0420	MA-NS GLE	Great Lakes Center

Higher Education and Student Affairs Administration (p. 75)	M.S.	0826	MS-SP HEA	Higher Education Administration	Science Education (p. 92)	M.S.Ed.	0834	MSED-NS SBI,SCH,SF	Earth Sciences and Science Education
History (p. 76)	M.A.	2205	MA-NS HIS	History and Social Studies Education	Social Studies Education (7-12) (p. 94)	M.S.Ed.	2201.01	MSED-NS SSS	History and Social Studies Education
Industrial Technology (p. 77)	M.S.	0925	MS-SP IDT	Engineering Technology	Special Education (p. 97)	Ph.D.	0808		Exceptional Education Department, University of Buffalo Learning and Instruction Department
Learning Design and Educational Technology (p. 78)	M.S.Ed.	0899	MSED-SP LDT	Computer Information Systems	Special Education: Childhood Program (XCE) (p. 97)	M.S.Ed.	0808	MSED-ED XCE	Exceptional Education
Literacy Specialist (Birth through Grade 12) (p. 79)	M.S.Ed.	0830	MSED-ED LBT	Elementary Education and Reading	Special Education: Early Childhood Program (EXC) (p. 99)	M.S.Ed.	0808	MSED-ED EXC	Exceptional Education
Mathematics Education (7-12) (p. 80)	M.S.Ed.	1701.01	MSED-NS MTS	Mathematics	Special Education: Students with Disabilities Generalist 7-12 (EXS) and Students with Disabilities 7-12 Subject Area Extensions (p. 99)	M.S.Ed.	0808	MSED-ED EXS	Exceptional Education
Multidisciplinary Studies (M.A.) (p. 82)	M.A.	4999	MA-GR MUL	The Graduate School	Speech-Language Pathology (p. 104)	M.S.Ed.	1220	MSED-SP SLP	Speech-Language Pathology
Multidisciplinary Studies (M.S.) (p. 84)	M.S.	4999	MS-GR MUL	The Graduate School	Technology Education (p. 106)	M.S.Ed.	0839.01	MSED-ED TED	Career and Technical Education
Museum Studies (p. 86)	M.A.	1099	MA-NS MST	History and Social Studies Education	Urban Education, M.S. (p. 108)	M.S.	0899	MS-ED UED	School of Education
Music Education (p. 87)	M.M.	0832	MM-AH MUS	Music					
Professional Applied and Computational Mathematics (p. 88)	M.S.	1701	MS-NS ACM	Mathematics					
Public Administration in Public and Nonprofit Management (p. 89)	M.P.A.	2101.00	MPA-NS PNM	Political Science, Division of Public Administration					
Public Relations (p. 91)	M.S.	0604	MS-AH PBR	Communication					

Advanced Certificates at a Glance

Major Program	Degree	HEGIS Code	Buffalo St. code	Department
Adult Education (p. 49)	Graduate Certificate	0807	GRCT-ED ADE	Adult Education
Art Conservation (p. 51)	M.A. and C.A.S.	1099	MA-AH CNS; CAS-AH CNS	Art Conservation
Creativity and Change Leadership (p. 64)	Graduate Certificate	4903	GRCT-SP CRT	Creative Studies
Educational Leadership - Building (p. 66)	C.A.S.	0828	CAS-ED EDL	Elementary Education and Reading
Educational Leadership - Building & District (p. 67)	C.A.S.	0828	CAS-ED ECP	Elementary Education and Reading
Human Resource Developer (p. 76)	Graduate Certificate	0807	GRCT-ED HRD	Adult Education
Museum Studies (p. 85)	Graduate Certificate	1099	GRCT-NS MST	History and Social Studies Education
Public Management (p. 91)	Graduate Certificate	2102	GRCT-NS PMG	Political Science, Division of Public Administration
Teaching Bilingual Exceptional Individuals (p. 103)	Graduate Certificate	0899	GRCT-ED BXE	Exceptional Education
Teaching English to Speakers of Other Languages (p. 105)	C.A.S.	1508.00	CAS-ED ESOL	School of Education, Dean's Office

Post Baccalaureate Teacher Certification Programs at a Glance

Major Program	Degree	HEGIS Code	Buffalo St. code	Department
Art Education (p. 54)	PTCP	0831	UG-PBC-AH AED	Art and Design
Business and Marketing Education (p. 56)	PTCP	0838	UG-PBC-ED BME	Career and Technical Education

Career and Technical Education (p. 57)	PTCP	0839.03	UG-PBC-ED CTE	Career and Technical Education
English Education (7-12) (p. 70)	PTCP	1501.01	UG-PBC-AH ENS	English
Mathematics Education (7-12) (p. 81)	PTCP	1701.01	UG-PBC-NS MTS	Mathematics
Mathematics Education (7-12; 5-6 extension) (p. 80)	PTCP	1701.01	UG-PBC-NS MTX	Mathematics
Social Studies Education (7-12) (p. 95)	PTCP	2201.01	UG-PBC-NS SSS	History and Social Studies Education
Social Studies Education (7-12; 5-6 extension) (p. 93)	PTCP	2201.1	UG-PBC-NS SSX	History and Social Studies Education
Technology Education (p. 107)	PTCP	0839.01	UG-PBC-ED TED	Career and Technical Education

Adult Education (Graduate Certificate)

Graduate Certificate Program

Program Code: GRCT-ED
Major Code: ADE
HEGIS 0807

Department of Adult Education

Susan K. Birden, *Program Coordinator*
Bacon Hall 306, (716) 878-4303
adulteducation.buffalostate.edu

The graduate certificate in adult education is designed for professionals who desire graduate-level training in the discipline of adult education but do not need a master's degree. The graduate certificate program consists of four courses from the master of science in adult education program. Students who complete the certificate program and choose to continue their graduate studies at Buffalo State may request that certificate program courses be applied toward the master's degree in adult education. This program does not lead to teaching certification.

The graduate certificate program is offered both on the Buffalo State campus and through web-based courses.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 2.5 (4.0

scale), or a master's degree from an accredited institution with a minimum GPA of 3.0 (4.0 scale).

2. A letter describing the applicant's interest in the field and experience with teaching or administering adult programs.
3. Applicants may be asked to participate in a phone or online interview at the discretion of the adult education coordinator.

In addition, all applicants should review the Admission to a Graduate Program (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program>) section in this catalog.

Application Deadline

Applicants must apply by August 1 for fall admission or by December 1 for spring admission. No applications are accepted for summer admission.

Program Requirements

Code	Title	Credit Hours
Required Courses (12 credit hours)		
ADE 500	INTRODUCTION TO ADULT EDUCATION	3
ADE 600	ADULTHOOD AND DEVELOPMENT	3
ADE 608	INSTRUCTIONAL DESIGN AND ASSESSMENT	3
ADE 610	METHODS OF ADULT EDUCATION	3
Total Credit Hours		12

Graduation Requirements

Completion of the 12 required credit hours with a minimum cumulative 3.0 GPA

Adult Education (M.S.)

Master of Science Program

Program Code: MS-ED
Major Code: ADE
HEGIS 0807

Department of Adult Education

Susan K. Birden, *Program Coordinator*
Bacon Hall 306, (716) 878-4303
adulthood.buffalostate.edu

The master of science in adult education program prepares professionals for careers in adult education and human resource development. Community agencies employ adult educators to conduct literacy, personal development, and workforce-preparation programs. Similarly, businesses employ human resource development professionals to train new workers and retrain experienced workers. Graduates of the program are also well prepared for doctoral programs in adult education. This program does not lead to teaching certification.

The master's program is offered both on the Buffalo State campus and through web-based courses.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 2.5 (4.0

scale), or a master's degree from an accredited institution with a minimum GPA of 3.0 (4.0 scale).

2. A letter describing the applicant's interest in the field and experience with teaching or administering adult programs.
3. Applicants may be asked to participate in a phone or online interview at the discretion of the adult education coordinator.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Application Deadline

Applicants must apply by August 1 for fall admission or by December 1 for spring admission. No applications are accepted for summer admission.

Program Requirements

Code	Title	Credit Hours
Required Courses (21 credit hours)		
ADE 500	INTRODUCTION TO ADULT EDUCATION	3
ADE 600	ADULTHOOD AND DEVELOPMENT	3
ADE 605	HISTORICAL, SOCIAL, AND PHILOSOPHICAL FOUNDATIONS OF ADULT EDUCATION	3
ADE 608	INSTRUCTIONAL DESIGN AND ASSESSMENT	3
ADE 610	METHODS OF ADULT EDUCATION	3
ADE 655	DIVERSITY ISSUES IN ADULT EDUCATION AND TRAINING	3
ADE 695	METHODS AND TECHNIQUES OF EDUCATIONAL RESEARCH	3
Elective Field Specialization Courses (9 credit hours)		
Select three content courses plus comprehensive examination		9
Total Credit Hours		30

Graduation Requirements

A minimum of 30 credit hours completed with a minimum cumulative 3.0 GPA including 9 hours in an elective field specialization, selected under advisement. The 9-credit field specialization is developed by each student and his or her academic advisor to incorporate courses from related academic disciplines. Examples of field specializations include administration, linguistics, literacy, English as a second language, job development, workplace learning and staff development, vocational education, counseling, human resource development, student personnel administration, multiculturalism, creativity, exceptionality, criminal justice, health and wellness, educational computing, and business. The field specialization could also include an internship for those students with minimal adult education experience.

Students also must complete a written comprehensive examination as a culminating requirement.

Applied Economics (M.A.)

Master of Arts Program

Program Code: MA-NS
Major Code: AEC
HEGIS 2204

Economics and Finance Department

Classroom Building B207, (716) 878-4606
economics.buffalostate.edu/

The master of arts in applied economics is designed for students who want to gain an in-depth knowledge of modern economics and finance, particularly those interested in or already working in:

- Financial institutions and finance departments in business and government
- Policy-oriented and community service occupations in the private and public sectors
- Economic and financial consulting and advising
- High school business, economics, and social studies education

The program integrates real-world application with the latest theory and enhances opportunities for graduates in a broad range of occupations and institutions; the program also has prepared students for continued education at the Ph.D. level. In addition, it has prepared students to take the Chartered Financial Analyst (CFA) exam.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 2.7 (4.0 scale), or a master's degree from an accredited institution with a minimum cumulative GPA of 3.0 (4.0 scale).
2. Applicants who hold a bachelor's degree but do not meet either of the above criteria may be admitted if they attain a minimum combined quantitative/verbal score of 290 on the Graduate Record Exam (GRE), attain an appropriate score on the Miller Analogies Test (MAT), or complete 6 credit hours of 500-level coursework at the college as an accepted premajor student with a minimum cumulative GPA of 3.5.
3. Three letters of reference.
4. A letter describing the applicant's interest in the program.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (12 credit hours)		
ECO 505	HISTORY OF ECONOMIC THOUGHT	3
ECO 507	APPLIED MICROECONOMIC THEORY	3
ECO 508	APPLIED MACROECONOMIC THEORY	3
ECO 524	APPLIED ECONOMETRICS	3

Suggested Content Specialty Courses

Economic Policy Analysis Courses

Select three from the following:		9
ECO 600	LABOR ECONOMICS	
ECO 610	ECONOMICS OF EDUCATION	
ECO 612	URBAN ECONOMIC ANALYSIS	
ECO 650	PUBLIC FINANCE	
ECO 660	COST-BENEFIT ANALYSIS	

Financial Economics Courses

Select three from the following:		9
ECO 650	PUBLIC FINANCE	
FIN 619	RISK MANAGEMENT	
FIN 622	CAPITAL MARKETS	
FIN 630	INTERNATIONAL FINANCE	
FIN 645	ESTATE PLANNING AND TAXATION	

Other Elective Courses (3-9 credit hours) ¹

Select 3-9 credit hours from the following:		3-9
ECO 502	WORKSHOP IN ECONOMIC EDUCATION	
ECO 510	ECONOMICS OF EDUCATION	
ECO/INT 601	ENGINEERING ECONOMY	

Master's Project, Master's Thesis, or Comprehensive Examination (3 credit hours)

Select one from the following:		3
ECO 690	MASTER'S PROJECT	
ECO 695	MASTER'S THESIS	
Comprehensive Examination		

Total Credit Hours 30

¹ Selected under advisement.

Graduation Requirements

A minimum of 30 credit hours at the graduate level, including a minimum of 15 credit hours at the 600 level. Students also must complete required core courses and one of the following: a master's project, a master's thesis, or a comprehensive examination. A field of specialization is recommended but not required.

Art Conservation (M.A. and C.A.S.)

Master of Arts Program

Program Code: MA-AH
Major Code: CNS

Certificate of Advanced Study Program

Program Code: CAS-AH
Major Code: CNS
HEGIS 1099

Art Conservation Department

Patrick Ravines, *Director*
Rockwell Hall 230, (716) 878-5025
artconservation.buffalostate.edu/

This three-year master of arts program prepares students for careers as professional conservators to care for works of artistic, historical, or cultural significance, from famous paintings to family heirlooms. The instructional program,

which includes a 12-month internship at a museum or other institution, provides students with a broad background in conservation to help ensure continued professional growth throughout their careers. In their second year, students select objects, paintings, or paper conservation as a specialty. They may choose to focus on a subspecialty, such as ethnographic or archaeological objects, photographs, or books. A certificate of advanced study in art conservation is awarded with the M.A. degree.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 2.8 (4.0 scale).
2. Acceptable scores on the Graduate Record Examination (GRE).
3. Completion of at least the following:
 - a. art history—21 semester hours. Courses should include broad surveys of art history and more focused studies of particular movements or works of significant artists. At the discretion of the admissions committee, courses can include up to 12 semester hours outside of an art history department. For example, classics, archaeology or anthropology courses that focus on artifacts, history of the book, history of photography, history of furniture and other material culture courses may be accepted. The admissions committee may ask for syllabi to verify the content of coursework.
 - b. chemistry—16 credit hours: a two-semester introductory (general) chemistry lecture course with accompanying laboratory sections and a two-semester organic chemistry sequence with accompanying laboratory sections. Chemistry courses for nonscience majors will not be accepted.
 - c. studio art (drawing, printmaking, painting, sculpture)—9 credit hours.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Application Deadline

Completed admission applications must be received by the department office no later than January 7 of the year in which admission is sought.

Program Requirements

Code	Title	Credit Hours
Required Courses (57 credit hours)		
CNS 600	CONSERVATION IMAGING: TECHNICAL EXAMINATION AND DOCUMENTATION I	2
CNS 601	CONSERVATION IMAGING: TECHNICAL EXAMINATION AND DOCUMENTATION LAB I	1
CNS 602	CONSERVATION IMAGING: TECHNICAL EXAMINATION AND DOCUMENTATION LAB II	2
CNS 603	CONSERVATION IMAGING: TECHNICAL EXAMINATION AND DOCUMENTATION LAB II	1

CNS 604	CONSERVATION IMAGING: TECHNICAL EXAMINATION AND DOCUMENTATION III	2
CNS 605	CONSERVATION IMAGING: TECHNICAL EXAMINATION AND DOCUMENTATION LAB III	1
CNS 606	CONSERVATION IMAGING: TECHNICAL EXAMINATION AND DOCUMENTATION IV	2
CNS 607	CONSERVATION IMAGING: TECHNICAL EXAMINATION AND DOCUMENTATION LAB IV	1
CNS 610	POLYMERS IN ART & CONSERVATION	3
CNS 611	POLYMERS IN ART & CONSERVATION (LAB)	1
CNS 612	CONSERVATION SCIENCE: POLARIZED LIGHT MICROSCOPY, LIGHT & MATTER	2
CNS 613	CONSERVATION SCIENCE: POLARIZED LIGHT MICROSCOPY, LIGHT & MATTER LABORATORY	1
CNS 614	CONSERVATION SCIENCE: INORGANIC MATERIALS IN ART AND CONSERVATION	3
CNS 615	CONSERVATION SCIENCE: INORGANIC MATERIALS IN ART & CONSERVATION LABORATORY	1
CNS 616	TECHNICAL ASPECTS OF PREVENTATIVE CONSERVATION	3
CNS 617	TECHNICAL ASPECTS OF PREVENTATIVE CONSERVATION (LAB)	1
CNS 620	TECHNOLOGY AND CONSERVATION OF PAINTINGS I	2
CNS 621	TECHNOLOGY AND CONSERVATION OF PAINTINGS I (LAB)	1
CNS 622	TECHNOLOGY AND CONSERVATION OF PAINTINGS II	2
CNS 623	TECHNOLOGY AND CONSERVATION OF PAINTINGS II LABORATORY	1
CNS 624	TECHNOLOGY AND CONSERVATION OF PAINTINGS III	2
CNS 630	TECHNOLOGY & CONSERVATION OF WORKS OF ART ON PAPER I	2
CNS 631	TECHNOLOGY & CONSERVATION OF WORKS OF ART ON PAPER I LABORATORY	1
CNS 632	TECHNOLOGY AND CONSERVATION OF WORKS OF ART ON PAPER II	2

CNS 633	TECHNOLOGY AND CONSERVATION OF WORKS OF ART ON PAPER II LABORATORY	1
CNS 634	TECHNOLOGY AND CONSERVATION OF WORKS OF ART ON PAPER III LABORATORY	2
CNS 640	TECHNOLOGY AND CONSERVATION OF OBJECTS I	2
CNS 641	TECHNOLOGY AND CONSERVATION OF OBJECTS I LABORATORY	1
CNS 642	TECHNOLOGY AND CONSERVATION OF OBJECTS II	2
CNS 643	TECHNOLOGY AND CONSERVATION OF OBJECTS II LABORATORY	1
CNS 644	TECHNOLOGY AND CONSERVATION OF OBJECTS III	2
CNS 685	PROFESSIONALISM IN CONSERVATION I	2
CNS 686	PROFESSIONALISM IN CONSERVATION II	1
CNS 695	STUDENT SPECIALIZATION	4
Electives (4 credit hours)¹		
Select one from the following:		4
CNS 626	TECHNOLOGY AND CONSERVATION OF PAINTINGS IV	
CNS 636	TECHNOLOGY AND CONSERVATION OF WORKS OF ART ON PAPER IV	
CNS 646	TECHNOLOGY AND CONSERVATION OF OBJECTS IV	
Internship (12 credit hours)¹		
Select one from the following:		12
CNS 698	INTERNSHIP SUSTAINING	
CNS 699	INTERNSHIP	
Final Examination (0 credit hours)		
May be oral and/or written		0
Total Credit Hours		73

¹ Selected under advisement.

Art Education (M.S.Ed.)

Master of Science in Education Program

Program Code: MSED-AH

Major Code: AED

HEGIS 0831

Art and Design Department

Upton Hall 402

(716) 878-6032

artdesign.buffalostate.edu/art-education

National Council for Accreditation of Teacher Education (NCATE) Accredited

National Association of Schools of Art and Design (NASAD) Accredited

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The Art Education Graduate Program prepares students for professional certification to teach visual arts in pre-kindergarten through grade 12 (PK-12) in New York State schools. This program develops art education professionals who:

- understand contemporary art and culture and are committed to teaching students in meaningful and critical ways.
- consider teaching to be a dynamic and continuing process utilizing current media technology.
- are sensitive to issues of diversity and capable of adapting their teaching strategies to meet individual needs.
- are encouraged to be active in their professional, cultural, and art communities.
- are competent in theory, research, and methodology in art and art education.

The Art Education Department offers graduate studies that lead to a master of science in art education and eligibility to apply for New York State professional certification to teach visual art in grades pre-kindergarten–12 (PK-12). This program requires 30 credit hours of study. Within the required program format, students are encouraged to pursue individualized programs of study.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

*Those seeking an art education initial certification, please see our Postbaccalaureate Certification-only Program (p. 54).

Advisement

Academic advisers are assigned by the department and must be consulted each semester in order to register for courses and graduate in a timely manner; however, students remain responsible for fulfilling department and college requirements specific to the program.

Admission Requirements

- A bachelor's degree in a visual art-related field as well as initial certification in art education from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale)
- Writing Sample: a 500-1000 word sample of your best writing on an area pertaining to art education
- Nationally Normed Exam: Either the Graduate Record Examination (GRE) or Miller Analogies Test (MAT) — The scores must be submitted to the SUNY Buffalo State Graduate School
- An interview with the Art Education Department chair

Requests for exceptions to admission requirements may be directed to the department chair. In addition, all applicants

should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (9-12 credit hours)		
AED 688	SEMINAR IN ART EDUCATION	3
AED 689	RESEARCH	3
AED 690	MASTER'S PROJECT	3-6
or AED 695	MASTER'S THESIS	
Content Specialty Courses (15-21 credit hours)		
Courses in: Art Education (AED), Fine Arts (FAR), and/or Design (DES)		15-21
General Education Courses (0-6 credit hours)		
Select 0-6 credit hours		0-6
Total Credit Hours		30

All courses are 3 credit hours unless otherwise indicated and should be selected under advisement.

Art Education (PTCP)

Postbaccalaureate Teacher Certification Program

Program Code: UG-PBC-AH

Major Code: AED

HEGIS 0831

Art and Design Department

Upton Hall 402

(716) 878-6032

artdesign.buffalostate.edu/art-education

National Council for Accreditation of Teacher Education (NCATE) Accredited

National Association of Schools of Art and Design (NASAD) Accredited

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

This program is designed for students who have earned a baccalaureate degree with coursework in fine arts, design, and/or art education from an accredited college or university and intend to complete the coursework required for New York State certification to teach art. After successfully completing the teacher-certification program and passing required New York State teacher certification exams, students are eligible to apply for New York State initial certification through the Teacher Certification Office, Chase Hall 222. No degree or certificate is awarded by Buffalo State.

Students are expected to complete the entire sequence of coursework and are responsible for any additional certification requirements established by the New York State Teacher Certification Division, including fingerprinting and at least four state-mandated seminars. Students in the program may elect to attend part time or full time, yet must attend full time during the student teaching semester. Courses are offered each

semester (excluding summer) during the day to accommodate practical experiences in public schools.

In addition to academic requirements, students who are enrolled in teacher education programs leading to Initial Certification or Initial/Professional certification are required to complete all seminars specifically required by New York State for program completion and graduation, including School Violence Prevention and Intervention (SAVE); Identification and Reporting of Child Abuse and Maltreatment; Alcohol and Other Drug Avoidance; Fire and Arson Safety; HIV and the Classroom; and Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training). These seminar requirements are subject to change.

Advisement

Academic advisers are assigned by the department and must be consulted each semester in order to register for courses and finish in a timely manner. Students remain responsible for fulfilling department and college requirements specific to the program.

Financial Assistance

For financial aid purposes, students in this program are considered fifth-year undergraduates, eligible for undergraduate loans.

Admission Requirements

A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale) in the major area of study (fine arts, design, and/or art education) and 2.5 overall.

In addition, all applicants should review the Admission to a Graduate Program (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program>) section in this catalog.

Program Requirements

Code	Title	Credit Hours
First Semester (12 credit hours)		
AED 200	FUNDAMENTALS OF ART INQUIRY	3
AED 300	FOUNDATIONS IN ART EDUCATION	3
AED 301	THEORETICAL CONSTRUCTS IN ART EDUCATION	3
AED 398	ART, SOCIETY AND NEW MEDIA TECHNOLOGIES FOR ART EDUCATORS	3
Second Semester (9 credit hours)		
AED 302	FUNCTIONS AND PRACTICE IN ART EDUCATION	3
AED 315	ARTS IN LIVING	3
ATS 325	ART FOR CHILDREN WITH SPECIAL LEARNING NEEDS	3
Third Semester (15 credit hours)		
AED 303	ELEMENTARY STUDENT TEACHING IN ART	6
AED 304	SECONDARY STUDENT TEACHING IN ART	6

Biology (M.A.)

Master of Arts Program

Program Code: MA-NS
 Major Code: BIO
 HEGIS 0401

Biology Department

SAMC 166 (716) 878-5203
 biology.buffalostate.edu/

The Master of Arts in Biology prepares students for professional employment and advanced degrees in fields ranging from ecology and evolution to biotechnology and health sciences.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 2.75 (4.0 scale).
2. Scores on the Graduate Record Examination (GRE) general test.
3. Three letters of recommendation evaluating the applicant's academic qualifications.
4. An official transcript of the student's undergraduate program, giving evidence of satisfactory completion of 48 credit hours of college science and mathematics courses, including a minimum of 18 credit hours in biology. It is strongly recommended that this coursework also include one year of college physics, one year of organic chemistry, one semester of statistics, and one semester of calculus. The absence of any of these courses may be regarded as a deficiency and students may be required to complete these recommended courses before graduation.
5. A written statement of the applicant's academic background, future plans, and area of research interest.

Applicants interested in completing a thesis must identify a faculty sponsor and request a letter of support from him or her to accompany the admissions application.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Course (3 credit hours)		
BIO 600	FOUNDATIONS OF GRADUATE STUDIES IN BIOLOGY	3
Biology Electives (600 level) (15-26 credit hours)		
Select 15-26 credit hours ¹		15-26
General Graduate Electives (0-6 credit hours)		
Select 0-6 credit hours ¹		0-6
Thesis or Comprehensive Exam (1-6 credit hours)		
BIO 695	RESEARCH THESIS IN BIOLOGY	1-6

¹ Selected by advisement.

Graduation Requirements

1. A minimum cumulative GPA of 3.0 (4.0 scale). The candidate may take no more than 36 credit hours to achieve this average.
2. A minimum of 30 credit hours. Courses in which a candidate earns a grade below C do not bear credit toward the degree but are calculated in the cumulative average.

Business and Marketing Education (M.S.Ed.)

Master of Science in Education Program

Program Code: MSED-ED
 Major Code: BME
 HEGIS 0838.01

Department of Career and Technical Education

National Council for Accreditation of Teacher Education (NCATE) Accredited

Bacon Hall 122, (716) 878-4717
 cte.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The business and marketing education program is designed to develop, extend, and enhance the professional competencies of business and marketing education teachers. Completion of the program provides a master of science in education degree and satisfies the requirements for eligibility to apply for permanent/professional certification to teach business and marketing in New York State.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

Completion of the program provides a master of science in education degree and satisfies the requirements for eligibility to apply for professional certification to teach business and marketing in New York State.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale)

Program Requirements

Code	Title	Credit Hours
Required Professional Courses (18 credit hours)		

BME 600	PRINCIPLES OF BUSINESS AND MARKETING EDUCATION	3
BME 601 or SPF 689	RESEARCH SEMINAR METHODS AND TECHNIQUES OF EDUCATIONAL RESEARCH	3
BME 602	CURRICULUM DEVELOPMENT AND PLANNING IN BUSINESS AND MARKETING EDUCATION	3
BME 604	IMPROVING INSTRUCTION IN BUSINESS AND MARKETING	3
BME 605/ SPF 611	EVALUATION IN BUSINESS AND MARKETING EDUCATION	3
CTE 690 or SPF 690	MASTER'S PROJECT MASTER'S PROJECT	3
Elective Courses (15 credit hours)		
Courses by advisement that are appropriate in terms of the career goals of the student		15
Total Credit Hours		33

Business and Marketing Education (PTCP)

Postbaccalaureate Teacher Certification Program

Program Code: UG-PBC-ED

Major Code: BME

HEGIS 0838

Department of Career and Technical Education

Council for the Accreditation of Educator Preparation (CAEP) Accredited

Bacon Hall 122, (716) 878-4717

cte.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs" (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>) found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

This program is designed for students who have earned a baccalaureate or master's degree in business and marketing education or a business-related field from an accredited college or university, and intend to complete the coursework required for New York State certification to teach business and marketing in secondary schools. After successfully completing the teacher certification program and passing required New York State teacher certification exams, students are eligible to apply for New York State certification through the Teacher Certification Office, Chase Hall 222. No degree or certificate is awarded by Buffalo State.

Completion of the program provides a master of science in education degree and satisfies the requirements for eligibility to apply for professional certification to teach business and marketing in New York State.

In addition to academic requirements, students who are enrolled in teacher education programs leading to Initial Certification or Initial/Professional certification are required to complete all seminars specifically required by New York State for program completion and graduation, including School Violence Prevention and Intervention (SAVE); Identification

and Reporting of Child Abuse and Maltreatment; Alcohol and Other Drug Avoidance; Fire and Arson Safety; HIV and the Classroom; and Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training). These seminar requirements are subject to change.

Financial Assistance

For financial aid purposes, students are considered fifth-year undergraduates, eligible for undergraduate loans.

Admission Requirements

1. A bachelor's or master's degree from an accredited college or university, with a concentration of at least 36 credit hours in business and marketing education or related courses, with a minimum GPA of 3.0 (4.0 scale). The department will accept up to 6 credit hours in computer information systems and/or economics. All other courses should match the required courses in the undergraduate business and marketing education program.
2. Two letters of recommendation to the Career and Technical Education Department.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Business and Marketing Education Courses (36 credit hours)		
Accepted courses per review of Business Department		36
Professional Courses (33 credit hours)		
BME 301	PRINCIPLES OF BUSINESS/MARKETING AND TECHNOLOGY EDUCATION	3
BME/CTE 302	CURRICULUM AND EVALUATION IN BUSINESS/MARKETING AND TECHNOLOGY EDUCATION	3
BME 303	INSTRUCTIONAL STRATEGIES IN BUSINESS AND MARKETING	3
BME 411/ CTE 404	APPLIED TEACHING METHODS IN BUSINESS/MARKETING	3
BME 415	STUDENT TEACHING IN BUSINESS EDUCATION	6
BME 416	STUDENT TEACHING IN BUSINESS EDUCATION	6
SPF 303	EDUCATIONAL PSYCHOLOGY: MIDDLE AND SECONDARY EDUCATION	3
EDU 416	TEACHING LITERACY IN MIDDLE AND SECONDARY SCHOOLS	3
EXE 100/ CTE 421	NATURE AND NEEDS OF INDIVIDUALS WITH SPECIAL NEEDS	3
Total Credit Hours		69

Career and Technical Education (M.S.Ed.)

Master of Science in Education

Program Code: MSED-ED
Major Code: CTE
HEGIS 0839.03

Department of Career and Technical Education

National Council for Accreditation of Teacher Education (NCATE) Accredited

Bacon Hall 122, (716) 878-4717
cte.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The master's program in career and technical education (CTE) extends and improves the professional competencies of CTE teachers. Candidates interested in becoming certified as coordinators of diversified cooperative work-study programs may take the two related required courses: CTE 550 and CTE 555.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

Advisement

Students are assigned academic advisers to plan programs based on individual needs and degree requirements. All courses should be selected by advisement.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale).

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (6 credit hours)		
BME 602	CURRICULUM DEVELOPMENT AND PLANNING IN BUSINESS AND MARKETING EDUCATION	3
SPF 611/ BME 605	EVALUATION IN EDUCATION	3
Elective Courses (15-18 credit hours)		
Select five to six from the following: 15-18		
CTE 530	CAREER EDUCATION: RATIONALE, NATURE, AND CONCEPTS	
CTE 536	CONTEMPORARY METHODOLOGY	

CTE 550	ORGANIZATION OF DIVERSIFIED COOPERATIVE WORK-STUDY PROGRAMS
CTE 555	OPERATION OF DIVERSIFIED COOPERATIVE WORK-STUDY PROGRAMS
CTE 600	CONTEMPORARY ISSUES IN OCCUPATIONAL EDUCATION
CTE 601	SUPERVISION OF VOCATIONAL EDUCATION
CTE 602	ADMINISTRATION OF VOCATIONAL EDUCATION
CTE 603	SELECT TOPICS IN THE ORGANIZATION AND ADMINISTRATION/SUPERVISION OF VOCATIONAL EDUCATION
CTE 604	TECHNICAL PROJECT
CTE 606	HISTORY AND PHILOSOPHY OF OCCUPATIONAL EDUCATION
CTE 620	STRUCTURE OF OCCUPATIONAL PROGRAMS
CTE 625	INTERRELATIONSHIPS OF LABOR, MANAGEMENT, AND OCCUPATIONAL EDUCATION

Research and Master's Project (6 credit hours)		
BME 601/ SPF 689	RESEARCH SEMINAR	3
CTE 690	MASTER'S PROJECT	3
Total Credit Hours		30

Career and Technical Education (PTCP)

Postbaccalaureate Teacher Certification Program

Program Code: UG-PBC-ED
Major Code: CTE
HEGIS 0839.03

Department of Career and Technical Education

Council for the Accreditation of Educator Preparation (CAEP) Accredited
Bacon Hall 122, (716) 878-4717
cte.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

This program is designed for students who have earned a baccalaureate degree in an area other than career and technical education (CTE) from an accredited college or university, and intend to complete the coursework required for New York State certification as a career and technical teacher.

This postbaccalaureate teacher certification program prepares career and technical teachers for teaching positions in high schools, vocational schools, technical institutes, correctional facilities, and community colleges. It provides theoretical and

practical preparation in planning, instructing, and managing the learning environment for students who have or will have extensive work experience in a specific trade.

After successfully completing the teacher certification program and passing required New York State teacher certification exams, students are eligible to apply for New York State certification through the Teacher Certification Office, Chase Hall 222. No degree or certificate is awarded by Buffalo State.

In addition to academic requirements, students who are enrolled in teacher education programs leading to Initial Certification or Initial/Professional certification are required to complete all seminars specifically required by New York State for program completion and graduation, including School Violence Prevention and Intervention (SAVE); Identification and Reporting of Child Abuse and Maltreatment; Alcohol and Other Drug Avoidance; Fire and Arson Safety; HIV and the Classroom; and Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training). These seminar requirements are subject to change.

This program is offered during the evening at Buffalo State. Some courses are offered via interactive distance learning at off-campus BOCES sites.

Financial Assistance

For financial aid purposes, students are considered fifth-year undergraduates, eligible for undergraduate loans.

Admission Requirements

1. A bachelor's degree from an accredited college or university in an area other than career and technical education, with a minimum cumulative GPA of 3.0 (4.0 scale).
2. Minimum of one year of work experience in a CTE area.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
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Occupational Competency Exams (30 credit hours)

CTE 100	COMPREHENSIVE THEORETICAL TRADE OR TECHNICAL SKILLS (or equivalent)	15
CTE 200	COMPREHENSIVE TRADE OR TECHNICAL PERFORMANCE SKILLS (or equivalent)	15

Required Courses (36 credit hours)

CTE/BME 301	FOUNDATIONS OF CAREER AND TECHNICAL EDUCATION	3
CTE/BME 302	CURRICULUM AND EVALUATION IN CAREER AND TECHNICAL EDUCATION	3
CTE 306	CLASSROOM/LABORATORY MANAGEMENT	3
CTE 311	CAREER MENTORING	3

CTE 350	SCHOOL AND COMMUNITY RELATIONSHIP FIELD EXPERIENCE	3
CTE 402	ASSESSMENT IN CAREER AND TECHNICAL EDUCATION	3
CTE 404/ BME 411	METHODS OF TEACHING CAREER AND TECHNICAL SUBJECTS	3
CTE 413	STUDENT TEACHING CAREER AND TECHNICAL EDUCATION	6
CTE 421	CAREER AND TECHNICAL EDUCATION FOR STUDENTS WITH SPECIAL NEEDS	3
SPF 303 or SPF 353	EDUCATIONAL PSYCHOLOGY: MIDDLE AND SECONDARY EDUCATION HUMAN DEVELOPMENT DURING EARLY ADOLESCENCE AND ADOLESCENCE	3
Total Credit Hours		36-66

Chemistry Education (7–12; M.S.Ed.)

Master of Science in Education Program

Program Code: MSED-NS
Major Code: CHS
HEGIS 1905.01

Chemistry Department

National Council for Accreditation of Teacher Education (NCATE) Accredited

SAMC 164 (716) 878-5204
chemistry.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

The master of science in chemistry education (7–12) is designed for teachers who wish to combine advanced work in chemistry with graduate work in education.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 2.6 (4.0 scale) in chemistry courses.
2. A New York State Certificate of Qualification (CQ), provisional certificate, or initial certificate to teach at the secondary level.
3. A minimum of 24 credit 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.

5. Three letters of recommendation.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (9 credit hours)		
Select 9 credit hours from the following:		9
CHE 540	SPECIAL TOPICS IN ORGANIC CHEMISTRY	
CHE 550	ADVANCED PHYSICAL CHEMISTRY	
CHE 560	SPECIAL TOPICS IN INORGANIC CHEMISTRY	
CHE 620	KINETICS AND REACTION MECHANISMS	
CHE 670	BIOMOLECULES: PROTEINS, NUCLEIC ACIDS, AND ENZYMES	
CHE 680	ADVANCED ANALYTICAL CHEMISTRY	
Science Education Courses (9 credit hours)		
SCI 628	SEMINAR IN SECONDARY SCIENCE EDUCATION	3
SCI 632	CURRICULAR TRENDS IN SCIENCE TEACHING IN THE SECONDARY SCHOOL	3
SCI 685	EVALUATION IN SCIENCE EDUCATION	3
Electives (3-6 credit hours)		
Select 3-6 credit hours		3-6
Research and Master's Project or Master's Thesis (6 credit hours)		
Select one from the following: ¹		6
CHE 690 & SCI 694	MASTER'S PROJECT and RESEARCH METHODS AND TECHNIQUES IN SCIENCE EDUCATION	
CHE 795	RESEARCH THESIS IN CHEMISTRY	
Total Credit Hours		30

¹ CHE 690 or CHE 795 can be counted toward both the 15-credit chemistry requirement and the 6-credit research requirement.

Childhood and Early Childhood Curriculum and Instruction (M.S.Ed.)

Master of Science in Education Program

Program Code: MSED-ED

Major Code: CUR

HEGIS 0829

Elementary Education and Reading Department

National Council for Accreditation of Teacher Education (NCATE) Accredited

Bacon Hall 302, (716) 878-5916
elementaryeducation.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

Teachers with New York State initial teaching certification in childhood and/or early childhood education may apply for admission to the master's program in curriculum and instruction. Students who successfully complete this master of science in education program will receive a college recommendation for Professional NYS Childhood and Professional Early Childhood Certification.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

Admission Requirements

1. A bachelor's degree in early childhood and/or childhood education from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale).
2. A well-crafted statement addressing the following:
 - a. Your strengths as a teacher.
 - b. Professional challenge(s) you encountered during your first classroom teaching experiences or field experiences that you hope to address in your graduate work.
 - c. How your graduate program can help you grow as a teacher. If you know which concentration you are selecting, please describe your reasons for selecting it. The statement will be evaluated according to the following criteria:
 - i Organization
 - ii Conventions of language
 - iii ContentNote: Please refer to the rubric provided with the application materials for the statement prompts and specific evaluation criteria.
3. Professional resume
4. Three letters of reference on special department forms that attest to the applicant's potential as a graduate student. Please note that two references must be from college professors/instructors. Department forms may be downloaded at <http://graduateschool.buffalostate.edu/supplemental-application-materials>

These are the minimum criteria for admission; satisfaction of these criteria does not guarantee admission to the program. In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Additional Admission Information

Each applicant will be evaluated in terms of his or her baccalaureate degree, academic performance, letters of recommendation, experiential background, and substance and

quality of the personal statement. Please refer to the Graduate Admissions Committee rubric (attached to the supplemental application information) used for evaluating applications.

Program Requirements

Code	Title	Credit Hours
Required Courses (6 credit hours)		
EDU 501	SEMINAR FOR THE REFLECTIVE TEACHER (to be taken as first course)	3
EDU 620	TEACHING AND LEARNING IN DIVERSE ELEMENTARY SCHOOL CLASSROOMS	3
Content Courses (12 credit hours)		
Courses can be taken any time in your program after or concurrent with EDU 501		
EDU 513	THEORY, RESEARCH AND PRACTICE IN LITERACY INSTRUCTION	3
EDU 651	THEORY, RESEARCH, AND PRACTICE IN MATHEMATICS INSTRUCTION	3
EDU 654	THEORY RESEARCH AND PRACTICE IN SOCIAL STUDIES INSTRUCTION	3
EDU 671	THEORY, RESEARCH, AND PRACTICE IN SCIENCE INSTRUCTION	3
Concentration (9-12 credit hours)		
Can be taken any time in your program after or concurrent with EDU 501		
Select one from the following concentrations:		9-12
Literacy (p. 60)		
Early Childhood (p. 61)		
Gifted/Talented (p. 61)		
Educational Technology (p. 61)		
Educational Leadership (p. 61)		
Electives (3 credit hours)		
Select 3 credit hours from the following: ¹		3
CRS/EDL 559	PRINCIPLES IN CREATIVE PROBLEM SOLVING	
EDT 500	FUNDAMENTALS OF TECHNOLOGY LITERACY	
EDT 601	INSTRUCTIONAL TECHNOLOGIES	
EDT 604	AUTHORING FOR EDUCATORS	
EDT 606	INTERNET FOR EDUCATORS	
EDT 614	EDUCATIONAL GRAPHICS AND ANIMATION	
SPF 503	EDUCATION PSYCHOLOGY	
SPF 528	HUMAN RELATIONS	
SPF 611	EVALUATION IN EDUCATION	
SPF 689	METHODS AND TECHNIQUES OF EDUCATIONAL RESEARCH	
EDL 552	PUBLIC SCHOOL LAW	
EDL 652	SPECIAL EDUCATION LAW	
EDL 607	SITE-BASED LEADERSHIP	

EDU/CRS 509	INTRODUCTION TO THE GIFTED, TALENTED AND CREATIVE LEARNER	
EDU 528	FAMILIES AND EARLY CHILDHOOD PROGRAMS	
EDU/EDL 534	THE HOLISTIC CURRICULUM: TEACHING TO BOTH SIDES OF THE BRAIN	
EDU 535	TEACHING WRITING: B-12	
EDU 574	THE ELEMENTARY SCHOOL CURRICULUM	
EDU 577	TEACHING INDIVIDUALS WITH EXCEPTIONALITIES IN THE REGULAR CLASSROOM	
EDU 609	LITERACY INSTRUCTION IN THE UPPER GRADES	
EDU 611	TEACHING LITERACY IN PRIMARY GRADES	
EDU 612	DEVELOPING LITERACY THROUGH LITERATURE	
EDU 613	ASSESSMENT OF THE ELA FOR THE CLASSROOM TEACHER	
EDU 640	CONFLICT RESOLUTION	
EDU 654	THEORY RESEARCH AND PRACTICE IN SOCIAL STUDIES INSTRUCTION	
EDU 670	PRINCIPLES OF CURRICULUM DESIGN	
EDU 672	ADVANCED EDUCATIONAL TECHNOLOGY FOR K-6 CLASSROOMS	
EXE 500	INDIVIDUALS WITH SPECIAL NEEDS	
HIS 500	STUDIES IN AMERICAN HISTORY	
SSE 605	TOPICS FOR IN-SERVICE EDUCATION	
Required Culminating Course (3 credit hours)		
EDU 690	MASTER'S PROJECT	3
Total Credit Hours		33-36

¹ Prerequisites may be required for some courses. Other courses may be accepted through advisement only. Students who select the Gifted and Talented concentration do not need an elective to obtain the 33 required credits for completion of the program.

Literacy Concentration

Code	Title	Credit Hours
Required Courses (9 credit hours)		
EDU 613	ASSESSMENT OF THE ELA FOR THE CLASSROOM TEACHER	3
Select two from the following:		6
EDU 535	TEACHING WRITING: B-12	
EDU 609	LITERACY INSTRUCTION IN THE UPPER GRADES	
EDU 611	TEACHING LITERACY IN PRIMARY GRADES	

EDU 612 DEVELOPING LITERACY THROUGH LITERATURE

Total Credit Hours 9

Early Childhood Concentration
Appropriate for those without Early Childhood Certification

Code	Title	Credit Hours
Required Courses (9-12 credit hours)		
EDU 543	CURRICULUM FOR THE YOUNG CHILD	3
EDU 626	INTEGRATING THE CONTENT AREAS IN THE TEACHING OF YOUNG CHILDREN	3-6
EDU 528 or EDU 611	FAMILIES AND EARLY CHILDHOOD PROGRAMS TEACHING LITERACY IN PRIMARY GRADES	3

Total Credit Hours 9-12

Gifted/Talented Concentration
If you select this concentration and complete the other NYSED requirements for Gifted and Talented certification, Buffalo State will recommend you for certification.

Code	Title	Credit Hours
Required Courses (18 credit hours)		
EDU/CRS 509	INTRODUCTION TO THE GIFTED, TALENTED AND CREATIVE LEARNER	3
CRS 559	PRINCIPLES IN CREATIVE PROBLEM SOLVING	3
EDU/CRS 621	CURRICULUM DEVELOPMENT IN GIFTED, TALENTED, AND CREATIVE EDUCATION	3
EDU 619	PRACTICUM IN GIFTED, TALENTED, AND CREATIVE EDUCATION	3

Total Credit Hours 12

Educational Technology Concentration

Code	Title	Credit Hours
Required Courses (9 credit hours)		
EDU 672	ADVANCED EDUCATIONAL TECHNOLOGY FOR K-6 CLASSROOMS	3
Select two from the following:		
EDT 500	FUNDAMENTALS OF TECHNOLOGY LITERACY	3
EDT 601	INSTRUCTIONAL TECHNOLOGIES	3
EDT 603	INSTRUCTIONAL DESIGN AND PROBLEM SOLVING WITH TECHNOLOGY	3
EDT 604	AUTHORING FOR EDUCATORS	3
EDT 606	INTERNET FOR EDUCATORS	3

EDT 614 EDUCATIONAL GRAPHICS AND ANIMATION

Total Credit Hours 9

Educational Leadership Concentration

Code	Title	Credit Hours
Required Courses (9 credit hours)		
SPF 689	METHODS AND TECHNIQUES OF EDUCATIONAL RESEARCH	3
EDL 552	PUBLIC SCHOOL LAW	3
EDL 607 or EDU 670	SITE-BASED LEADERSHIP PRINCIPLES OF CURRICULUM DESIGN	3

Total Credit Hours 9

Childhood and Early Childhood Education (Birth–Grade 6; M.S.Ed.)

Master of Science in Education Program
Childhood & Early Childhood Education Including Initial Teacher Certification (MIITC-Master Including Initial Teacher Certification)
Program Code: MSED-ED
Major Code: CEC
HEGIS 0802

Elementary Education and Reading Department
National Council for Accreditation of Teacher Education (NCATE) Accredited
Accredited by Association of Childhood Education International
Bacon Hall 302, (716) 878-5916
elementaryeducation.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

This program is designed for students who have an undergraduate degree in one of the liberal arts and sciences. It leads to an M.S. in education and eligibility to apply for initial certification in childhood and early childhood education from the New York State Department of Education. To receive initial certification, students must pass the applicable New York State certification exams and fulfill other New York State certification requirements.

In addition to academic requirements, students who are enrolled in teacher education programs leading to Initial Certification or Initial/Professional certification are required to complete all seminars specifically required by New York State for program completion and graduation, including School Violence Prevention and Intervention (SAVE); Identification and Reporting of Child Abuse and Maltreatment; Alcohol and Other Drug Avoidance; Fire and Arson Safety; HIV and the Classroom; and Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention

(DASA Training). These seminar requirements are subject to change.

Admission Requirements

1. A bachelor's degree from an accredited college or university with an academic major in one of the liberal arts or sciences.
2. A minimum cumulative GPA of 3.0 (4.0 scale)
3. Meeting with a department advisor to review college transcripts to determine eligibility prior to applying to the program.
4. A completed Application Requirement Worksheet (included in the application packet) detailing:
 - a. College-level work in each of the following: English, mathematics, science, and social studies. Each applicant will have completed this requirement as an undergraduate or will be required to complete 6 credit hours of study in each of these four disciplines. Basic college writing courses (ENG 101 or ENG 102) do not count toward the English requirement.
 - b. Undergraduate major or courses applicable to an acceptable concentration.
 - c. Two years of high school or two semesters of college study in one foreign language (high school transcript should be submitted with application).
5. A well-crafted statement addressing the following:
 - a. Reasons for wanting to become a childhood/early childhood teacher and related professional experiences.
 - b. Professional

The statement will be evaluated according to the following criteria:

 - i Organization
 - ii Conventions of language
 - iii Content

Note: Please refer to the rubric provided with the application materials for the statement prompts and specific evaluation criteria.
6. Three letters of reference on special department forms that attest to the applicant's potential as a graduate student and as a teacher. Please note that two references must be from college professors/instructors. Department forms may be downloaded at <http://graduateschool.buffalostate.edu/supplemental-application-materials>

These are the minimum criteria for admission; satisfaction of these criteria does not guarantee admission to the program. In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Additional Admission Information

Each applicant will be evaluated in terms of his or her baccalaureate degree, academic performance, letters of recommendation, experiential background, and substance and quality of the personal statement. Please refer to the Graduate Admissions Committee rubric (attached to the supplemental application information) used for evaluating applications.

Program Requirements

Code	Title	Credit Hours
Seminar (3 credit hours)		

EDU 501	SEMINAR FOR THE REFLECTIVE TEACHER (to be taken early in the program)	3
Multicultural Perspectives and Diversity Course (3 credit hours)		
Select one from the following:		
SPF 500	MULTICULTURAL EDUCATION	3
EDU 620	TEACHING AND LEARNING IN DIVERSE ELEMENTARY SCHOOL CLASSROOMS	
SSE 640	SOCIOHISTORICAL CONTEXT AND ISSUES OF DIVERSITY IN U.S. SCHOOLING	
Foundation Course (3 credit hours)		
SPF 503	EDUCATION PSYCHOLOGY	3
Exceptional Education Course (3 credit hours)		
EDU 577	TEACHING INDIVIDUALS WITH EXCEPTIONALITIES IN THE REGULAR CLASSROOM	3
	or EXE 500 INDIVIDUALS WITH SPECIAL NEEDS	
Curriculum (12 credit hours)		
EDU 528	FAMILIES AND EARLY CHILDHOOD PROGRAMS	3
EDU 543	CURRICULUM FOR THE YOUNG CHILD	3
EDU 654	THEORY RESEARCH AND PRACTICE IN SOCIAL STUDIES INSTRUCTION	3
EDU 672	ADVANCED EDUCATIONAL TECHNOLOGY FOR K-6 CLASSROOMS	3
Literacy Course (3 credit hours)		
EDU 546	THEORY, RESEARCH, AND PRACTICE IN ENGLISH LANGUAGE ARTS INSTRUCTION (Must be taken prior to EDU 511)	3
Methods and Practicum Courses (27 credit hours)		
EDU 511	METHODS OF TEACHING ENGLISH LANGUAGE ARTS (Prerequisites apply; must be taken prior to EDU 682)	6
EDU 626	INTEGRATING THE CONTENT AREAS IN THE TEACHING OF YOUNG CHILDREN (Includes a 40-hour Field Experience and prerequisite EDU 543)	3-6
EDU 682	TEACHING MATH AND SCIENCE IN THE ELEMENTARY SCHOOL (Prerequisites apply)	6
EDU 500	PRACTICUM IN EDUCATION	3-6
EDU 510	PRACTICUM IN CHILDHOOD TEACHING	6
Research and Master's Project (6 credit hours)		
SPF 689	METHODS AND TECHNIQUES OF EDUCATIONAL RESEARCH (Must be taken prior to EDU 690)	3

SPF 690	MASTER'S PROJECT (Culminating Course)	1-3
Total Credit Hours		60

Creative Studies (M.S.)

Master of Science Program

Program Code: MS-SP
Major Code: CRS
HEGIS 4903

Creative Studies Department

Gerard J. Puccio, *Chair*
Chase Hall 248, (716) 878-6223
creativity.buffalostate.edu/

The Creative Studies Department and its International Center for Studies in Creativity credential creativity through a diverse menu of programs that cultivate skills in creative thinking, innovative leadership practices, and problem-solving techniques. The department, through the process of creative thought, enhances an individual's ability to imagine new ideas by learning how to envision that which cannot be immediately seen. This internationally recognized academic department offers a series of courses that lead to a master of science degree in creative studies or a graduate certificate in creativity and change leadership (see next program). These unique graduate programs attract students from business, education, and many diverse fields. Short summer institutes in combination with distance courses make the graduate certificate and full master's degree available to busy professionals both within and outside of Western New York. Students from across the U.S. and international students from such countries as South Africa, Brazil, Canada, Italy, England, Pakistan, and Singapore have participated in these programs.

The combination of required and elective courses make this graduate program ideal for educators who seek permanent and professional licensure through a degree that offers a unique and valuable set of knowledge and skills (consult with Buffalo State's Teacher Certification Office for specific issues regarding licensure in New York State). Teachers who hold Master's degrees in Creative Studies work in school districts throughout Western New York.

The required courses give all students an opportunity to develop practical leadership, facilitation, training/teaching, and problem-solving skills, while the selection of electives allows students to concentrate on acquiring knowledge and skills in another area of specialization (e.g., education, business, organizations, communications). The creative studies program challenges students to develop their creative talents and to become leaders of change in their professional lives.

Introductory-level graduate courses may be taken by students from other departments at Buffalo State to enrich their majors. Students from business, education, and a variety of other disciplines find this coursework useful. Multidisciplinary degree students integrate creativity courses to fulfill part of their requirements for a master's degree.

The master's degree program consists of three major strands of coursework. The Foundations of Creativity strand surveys various approaches to assessing and defining creativity,

as well as a variety of models and theories associated with understanding the nature of creative behavior. The introductory course to this strand is CRS 560. The Creative Problem Solving and Facilitation strand emphasizes ways to deliberately foster creative potential by helping the student to learn, apply, and teach specific creative problem-solving tools. The introductory course to this strand is CRS 559. The third strand, Research, Development and Dissemination, includes involvement with the department's program of research, development, and dissemination. Students pursue a master's project or thesis that makes a contribution to the emerging discipline of creativity studies. The introductory course in this strand is CRS 620. Students may opt to complete a comprehensive examination and portfolio review in place of the project or thesis.

The department hosts an annual conference called the Creativity Experts Exchange (<http://www.cee-conference.com>). Participation is open to all and provides an excellent venue to deepen knowledge in regard to emerging creativity topics and to meet the Creative Studies community. Visit the Creative Studies website (<http://creativity.buffalostate.edu/>) for more information.

To explore some of the topics covered in the Creative Studies curriculum view the Creativity 101 video series (<http://creativity.buffalostate.edu/videos>) developed by the department.

Graduate Certificate Program and Distance Graduate Program for Professionals

Those interested in pursuing any one of the program strands but not the full master's degree may complete the State University of New York graduate certificate program in creativity and change leadership; see next program. Graduate certificates are awarded by the State University of New York upon completion of at least 18 credit hours (six courses).

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 2.5 (4.0 scale). Preference is shown to those with GPAs of 3.0 or higher.
2. A written statement of the applicant's professional or educational goals and how a degree in creativity studies supports these goals. The recommended length for the letter of intent is two to three pages (use form provided by department).
3. Brief biographical sketch, one to two paragraphs, that provides a summary of the applicant's accomplishments, areas of expertise, and experiences.
4. Two letters of reference (pdf reference form available as download (<http://graduateschool.buffalostate.edu/supplemental-application-materials>); alternative formats available through department (<http://creativity.buffalostate.edu/admissions>))
5. Five years of professional experience (distance program applicants only; distance students must begin with the certificate program).

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (21 credit hours)		
CRS 559	PRINCIPLES IN CREATIVE PROBLEM SOLVING	3
CRS 560	FOUNDATIONS OF CREATIVE LEARNING	3
CRS 610	FACILITATION OF GROUP PROBLEM SOLVING	3
CRS 620	CREATIVITY ASSESSMENT: METHODS AND RESOURCES	3
CRS 625	CURRENT ISSUES IN CREATIVE STUDIES	3
CRS 635	CREATIVITY AND CHANGE LEADERSHIP	3
CRS 670	FOUNDATIONS IN TEACHING AND TRAINING CREATIVITY	3
Elective Courses (6-12 credit hours)		
Select 6-12 credit hours		6-12
Master's Project, Master's Thesis, or Comprehensive Exam (0-6 credit hours)		
Select one from the following:		0-6
Comprehensive Exam		
CRS 690	MASTER'S PROJECT	
CRS 795	MASTER'S THESIS	
Total Credit Hours		33

Creativity and Change Leadership (Graduate Certificate)

Graduate Certificate Program

Program Code: GRCT-SP
Major Code: CRT
HEGIS 4903

Creative Studies Department

Gerard J. Puccio, *Chair*
Chase Hall 248, (716) 878-6223
creativity.buffalostate.edu/

Ongoing development of leadership models during the last century has drawn a close connection between creativity and leadership. At the core of many current leadership models is the concept of change—how to foster and manage it. This concept is clearly reflected in the language used to describe the essence of leadership today. For instance, many leadership theories focus on visionary, transformational, and change leadership. In addition, the view that leadership consists of a set of specific attributes that one has or does not have has shifted to a view that leadership skills can be learned and developed.

The ability to think creatively is an essential leadership skill. Often, a leader must act as a catalyst for change and when we engage in creative thinking our goal is to bring about change, i.e., to bring about an idea, solution or concept that helps us to meet an important goal or to address a complex challenge. Thus, it is imperative for leaders to learn how to facilitate their

own creative thinking, as well as those they work with, to bring about productive change (i.e., new products, services, resolution to problems, opportunities, etc.).

The purpose of the State University of New York graduate certificate program in creativity and change leadership is to provide students with the knowledge and skills that can put them in a better position to operate as change leaders. Leadership is a process. This certificate program teaches students how to better manage this process.

The program applies more than 50 years of research, development, and practice in the field of creativity toward leadership development. The program is not designed strictly for those in formal leadership roles; anyone can learn how to positively influence others as a leader. Leadership is about action, not position.

After completing this graduate certificate program, students can submit an application to continue with the master's degree in creativity (i.e., all courses taken to fulfill the certificate can be applied to the master's degree).

The master's degree and certificate program are offered on the Buffalo State campus and to distance students. Students who wish to earn a master's degree in creativity via distance must begin in the certificate program. Distance students are required to have five years of professional experience. For a description of the distance program (i.e., graduate certificate in creativity and change leadership for professionals) go to the department's webpage (<http://creativity.buffalostate.edu/>).

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 2.5 (4.0 scale). Preference is given to those with GPAs of 3.0 or higher.
2. A written statement of the applicant's professional or educational goals and how a graduate certificate in creativity supports these goals. The recommended length for the letter of intent is two to three pages.
3. Brief biographical sketch, one to two paragraphs, that provides a summary of the applicant's accomplishments, areas of expertise, and experiences.
4. Two letters of reference (pdf form available as a download (<http://graduateschool.buffalostate.edu/supplemental-application-materials/>); alternative formats of reference form also available through department (<http://creativity.buffalostate.edu/admissions/>)).
5. Five years of professional experience (distance learning program applicants only).
6. Successful review by the Graduate Admissions Committee.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (15 credit hours)		
CRS 559	PRINCIPLES IN CREATIVE PROBLEM SOLVING	3
CRS 560	FOUNDATIONS OF CREATIVE LEARNING	3

CRS 610	FACILITATION OF GROUP PROBLEM SOLVING	3
CRS 620	CREATIVITY ASSESSMENT: METHODS AND RESOURCES	3
CRS 635	CREATIVITY AND CHANGE LEADERSHIP	3
Elective Course (3 credit hours)		
CRS 625	CURRENT ISSUES IN CREATIVE STUDIES	3
or CRS 670	FOUNDATIONS IN TEACHING AND TRAINING CREATIVITY	
Total Credit Hours		18

Criminal Justice (M.S.)

Master of Science Program

Program Code: MS-SP
Major Code: CRJ
HEGIS 2105

Criminal Justice Department

James Sobol, *Chair*
Classroom Building C114, (716) 878-4517
criminaljustice.buffalostate.edu/

This program integrates theory, research, and practice that are grounded in the social sciences. The academically rigorous curriculum prepares students for leadership positions in professional criminal justice fields or for advanced graduate study.

Program graduates have a broad base of knowledge in criminal justice and related disciplines; academic skills in critical thinking, conceptualization and analysis; and an in-depth understanding of the complexities of decision making, policy implementation, and planned organizational change in criminal justice.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale) in the last 60 credit hours or a Master's degree from an accredited college or university.
2. A written statement of intent that includes the applicant's preparation for graduate study (guidelines available from the department).
3. If minimum requirements are not met, the graduate faculty may grant an applicant conditional admission to the program as a premajor if the applicant has a minimum cumulative GPA of 2.75 (4.0 scale) AND
 - a. A minimum of five years of full-time work experience in the criminal justice field. OR
 - b. A minimum combined score of 290 on the Verbal and Quantitative sections of the Graduate Record Examination (GRE).
4. Applications are reviewed on a continual basis for the fall and spring semesters.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Core Courses (18 credit hours)		
CRJ 501	THEORETICAL PERSPECTIVES ON CRIME AND CRIMINAL JUSTICE	3
CRJ 504	RESEARCH METHODS IN CRIMINAL JUSTICE	3
CRJ 601	CORRECTIONAL STRATEGIES	3
CRJ 604	CRIMINAL COURTS	3
CRJ 606	LAW ENFORCEMENT ISSUES	3
CRJ 609	STATISTICS IN CRIMINAL JUSTICE	3
Elective Courses (9-18 credit hours)		
Select 9-18 credit hours from the following:		9-18
CRJ 508	HISTORY OF CRIMINAL JUSTICE	
CRJ 590	INDEPENDENT STUDY	
CRJ 602	ORGANIZATIONAL BEHAVIOR AND THE MANAGEMENT PROCESS IN CRIMINAL JUSTICE	
CRJ 603	ADMINISTRATION OF JUSTICE	
CRJ 608	SPECIAL TOPICS IN CRIMINAL JUSTICE	
CRJ 620	WHITE-COLLAR CRIME	
CRJ 622	JUVENILE JUSTICE	
CRJ 624	COMPUTER APPLICATION	
CRJ 625	RACE AND ETHNICITY IN CRIMINAL JUSTICE	
CRJ 626	GENDER ISSUES IN CRIMINAL JUSTICE	
CRJ 630	CONSTITUTIONAL ISSUES IN CRIMINAL JUSTICE	
CRJ 635	CRIMINAL JUSTICE ETHICS	
CRJ 710	RESEARCH PROJECT	
Up to 9 credit hours of electives may be taken outside the department with prior written approval of the student's academic adviser.		
Comprehensive Examination or Master's Project (0-3 credit hours)		
Select one option:		0-3
CRJ 690	MASTER'S PROJECT	
Comprehensive Examination		
Total Credit Hours		36

Earth Science Education (7-12), M.S.Ed.

Master of Science in Education Program

Program Code: MSED-NS
Major Code: EAS
HEGIS 1917.01

Earth Sciences and Science Education Department

National Council for Accreditation of Teacher Education (NCATE) Accredited

SAMC 160 (716) 878-6731
earthsciences.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

This program is designed for in-service teachers or those seeking science teaching certification. The earth science education program permits graduate work in any of the sciences or mathematics, in addition to required science education coursework. The program presumes an undergraduate background in geology/earth sciences; however, individuals with deficiencies may be granted conditional admittance. See the Earth Sciences and Science Education Department chair and the department web site for details.

Students must demonstrate competencies in the following areas:

- Earth sciences — historical geology, paleontology, geomorphology, astronomy, oceanography, mineralogy and petrology, meteorology.
- Other sciences — completion of no fewer than two semesters of lab-based coursework in each of the following: biology, chemistry, and physics.

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. No competency may be fulfilled by examination after admission to the major.

Science education — evaluation, secondary curricula, current issues.

In addition to academic requirements, students who are enrolled in teacher education programs leading to Initial Certification or Initial/Professional certification are required to complete all seminars specifically required by New York State for program completion and graduation, including School Violence Prevention and Intervention (SAVE); Identification and Reporting of Child Abuse and Maltreatment; Alcohol and Other Drug Avoidance; Fire and Arson Safety; HIV and the Classroom; and Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training). These seminar requirements are subject to change.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 2.65 (4.0 scale).
2. A New York State Certificate of Qualification (CQ), provisional certificate, or initial certificate.
3. Three letters of recommendation that address teaching ability and academic standing.

4. Completion of two courses in earth sciences, including and introductory lab-based physical geology course, with a minimum grade of C.
5. An admission interview (at the discretion of the Admissions Committee).

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (15-18 credit hours)		
Science and Mathematics Courses		15-18
Science Education Courses (9 credit hours)		
SCI 628	SEMINAR IN SECONDARY SCIENCE EDUCATION	3
SCI 632	CURRICULAR TRENDS IN SCIENCE TEACHING IN THE SECONDARY SCHOOL	3
SCI 685	EVALUATION IN SCIENCE EDUCATION	3
Master's Project or Master's Thesis (3-6 credit hours)		
Select one from the following:		3-6
SCI/GES 690	MASTER'S PROJECT	
SCI/GES 795	MASTER'S THESIS	
Total Credit Hours		30

Economics

See Applied Economics (p. 51)

Educational Leadership (C.A.S.) - Building

Certificate of Advanced Study Program

Program Code: CAS-ED
Major Code: EDL
HEGIS 0828

Elementary Education and Reading Department

Bacon 302, (716) 878-5916
elementaryeducation.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

This post-master's degree program leads to a certificate of advanced study (CAS) in educational leadership and to New York State certification of School Building Leader.

Admission Requirements

1. Evidence of a valid permanent or professional certificate in classroom teaching, pupil personnel service, or administration that was issued by any state or national government (submit copy).
2. A master's degree from an accredited college or university.
3. Three recommendation forms that attest to applicant's potential as an educational leader. Department forms may be downloaded at suny.buffalostate.edu/graduateschool/admissions.
4. Three years of successful teaching and/or supervisory and/or pupil personnel service experience in schools or agencies (pre-K-12).
5. An interview providing evidence of successful leadership potential.
6. Evidence of satisfactory verbal and written English language skills.
7. Acceptable score on the Miller Analogies Test (MAT).

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

1. A minimum GPA of 3.0 (4.0 scale) is required to remain in the program.
2. Coursework (including transfer credit) and field and internship experiences must be completed within six years of the date of enrollment in the program.
3. An application for admission to candidacy, signed by the student, the student's academic adviser, the department chair, and the School of Education dean, must be submitted after the completion of 6 credit hours and before the completion of 12 credit hours.
4. A maximum of 6 credit hours of independent study may be included in the program.
5. At the completion of 24 credit hours of coursework in EDL, students may enroll in EDL 703 (Educational Leadership Internship, a 3-credit course). At the completion of the EDL 703 internship and at the completion of each field experience, a letter grade of S (Satisfactory) or U (Unsatisfactory) is awarded.
6. All coursework must receive a minimum grade of C to meet program requirements.
7. A maximum of 12 graduate-level credit hours may be transferred upon approval. Only grades of B or better will be accepted as transfer credit.

Code	Title	Credit Hours
Required Courses (27 credit hours)		
EDL 552	PUBLIC SCHOOL LAW	3
EDL 606	SCHOOL-COMMUNITY RELATIONS	3
EDL 607	SITE-BASED LEADERSHIP	3
EDL 612	SCHOOL BUSINESS MANAGEMENT AND FINANCE	3
EDL 630	CURRICULUM LEADERSHIP	3
EDL 631	SUPERVISION OF TEACHING	3

EDL 702	EDUCATIONAL LEADERSHIP FIELD EXPERIENCES	1
EDL 703	EDUCATIONAL LEADERSHIP INTERNSHIP	3
EDL 704	SEMINAR IN EDUCATIONAL CHANGE	3
Elective Courses (6 credit hours)		
Select two from the following:		6
EDL 500	MULTICULTURAL EDUCATION	
EDL 559	PRINCIPLES IN CREATIVE PROBLEM SOLVING	
EDL 560	METHODS, THEORIES, AND MODELS OF CREATIVE LEARNING	
EDL 590	INDEPENDENT STUDY	
EDL 602	ADMINISTRATION OF SPECIAL EDUCATION PROGRAMS	
EDL 608	ADMINISTRATION OF PROGRAMS FOR THE YOUNG CHILD	
EDL 610	METHODS OF ADULT EDUCATION	
EDL 652	SPECIAL EDUCATION LAW	
EDL 683	FACILITATION OF GROUP PROBLEM SOLVING	
EDL 706	PROBLEMS IN LEADERSHIP	
EDL 707	COMPUTER APPLICATIONS IN EDUCATION ADMINISTRATION	
EDL 714	PERSONNEL ADMINISTRATION IN SCHOOLS	
EDU 646	LITERACY LEADERSHIP	
Total Credit Hours		33

Educational Leadership (C.A.S.) - Building & District

Certificate of Advanced Study Program

Program Code: CAS-ED
Major Code: ECP
HEGIS 0828

Elementary Education and Reading Department

Bacon 302, (716) 878-5916
elementaryeducation.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs" (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>) found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

This post-master's degree program leads to a certificate of advanced study (CAS) in educational leadership and to New

York State certification of both School Building Leader and School District Leader.

Admission Requirements

1. Evidence of a valid permanent or professional certificate in classroom teaching, pupil personnel service, or administration that was issued by any state or national government (submit one copy with application).
2. A master's degree from an accredited college or university.
3. Three recommendation forms that attest to applicant potential as an educational leader.
4. Three years of successful teaching and/or supervisory and/or pupil personnel service experience in schools or agencies (pre-K-12).
5. Statement of leadership interests, goals, and relevant professional and community service.
6. An interview providing evidence of successful leadership potential.
7. Evidence of satisfactory verbal and written English language skills.
8. Acceptable score on the Miller Analogies Test (MAT).

Each admission requirement is scored according to criteria on an evaluation rubric. The total score is compiled so that any one requirement will not preclude admission, but an overall snapshot of potential student success will be considered.

In addition, all applicants should adhere to the requirements detailed in the Admission to a Graduate Program (p. 11) section in this catalog and utilize any related Supplemental Application Forms.

Program Requirements

1. A minimum GPA of 3.0 (4.0 scale) is required to remain in the program. Coursework (including transfer credit) and field and internship experiences must be completed within six years of the date of enrollment in the program.
2. An application for admission to candidacy, signed by the student, the student's academic adviser, the department chair, and the School of Education dean, must be submitted after the completion of 6 credit hours and before the completion of 12 credit hours.
3. A maximum of 6 credit hours of independent study may be included in the program.
4. After the successful completion of EDL 703 (Educational Leadership Internship, a 3-credit course), students may enroll in EDL 705 (School District Internship, a 2-credit course). At the completion of each internship experience, a letter grade of S (Satisfactory) or U (Unsatisfactory) is awarded.
5. All coursework must receive a minimum grade of C to meet program requirements.
6. A maximum of 12 graduate credit may be transferred upon approval. Only grades of B or better will be accepted as transfer credit.

Code	Title	Credit Hours
Required Courses (27 credit hours)		
EDL 552	PUBLIC SCHOOL LAW	3
EDL 606	SCHOOL-COMMUNITY RELATIONS	3
EDL 607	SITE-BASED LEADERSHIP	3

EDL 612	SCHOOL BUSINESS MANAGEMENT AND FINANCE	3
EDL 630	CURRICULUM LEADERSHIP	3
EDL 631	SUPERVISION OF TEACHING	3
EDL 702	EDUCATIONAL LEADERSHIP FIELD EXPERIENCES	1
EDL 703	EDUCATIONAL LEADERSHIP INTERNSHIP	3
EDL 704	SEMINAR IN EDUCATIONAL CHANGE	3

Problem Solving Sequence (8 credit hours)

Select two from the following and the required internship for a total of 8 credits:

EDL 559	PRINCIPLES IN CREATIVE PROBLEM SOLVING	
EDL 706	PROBLEMS IN LEADERSHIP	
EDL 683	FACILITATION OF GROUP PROBLEM SOLVING	
EDL 705	SCHOOL DISTRICT INTERNSHIP	

Elective Courses (3 credit hours)

Select one from the following:

EDL 500	MULTICULTURAL EDUCATION	3
EDL 560	METHODS, THEORIES, AND MODELS OF CREATIVE LEARNING	
EDL 590	INDEPENDENT STUDY	
EDL 602	ADMINISTRATION OF SPECIAL EDUCATION PROGRAMS	
EDL 608	ADMINISTRATION OF PROGRAMS FOR THE YOUNG CHILD	
EDL 652	SPECIAL EDUCATION LAW	
EDL 707	COMPUTER APPLICATIONS IN EDUCATION ADMINISTRATION	
EDL 714	PERSONNEL ADMINISTRATION IN SCHOOLS	

Total Credit Hours 38

English (M.A.)

Master of Arts Program

Program Code: MA-AH
Major Code: ENG
HEGIS 1501

English Department

Ralph Wahlstrom, *Chair*
Ketchum Hall 213, (716) 878-5417
english.buffalostate.edu/

The master of arts in English program is designed to provide flexibility in meeting individual student interests while ensuring a broad understanding of the significant areas within the professional study of English. The program builds upon students' undergraduate work in English by offering the opportunity to study several different areas of concentration in depth. It also serves as an excellent preparatory program for doctoral-level study in English.

Advisement

Each student is assigned an academic adviser. All students must apply for candidacy after the completion of 6 credit hours and before the completion of 12 credit hours.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale) in English and 2.75 overall.
2. 36 credit hours in English, at least 27 of which must be in English literature, exclusive of basic college writing.
3. Students must demonstrate competency in written English by submitting a writing sample of their best academic work. Students for whom English is an alternate language are required to submit evidence of passing TOEFL scores, as required by the SUNY system for international students.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (18 credit hours)¹		
ENG 601	RESEARCH IN LITERATURE AND LANGUAGE	3
Select one from the following:		3
ENG 644	IDEOLOGY AND LITERATURE	
ENG 645	LITERATURE AND SOCIAL JUSTICE	
ENG 652	LITERARY CRITICISM	
At least 3 credit hours in British Literature		3
At least 3 credit hours in American Literature		3
At least 3 credit hours in non-American, non-British literature		3
At least 3 credit hours in linguistics or genre study (ENG 670, ENG 641, ENG 642, or ENG 643)		3
Comprehensive Examination (0 credit hours)		
Comprehensive examination required for all students, 0 credit hours, to be taken after the completion of at least 24 credit hours.		0
Elective Courses (12 credit hours)¹		
In English or other academic areas, selected under advisement. Students are not required to produce a Master's Thesis or Master's Project, but if they choose either option, they must apply for permission from the department the term prior to beginning thesis or project work and be approved to undertake these options.		12
Total Credit Hours		30

¹ Selected under advisement.

Language Requirement

Prior to the completion of 18 credit hours, students must demonstrate competence in one foreign language, as well as in written and oral English.

English Education (7–12; M.S.Ed.)

Master of Science in Education Program

Program Code: MSED-AH
Major Code: ENS
HEGIS 1501.01

English Department

National Council for Accreditation of Teacher Education (NCATE) Accredited
Ketchum Hall 213, (716) 878-5417
english.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

This graduate program is designed to provide maximum flexibility in meeting individual interests while ensuring a broad understanding of the various aspects of the teaching of English. The program develops highly qualified teachers who are prepared to exercise leadership as accomplished professional educators.

Culminating Activity (students choose one of three options): In consultation with a full-time faculty member in the English education program, students choose to

1. complete the master's thesis, a traditional in-depth exploration, usually of a literary topic and/or theme;
2. complete a master's project consisting of applied research in English education; or
3. take an English comprehensive examination.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

Advisement

Each student is assigned an academic adviser. All students must apply for candidacy after the completion of 6 credit hours and before the completion of 12 credit hours.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale).
2. 36 credit hours in English beyond freshman composition, including preparation in linguistics, young adult literature, American literature (including ethnic American literature), British literature (including Shakespeare), and World literature.
3. 27 credit hours in professional education, including secondary English methods and student teaching in middle or secondary schools.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
English Courses (9-15 credit hours)		
At least three courses must be in Literature		9-15
English Education and Professional Education Courses (15-21 credit hours)		
SPF 500	MULTICULTURAL EDUCATION	3
ENG 691	ADVANCED STUDY IN THE TEACHING OF ENGLISH	3
or ENG 692	THE TEACHING OF WRITING	
ENG 693	RESEARCH IN THE TEACHING OF ENGLISH (recommended after ENG 691 or ENG 692 when possible.)	3
Two additional English education and/or professional education courses ¹		6
Master's Project, Master's Thesis, or Comprehensive Examination (0-6 credit hours)		
Select one from the following:		0-6
ENG 690	MASTER'S PROJECT	
ENG 695	MASTER'S THESIS	
Comprehensive Examination		
Total Credit Hours		30

¹ Possible English courses: ENG 691 (<http://catalog.buffalostate.edu/graduate/eng-691.htm>), ENG 692 (<http://catalog.buffalostate.edu/graduate/eng-692.htm>), ENG 694 (<http://catalog.buffalostate.edu/graduate/eng-694.htm>), or ENG 670 (<http://catalog.buffalostate.edu/graduate/eng-670.htm>). Students may take both ENG 691 (<http://catalog.buffalostate.edu/graduate/eng-691.htm>) and ENG 692 (<http://catalog.buffalostate.edu/graduate/eng-692.htm>). Students also may select graduate courses from other appropriate departments, such as exceptional education, educational foundations, and elementary education and reading, under advisement.

English Education (7–12; PTCP)

Postbaccalaureate Teacher Certification Program

Program Code: UG-PBC-AH

Major Code: ENS

HEGIS 1501.01

English Department

National Council for Accreditation of Teacher Education

(NCATE) Accredited

Ketchum Hall 213, (716) 878-5417

english.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The English education (7-12) postbaccalaureate teacher certification program leads to eligibility for New York

State initial certification to teach English in grades 7-12. This program is designed for students who have earned a baccalaureate degree in English or a related field from an accredited college or university and intend to complete the coursework required for New York State certification to teach English in secondary or middle schools.

After successfully completing the teacher certification program and passing required New York State teacher certification exams, students are eligible to apply for New York State certification through the Teacher Certification Office, Chase Hall 222. No degree or certificate is awarded by Buffalo State.

Students are responsible for any additional certification requirements, including the Liberal Arts and Sciences Test (LAST), the Assessment of Teaching Skills written test for provisional/initial certification, and child abuse certification.

It takes approximately three to four semesters to complete certification requirements at Buffalo State. Students in this program take both undergraduate- and graduate-level courses and are billed appropriately for each level. Graduate-level credits may be applied to a master's degree at Buffalo State.

In addition to academic requirements, students who are enrolled in teacher education programs leading to Initial Certification or Initial/Professional certification are required to complete all seminars specifically required by New York State for program completion and graduation, including School Violence Prevention and Intervention (SAVE); Identification and Reporting of Child Abuse and Maltreatment; Alcohol and Other Drug Avoidance; Fire and Arson Safety; HIV and the Classroom; and Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training). These seminar requirements are subject to change.

Advisement

Each student is assigned an academic adviser.

Financial Assistance: For financial aid purposes, students are considered fifth-year undergraduates, eligible for undergraduate loans.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale) and a major in English (or a related discipline with a minimum of 36 credit hours in English), including courses in Shakespeare, ethnic American literature, young adult literature, and world literature.¹
2. A minimum GPA of 2.75 in English coursework.¹
3. Two years of high school or two semesters of college study in one foreign language.¹ Applicants must verify foreign language study with high school or college transcripts.
4. Coursework in exceptional education and educational technology (3 credit hours each) or demonstrated expertise in these areas.¹

¹ Applicants who do not meet these requirements should apply as a premajor to the postbaccalaureate certificate program.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Undergraduate-Level Education Courses (15 credit hours)		
SPF 403	HISTORICAL AND PHILOSOPHICAL FORCES INFLUENCING SECONDARY EDUCATION	3
EDU 416	TEACHING LITERACY IN MIDDLE AND SECONDARY SCHOOLS	3
ENG 311	METHODS IN TEACHING LANGUAGE	3
ENG 463	METHODS, MATERIALS, AND PROFESSIONAL DEVELOPMENT FOR TEACHERS OF ENGLISH	6
Graduate-Level Education Courses (9 credit hours)		
SPF 500	MULTICULTURAL EDUCATION	3
SPF 503	EDUCATION PSYCHOLOGY	3
or SPF 529	ADOLESCENT PSYCHOLOGY	3
ENG 692	THE TEACHING OF WRITING	3
Student Teaching Courses (12 credit hours)		
ENG 464/465	STUDENT TEACHING IN MIDDLE SCHOOL/JUNIOR HIGH SCHOOL ENGLISH	6

Foreign Language Education (1-6 Extension; 7-12) (M.S.Ed.)

Master of Science in Education

Program Code: MSED-AH
Major Code: FLE
HEGIS 1199

Modern and Classical Languages Department

National Council for Accreditation of Teacher Education (NCATE) Accredited
Buckham B234, (716) 878-5414
languages.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

This program is designed primarily to accommodate the needs of initially licensed 7-12 French or Spanish teachers for professional licensure in the teaching of foreign languages and extension of the certificate to the 1-6 level. Because the M.S.Ed. in Foreign Language Education Program is intended

to accommodate full-time, practicing teachers, it is expected that most will be enrolled as part-time students.

Students must complete 30 graduate-level credit hours, observing the guidelines and policies that govern graduate-level study at Buffalo State College. Students are expected to maintain a 3.00 GPA (out of 4.00) and to complete the program within a period of 3-5 years.

Students will take a set number of required and elective courses of study within four areas, as follows:

- foreign language, literature, and culture (12 credits);
- advanced foreign language teaching and learning (9 credits);
- computer-assisted instruction (3 credits), and
- educational research (6 credits).

Before completing 15 credit hours toward program requirements at Buffalo State College, students are expected to present to their adviser a research topic based on a clinical question that is relevant to their own classroom teaching experiences. The program culminates with a 3-credit thesis or project based on the research area they have selected.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 overall, and 3.0 (4.0 scale) in a major in French or Spanish language, literature, and culture (or a related discipline with a minimum of 36 credit hours in French or Spanish), or a minimum combined quantitative/verbal score of 290 on the Graduate Record Examination (GRE). The department may grant conditional admission to the program, if the minimum requirements are not met. Any additional work requirements or waivers of general prerequisites for admission shall be set by the department at the time of acceptance.
2. A current résumé.
3. Two letters of reference, attesting to the applicant's language competence and readiness for this program. These letters should be on department forms that may be downloaded at <http://graduateschool.buffalostate.edu/supplemental-application-materials>.
4. Successful completion of a written essay demonstrating skill in English; and of a second essay, showing skill in the target language. In both essays, applicants will describe their professional skills, interests, and goals. The essays are to be written on site as part of the application process.
5. An interview with at least two faculty members of the Modern and Classical Languages Department in the language of the applicant's specialization. The interview will be conducted in both English and the target language. The department will contact the applicant to make an appointment for this interview, after the complete application package is received.

In addition, all applicants should review the Admission to a Graduate Program (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program>) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Foreign Language, Literature, and Culture (12 credit hours)		
Select one track from the following:		12
<i>French Track</i>		
FRE 610	THE AGE OF ENLIGHTENMENT	
FRE 620	GEORGE SAND SEMINAR	
FRE 630	FRENCH AND FRANCOPHONE POPULAR NOVELS SINCE THE NINETEENTH CENTURY	
FRE 640	EXPERIMENTAL LITERATURE OF THE TWENTIETH CENTURY	
<i>Spanish Track</i>		
SPA 606	CONTEMPORARY CIVILIZATION AND CULTURES OF SPAIN	
SPA 609	CIVILIZATIONS AND CULTURES OF LATIN AMERICA	
SPA 617	DON QUIXOTE	
SPA 631	CINEMA OF SPAIN	
More graduate-level courses in French or Spanish language, literature, and culture are in development in the MCL Department. Also applicable are graduate-level courses in French or Spanish literature and/or culture approved by the MCL Department and taken in study abroad programs such as those offered through Middlebury College, as well as campus-networked, structured immersion programs such as Trois Pistoles (Canada) and the program in Salamanca, Spain.		
Advanced Foreign Language Teaching and Learning (9 credit hours)		
Select 9 credit hours from the following:		9
FLE 500	TEACHING A SECOND LANGUAGE IN MIDDLE AND HIGH SCHOOLS ¹	
FLE 520	TEACHING A SECOND LANGUAGE AT THE ELEMENTARY LEVEL ²	
FLE 540	SECOND-LANGUAGE ACQUISITION	
FLE 680	SEMINAR: SPECIAL TOPICS IN RESEARCH ON FOREIGN LANGUAGE LEARNING	
Computer-Assisted Instruction (3 credit hours)		
Select one from the following:		3
FLE 600	INTEGRATING TECHNOLOGY INTO THE SECOND-LANGUAGE CLASSROOM	
FLE 601	ENGLISH AS A SECOND LANGUAGE LINGUISTICS	
EDT 672	CREATING AND INTEGRATING TECHNOLOGY IN THE CLASSROOM	
Educational Research and Clinical Master's Project or Master's Thesis (6 credit hours)		
Select one from the following:		6

SPF 689 METHODS AND TECHNIQUES
& FLE 690 OF EDUCATIONAL RESEARCH
and MASTER'S PROJECT

FLE 695	
Total Credit Hours	30

- ¹ Required for candidates who have not taken FLE 405 and FLE 406, or equivalent methods coursework.
- ² Required for the degree.

Forensic Science (M.S.)

Master of Science Program

Program Code: MS-NS

Major Code: FSC

HEGIS 1999.20

Chemistry Department

M. Scott Goodman, *Chair*

SAMC 164 (716) 878-5204

chemistry.buffalostate.edu/

The master of science in forensic science provides advanced education in the scientific and laboratory methods utilized in a modern forensic laboratory. The program unites current theory and practices in forensic science with advanced laboratory training and an exploration of issues in the related disciplines of law enforcement and ethics.

Important Note: Individuals seeking employment in a forensic science laboratory may be required to undergo an extensive background check including a lie detector test, fingerprinting, and drug testing.

The curriculum for the program is structured around a core of advanced forensic science lecture and laboratory courses supplemented by electives in specialized sub-disciplines. The program includes a seminar component and culminates in a master's thesis based upon original scholarship carried out by the student.

Successful completion of this program requires that students have a strong background in math and science including laboratory experience in chemistry and biology upon admission. The program consists of 31 credit hours and should take two years to complete.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 2.75 (4.0 scale).
2. An official transcript of the applicant's undergraduate program showing successful completion of 48 credit hours of college science and mathematics courses, including the following coursework: one year of general chemistry, one year of organic chemistry with laboratory, a course in analytical chemistry, one year of general biology (including cell biology), a course in genetics or population genetics, and a course in either molecular biology or biochemistry.
3. A minimum GPA in the required chemistry and biology coursework of 2.9 (on a 4.0-point scale).
4. Three letters of recommendation from individuals who are familiar with the applicant's academic record.

- A written statement concerning the applicant's academic background, future plans, and areas of research interest.

In addition, all applicants should review the Admission to a Graduate Program (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program>) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (19 credit hours)		
FOR 612	PRINCIPLES OF FORENSIC SCIENCE	3
FOR 614	FORENSIC APPLICATIONS OF INSTRUMENTAL ANALYSIS	4
FOR 616	MICROSCOPY IN FORENSIC SCIENCE	2
FOR 618	DRUG CHEMISTRY AND TOXICOLOGY	3
BIO/CHE 672	FORENSIC MOLECULAR BIOLOGY	4
CHE 698	JOURNAL SEMINAR	1
CHE 699	THESIS SEMINAR AND DEFENSE	2
Research Credit (6 credit hours)		
Select 6 credit hours		6
Elective Courses (6 credit hours)		
Select 6 credit hours from the following:		6
CHE 572	ADVANCED BIOCHEMISTRY	
FOR 598	GRADUATE MICROCOURSE	
CHE 626	SYMMETRY, GROUP THEORY, AND VIBRATIONAL SPECTROSCOPY	
CHE 627	X-RAY CRYSTALLOGRAPHY	
CHE 628	NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY	
CHE 629	MASS SPECTROMETRY	
CHE 670	BIOMOLECULES: PROTEINS, NUCLEIC ACIDS, AND ENZYMES	
CHE 680	ADVANCED ANALYTICAL CHEMISTRY	
BIO 601	FOUNDATIONS OF CELL AND MOLECULAR BIOLOGY	
BIO 608	MOLECULAR GENETICS	
GES 513	ADVANCED FORENSIC GEOSCIENCE	
CRJ 630	CONSTITUTIONAL ISSUES IN CRIMINAL JUSTICE	
Total Credit Hours		31

Great Lakes Ecosystem Science (M.A.)

Master of Arts Program

Program Code: MA-NS

Major Code: GLE

HEGIS 0420

Great Lakes Center

Kelly M. Frothingham, *Program Coordinator*

Alexander Y Karatayev, *Great Lakes Center Director*

Science and Mathematics Complex 319

(716) 878-4329

greatlakescenter.buffalostate.edu/

The master of arts in Great Lakes ecosystem science program offers a strong foundation in environmental science and allows students to approach problems from a purely scientific perspective. Graduates are trained to effectively deal with a broad range of problems and issues related to ecosystem structure and function within the Great Lakes and surrounding watersheds, which prepares them for advanced research, professional employment, or study at the Ph.D. level.

Admission Requirements

- A bachelor's degree in a science (e.g., chemistry, biology, geography, geology, earth science, environmental science) or math discipline from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale).
- Scores on the Graduate Record Examination (GRE) general test.
- An official transcript of the applicant's undergraduate program giving evidence of satisfactory completion of college science and mathematics courses. It is strongly recommended that all applicants have introductory college coursework in chemistry, biology, geography, geology, and mathematics/statistics. The absence of any of this coursework may be regarded as a deficiency and students may be required to complete this recommended coursework before graduation.
- Two letters of recommendation evaluating the applicant's academic qualifications. It is highly desirable to have at least one letter of recommendation from a professor with whom the applicant has done coursework or projects.
- A written statement of the applicant's academic background, academic and career plans, and area(s) of research interest. Applicants interested in completing a thesis must identify one or more potential faculty advisors with whom they are interested in working on their thesis research. This information should be included in the applicant's written statement. A list of GLES faculty participants can be found here: <https://greatlakescenter.buffalostate.edu/faculty>. Applicants are strongly encouraged to contact potential faculty advisors prior to submitting their applications.
- In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in the Graduate Catalog.

Program Requirements

Code	Title	Credit Hours
Required Core Courses (12 credit hours)		
GLC 535	GREAT LAKES ECOSYSTEMS	3
GLC 600	GREAT LAKES CENTER SEMINAR ¹	3
BIO 670	BIOLOGICAL DATA ANALYSIS (or equivalent quantitative data analysis course)	3
Select one from the following:		3
GEG 525	FUNDAMENTALS OF GIS	

GEG 528 ENVIRONMENTAL ASSESSMENT AND PLANNING APPLICATIONS IN GIS

GEG 529 ADVANCED TOPICS IN GIS

Elective Courses (12 credit hours)

Appropriate biology, chemistry, earth sciences, and geography and planning courses selected by advisement. 12

Master's Thesis (6 credit hours)

GLC 695 MASTER'S THESIS 6

Total Credit Hours 30

¹ Taken three times.

All courses are 3 credit hours unless otherwise indicated

Great Lakes Ecosystem Science (M.S.)

Master of Science Program

Program Code: MS-NS
Major Code: GLS
HEGIS 0420

Great Lakes Center

Kelly M. Frothingham, *Program Coordinator*
Alexander Y Karatayev, *Great Lakes Center Director*
Science and Mathematics Complex 319
(716) 878-4329
greatlakescenter.buffalostate.edu/

The master of science in Great Lakes ecosystem science program combines coursework in environmental science with communication and project management classes and an internship experience. The M.S. program is designed to meet the needs of industry, consulting firms, nongovernmental organizations (NGOs), and governmental agencies, preparing graduates for leadership roles as they address a wide range of problems and issues related to the management of resources within the Great Lakes and surrounding watersheds.

Admission Requirements

1. A bachelor's degree in a science (e.g., chemistry, biology, geography, geology, earth science, environmental science) or math discipline from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale).
2. Scores on the Graduate Record Examination (GRE) general test.
3. An official transcript of the applicant's undergraduate program, giving evidence of satisfactory completion of college science and mathematics courses. It is strongly recommended that all applicants have introductory college coursework in chemistry, biology, geography, geology, and mathematics/statistics. The absence of any of this coursework may be regarded as a deficiency and students may be required to complete this recommended coursework before graduation.
4. Two letters of recommendation evaluating the applicant's academic qualifications. It is highly desirable to have at least one letter of recommendation from a professor with whom the applicant has done coursework or projects.

5. A written statement of the applicant's academic background, academic and career plans, and area(s) of research interest. Applicants interested in completing a thesis must identify one or more potential faculty advisors with whom they are interested in working on their thesis research. This information should be included in the applicant's written statement. A list of GLES faculty participants can be found here: <https://greatlakescenter.buffalostate.edu/faculty>. Applicants are strongly encouraged to contact potential faculty advisors prior to submitting their applications.
6. In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in the Graduate Catalog.

Program Requirements

Code	Title	Credit Hours
Required Core Courses (11 credit hours)		
GLC 535	GREAT LAKES ECOSYSTEMS	3
GLC 600	GREAT LAKES CENTER SEMINAR ¹	2
BIO 670	BIOLOGICAL DATA ANALYSIS (or equivalent quantitative data analysis course)	3
Select one from the following:		3
GEG 525	FUNDAMENTALS OF GIS	
GEG 528	ENVIRONMENTAL ASSESSMENT AND PLANNING APPLICATIONS IN GIS	
GEG 529	ADVANCED TOPICS IN GIS	
Required Business Communication and Project Management Courses (6 credit hours)		
<i>Project Management (3 credit hours)</i>		
PSM 601	PROJECT MANAGEMENT FOR MATH AND SCIENCE PROFESSIONALS	3
or MET 620 MANAGING ENGINEERING PROJECTS		
<i>Communication (3 credit hours)</i>		
Select one from the following:		3
PSM 602	COMMUNICATION STRATEGIES FOR MATH AND SCIENCE PROFESSIONALS	
COM 519	COMMUNICATION FOR LEADERS AND MANAGERS	
COM 610	PUBLIC RELATIONS PRINCIPLES AND PRACTICES	
Required Internship (3 credit hours)		
GLC 688	INTERNSHIP	3
Elective Courses (12 credit hours)		
Appropriate biology, chemistry, earth sciences, and geography and planning courses selected by advisement.		12
Total Credit Hours		32

¹ Taken two times.

Higher Education and Student Affairs Administration (M.S.)

Master of Science Program

Program Code: MS-SP

Major Code: HEA

HEGIS 0826

Higher Education Administration Department

Kimberly A. Kline, *Chair*

Bacon Hall 214C, (716) 878-3789

hea.buffalostate.edu/

Mission: The Higher Education Administration Department (HEA) and the Higher Education and Student Affairs Administration (HESAA) program at Buffalo State is committed to promoting access and to preparing exceptional scholars and practitioners with knowledge, skills, competencies and an ethic of care needed for sound professional practice in the twenty-first century.

Vision: The Higher Education Administration Department's (HEA) Higher Education and Student Affairs Administration (HESAA) Program is one of the most diverse programs of its kind in the United States. Concentrated on serving the educational needs of a diverse student body through a flexible program with evolving and updated curricula, the HESAA Program challenges students to become lifelong learners and leaders in the administration of higher education, student affairs, and other professional communities. As the demographics of higher education change in the 21st century, the program will provide highly prepared leaders representing diverse groups to serve the nation's institutions of higher learning at the highest levels. Many students will continue their intellectual and personal development through doctoral programs and as scholar-practitioners. Students may focus on courses and internships in four concentration areas: administration and management, counseling and development, social justice, research and evaluation or a general focus.

Internships: The internship represents the application of theory in a practical setting. This vehicle for diversified professional training encompasses research, planning, organization and ethical applications.

Assistantships: Graduate assistantships are available in student affairs, academic affairs and other areas within higher education. For college-wide assistantship opportunities, visit <http://graduateschool.buffalostate.edu/assistantships>.

Professional Organizations: HESAA graduates gain mentoring, networking, and professional development support through national, regional and local organizations.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale). Applicants who hold a bachelor's degree but do not meet the minimum GPA requirement may be admitted if they either attain a minimum combined quantitative/verbal score of 290 on the Graduate Record Examination (GRE) or are accepted by the faculty under provisional status.

2. Consideration may be given to work-related experience and involvement in the field.
3. Three letters of recommendation, of which at least one must be from a former faculty/instructor who can speak to your academic and classroom performance and one must be from a professional who works in student affairs or the field of higher education
4. A written essay indicating reasons for interest in the program. This will be evaluated as a writing sample.
5. A current résumé.
6. An interview with HEA program faculty may be required.
7. In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (27 credit hours)		
HEA 616	AMERICAN HIGHER EDUCATION	3
HEA 617	STUDENT DEVELOPMENT AND LEARNING	3
HEA 618	STUDENT AFFAIRS ADMINISTRATION	3
HEA 620	PLANNING AND FINANCE IN HIGHER EDUCATION	3
HEA 622	TECHNIQUES OF COUNSELING	3
HEA 624	INTERNSHIP/PRACTICUM I	3
HEA 625	INTERNSHIP/PRACTICUM II	3
HEA 650	STUDENT ASSESSMENT: TESTS AND MEASUREMENT	3
HEA 689	METHODS AND TECHNIQUES OF EDUCATIONAL RESEARCH	3
	Comprehensive Examination (offered in November and April; 0 cr hrs), Master's Thesis or Master's Project	0
Elective Courses (9 credit hours) ¹		
	Select three from any of the following areas:	9
<i>Administration</i>		
HEA 504	COMMUNITY COLLEGE ADMINISTRATION	
HEA 619	MANAGEMENT SYSTEMS AND LEADERSHIP IN HIGHER EDUCATION	
HEA 651	THE LAW AND HIGHER EDUCATION	
HEA 670	THE COLLEGE STUDENT MOVEMENT 1955-1975	
<i>Counseling and Student Development</i>		
HEA 623	TECHNIQUES OF COUNSELING FOR DIVERSE GROUPS AND CULTURES	
HEA 630	GROUP COUNSELING	
HEA 632	VOCATIONAL DEVELOPMENT AND CAREER COUNSELING	
HEA 670	THE COLLEGE STUDENT MOVEMENT 1955-1975	
<i>Community Education</i>		

HEA 504	COMMUNITY COLLEGE ADMINISTRATION	
HEA 619	MANAGEMENT SYSTEMS AND LEADERSHIP IN HIGHER EDUCATION	
HEA 632	VOCATIONAL DEVELOPMENT AND CAREER COUNSELING	
HEA 670	THE COLLEGE STUDENT MOVEMENT 1955-1975	
<i>Research and Evaluation</i>		
HEA 690	MASTER'S PROJECT	
HEA 695	MASTER'S THESIS	
SPF 520	EDUCATIONAL STATISTICS I (DESCRIPTIVE AND INFERENTIAL)	
<i>Any Concentration Area</i>		
HEA 590	INDEPENDENT STUDY	
HEA 690	MASTER'S PROJECT	
Other elective courses may be selected from related courses/workshops in various disciplines or interdisciplinary areas with adviser approval.		
Total Credit Hours		36

¹ Selected under advisement

Graduation Requirements

A minimum of 36 credit hours are needed for degree completion: 27 credit hours of required coursework and 9 hours of electives. After completing 6 to 12 credit hours, students apply for degree candidacy and are subject to continuous review by the faculty to ensure adherence to professional standards. The required comprehensive examination, master's project or master's thesis must be completed prior to graduation.

History (M.A.)

Master of Arts Program

Program Code: MA-NS
Major Code: HIS
HEGIS 2205

History and Social Studies Education Department

Classroom Building C205, (716) 878-5412
history.buffalostate.edu/

Advisement

The student, with the approval of the department chair, selects an academic adviser who specializes in the student's principal areas of interest.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale) in history and 2.75 overall.
2. 30 credit hours in history.
3. Two letters of recommendation.
4. A 500-word statement describing the applicant's graduate education goals and preferred fields of history.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (18 credit hours)		
Selected under advisement from department course offerings in the following areas:		18
United States and Canada		
Europe		
World History		
Special Topics courses		
Up to six credit hours may be taken in related disciplines with prior approval of the student's advisor and the department chair.		
Seminars (6 credit hours)		
6 credit hours at the 700 level		6
Capstone (6 credit hours)		
Select one from the following:		6
HIS 795	MASTER'S THESIS	
One additional 600 or 700 research seminar and Comprehensive Exam		
Total Credit Hours		30

Graduation Requirements

1. At least fifteen credit hours of coursework at the 600 or 700 level.
2. Either a master's thesis or a comprehensive exam:
 - a. Master's thesis and defense: the student, in consultation with his or her academic advisor and second reader, prepares and submits a written thesis. Once approved, the student must successfully provide an oral defense. The approved thesis is submitted according to the guidelines of the Graduate School.
 - i. An oral defense of the thesis. The student will answer questions from his or her graduate committee on all aspects of the thesis, as well as questions relating to the student's coursework.
 - b. Comprehensive examination: under advisement, the student will prepare three fields and will answer questions from his or her examiners.
3. Demonstrated competence in a foreign language may be required. If applicable, competency examinations will be arranged by the thesis advisor and approved by the department chair.

Human Resource Development (Graduate Certificate)

Graduate Certificate Program

Program Code: GRCT-ED
Major Code: HRD
HEGIS 0807

Department of Adult Education

Susan K. Birden, *Program Coordinator*
Bacon Hall 306, (716) 878-4303

This graduate certificate program is designed to serve the advanced educational needs of professionals who educate and train workers and volunteers but do not need a master's degree. The certificate program consists of 12 graduate credit hours, and is designed to address the essential skills and competencies for professional practitioners in human resource development. Graduates will use their skills to develop and administer training programs to produce a more effective and competitive workforce.

The certificate in human resource development can be applied toward a master's degree in adult education at Buffalo State. Students wishing to complete the graduate certificate in human resource development and the master of science in adult education within 30 credit hours must complete the entire graduate certificate and then apply for admission to the master's degree in adult education. This program does not lead to teaching certification.

The graduate certificate in human resource development is offered both on the Buffalo State campus and through web-based courses.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 2.5 (4.0 scale), or a master's degree from an accredited institution with a minimum GPA of 3.0 (4.0 scale).
2. A letter describing the applicant's interest in the field and experience with teaching or administering adult programs.
3. Applicants may be asked to participate in a phone or online interview at the discretion of the adult education coordinator.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Application Deadline

Applicants must apply by July 1 for fall admission or by December 1 for spring admission. No applications are accepted for summer admission.

Program Requirements

Code	Title	Credit Hours
Required Courses (12 credit hours)		
ADE 608	INSTRUCTIONAL DESIGN AND ASSESSMENT	3
ADE 610	METHODS OF ADULT EDUCATION	3
ADE 625	DESIGNING AND EVALUATING PROGRAMS FOR ADULT LEARNERS	3
ADE 640	HUMAN RESOURCE DEVELOPMENT	3
Total Credit Hours		12

All courses are 3 credits unless otherwise indicated.

Industrial Technology (M.S.)

Master of Science Program

Program Code: MS-SP
Major Code: IDT
HEGIS 0925

Engineering Technology Department

Mohan Devgun, *Chair*
John J. Earshen, *Program Coordinator*
Technology Building 126, (716) 878-6017
engineeringtechnology.buffalostate.edu/

This program prepares professionals for positions of leadership and responsibility in business, industry, and government. It provides direct exposure to actual business and industrial problems in an applications-oriented environment. It encourages part-time study while the participant is involved in full-time employment. Representative undergraduate degrees include industrial technology, engineering technology, computer information systems, and business. Required courses include engineering economics, operations management, integrated industrial systems and research design. These courses provide a common core of knowledge enabling the graduate to effectively function in diverse settings. Elective courses allow the student to pursue topics of interest that may be of immediate professional benefit. A research project, often based on current work experiences, completes the program.

This part-time program is designed to provide a 30-hour degree that blends the management and technology disciplines, and can be completed in three years of part-time study.

Admission Requirements

1. A bachelor's degree in technology, engineering, business, or information systems from an accredited college or university. Candidates holding other baccalaureate degrees but having significant work experience in one of the previously mentioned disciplines will be considered.
2. A minimum cumulative GPA of 2.5 (4.0 scale) in the baccalaureate degree.
3. Three letters of reference, including one from the applicant's current or most recent employer.
4. Letter of intent. A brief statement describing the applicant's experience and how this degree is expected to help achieve his or her career goals.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Application Procedures

1. Obtain application information online at graduateschool.buffalostate.edu/admissions
2. Request sealed official transcripts from all higher education institutions attended and submit them with the complete application packet to Graduate School.
3. Obtain approval from the Graduate Studies Committee, the department chair, and the Graduate School.

Admission applications are not complete until all required forms, documents, and data are received.

Program Requirements

Code	Title	Credit Hours
Required Courses (12 credit hours)		
INT/ECO 601	ENGINEERING ECONOMY	3

INT 602	OPERATIONS MANAGEMENT (ADVANCED SYSTEMS ANALYSIS)	3
INT 659	INTEGRATED INDUSTRIAL SYSTEMS	3
INT 689	RESEARCH DESIGN AND METHODOLOGY	3

Elective Courses (12-18 credit hours)

Select 12-18 credit hours of the following: ¹ 12-18

BUS/HIS 536	THE AMERICAN ENTERPRISE SYSTEM	
HIS 607	THE UNITED STATES IN CONTEMPORARY WORLD AFFAIRS	
INT 610	MANAGERIAL MARKETING	
INT 611	NETWORK THEORY	
INT 612	QUALITY CONTROL MANAGEMENT	
INT 630	WORK MEASUREMENT	
INT 661	MANUFACTURING PROPERTIES OF MATERIALS	
INT 662	MANUFACTURING CASE STUDY	
INT 670	PRODUCTION AND INVENTORY MANAGEMENT	
INT 675	JUST-IN-TIME MANUFACTURING	
PSC 500	PUBLIC ADMINISTRATION AND POLICY	

**Master's Project, Master's Thesis, or
Comprehensive Examination (0-6 credit hours)**

Select one from the following: 0-6

INT 690	MASTER'S PROJECT	
INT 695	MASTER'S THESIS Comprehensive Examination	

Total Credit Hours 30

¹ Selected under advisement

All courses are 3 credit hours unless otherwise indicated.

Learning Design and Educational Technology (M.S.Ed.)

Master of Science in Education Program

Program Code: MSED-SP

Major Code: LDT

HEGIS 0899

Computer Information Systems Department

Stephen E. Gareau, *Program Coordinator*

Technology Building 213, (716) 878-4923

cis.buffalostate.edu/

This program is designed primarily for P-12 educators, trainers from business and industry, and other professionals, who wish to develop and expand their skills in the educational application of technology in the classroom and other teaching

and learning environments. Emphasis is on the design, development, and use of technology in the instructional process.

Graduates of the educational technology program learn to:

- Design, develop, implement, and evaluate instruction;
- Use computers and other educational technologies in the instructional process;
- Develop evaluation criteria and evaluate educational software and hardware;
- Prepare educational software and hardware using a variety of methods and tools;
- Design an educational technology system for an educational site;
- Use computers and other educational technologies in non-instructional and/or administrative settings;
- Assess and prepare for current and future trends in educational technology;
- Explore social, legal, and ethical issues involved in educational technology.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale). Students with less than a 3.0 GPA may be admitted as premajors.
2. Elementary/Secondary teaching certification is recommended (but not required).
3. Three recent letters of recommendation (within one year of application date) that specifically pertain to this Graduate School application.
4. A written Statement of Purpose that details the applicant's previous teaching and technology experience and sets forth the applicant's career goals (including the use of educational technology).
5. Previous experience with the Internet and common software tools (e.g., word processing, spreadsheet, and presentation software) is a prerequisite for full admission to the program. Students deficient in this prerequisite may be admitted as pre-majors.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Core Courses (18 credit hours)		
Select one from the following: 3		
EDT 603	INSTRUCTIONAL DESIGN AND PROBLEM SOLVING WITH TECHNOLOGY	
EDT 610	CREATING AND INTEGRATING DIGITAL VIDEO IN THE CLASSROOM	
EDT 611	TELEVISION FOR EDUCATION AND TRAINING	
EDT 689	RESEARCH METHODS FOR MASTER'S PROJECTS AND THESES	3

EDT 601	INSTRUCTIONAL TECHNOLOGIES	3
EDT 604	AUTHORING FOR EDUCATORS	3
EDT 672	CREATING AND INTEGRATING TECHNOLOGY IN THE CLASSROOM	3
EDT 690	MASTER'S PROJECT	3
For students seeking professional teaching certification: 4 courses in the student's certification content areas, 1 elective course, chosen by advisement		
OR		
For students not seeking certification: 5 elective courses, chosen by advisement		
Elective Courses (15 credit hours)		
Select 15 credit hours from the following:		15
EDT 500	FUNDAMENTALS OF TECHNOLOGY LITERACY	
EDT 594	GRADUATE WORKSHOP	
EDT 600	MULTIMEDIA FOR EDUCATORS	
EDT 606	INTERNET FOR EDUCATORS	
EDT 607	NETWORKING FOR EDUCATORS	
EDT 610	CREATING AND INTEGRATING DIGITAL VIDEO IN THE CLASSROOM	
EDT 611	TELEVISION FOR EDUCATION AND TRAINING	
EDT 612	EDUCATIONAL MODELS, SIMULATIONS, AND GAMES	
EDT 614	EDUCATIONAL GRAPHICS AND ANIMATION	
EDT 615	EDUCATIONAL HARDWARE METHODS AND TOOLS	
EDT 617	EDUCATIONAL TECHNOLOGY FOR INFORMAL LEARNING ENVIRONMENTS	
EDT 707	COMPUTER APPLICATIONS IN EDUCATION ADMINISTRATION	
SPF 503	EDUCATION PSYCHOLOGY	
Total Credit Hours		33

Literacy Specialist (Birth Through Grade 12; M.S.Ed.)

Master of Science in Education Program

Program Code: MSED-ED

Major Code: LBT

HEGIS 0830

Elementary Education and Reading Department

National Council for Accreditation of Teacher Education (NCATE) Accredited

Accredited by International Reading Association

Bacon Hall 302, (716) 878-5916

elementaryeducation.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs" ([http://ecatalog.buffalostate.edu/graduate/admission-graduate-](http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/)

program/admission-all-education-programs)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The Elementary Education and Reading Department offers this program leading to New York State certification as a literacy specialist. This program prepares professional literacy specialists to provide instruction for students with reading or writing difficulties. Graduates of this program also will be able to serve as effective resources and leaders for school-wide literacy curriculum and instruction.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

Degree Candidacy

A student who has completed at least 6 credit hours must submit an Admission to Degree Candidacy form before completing 12 credit hours.

Admission Requirements

1. Have a degree from an accredited college or university.
2. A minimum cumulative GPA of 3.0 (4.0 scale) in undergraduate work. Please submit all transcripts.
3. Write a well-crafted statement addressing the following:
 - a. Your reasons for seeking Literacy Specialist certification
 - b. The professional challenge(s) you encountered during your field experiences/first classroom experiences that you hope to address in your graduate work
 - c. Discuss what you hope to learn in your graduate program focusing on your interest in working with struggling readers
Your statement will be evaluated according to the following criteria (see rubric):
 - i Organization
 - ii Conventions of language
 - iii Content
 - iv Interest in working with struggling readers, rationale, and significant support for rationale
Note: Please refer to the rubric provided with the application materials for the statement prompts and specific evaluation criteria.
4. Submit three letters of reference on special literacy specialist program forms that attest to the applicant's potential as a literacy specialist (included in application packet). Please note that references should be from professors, school administrators, cooperating teachers (only one), or student teaching supervisors (only one).
5. Submit a professional resume

Applicants will be judged on demonstrated academic records; the strength of recommendations, and the quality of the candidate's statement.

In addition, all applicants should review the Admission to a Graduate Program (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/>) section in this catalog

Program Requirements

Code	Title	Credit Hours
Required Courses (36 credit hours)		
EDU 513	THEORY, RESEARCH AND PRACTICE IN LITERACY INSTRUCTION	3
EDU 535	TEACHING WRITING: B-12	3
EDU 606	LITERACY INSTRUCTION FOR LINGUISTICALLY DIVERSE STUDENTS	3
EDU 609	LITERACY INSTRUCTION IN THE UPPER GRADES	3
EDU 611	TEACHING LITERACY IN PRIMARY GRADES	3
EDU 612	DEVELOPING LITERACY THROUGH LITERATURE	3
EDU 642	READING ASSESSMENT AND EVALUATION	3
EDU 643	TEACHING STRATEGIES FOR STUDENTS WITH READING DIFFICULTIES	3
EDU 646	LITERACY LEADERSHIP	3
EDU 647	PRACTICUM IN READING	3-6
EDU 650	LITERACY THEORY AND RESEARCH	3
EDU 655	TEACHING OF READING: GRADUATE SEMINAR	3
Total Credit Hours		36

Program may be completed on a part-time basis through advisement. Pre-requisites apply.

Mathematics Education (7–12; 5–6 Extension; PTCP)

Postbaccalaureate Teacher Certification Program
Program Code: UG-PBC-NS
Major Code: MTX
HEGIS 1701.01

Mathematics Department

National Council for Accreditation of Teacher Education (NCATE) Accredited
Buckham A238, (716) 878-5621
mathematics.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

This program is designed for students who are currently enrolled in the mathematics education 7-12 postbaccalaureate teacher certification program or who have been approved for candidacy in the mathematics education master's program. It allows them to extend certification in mathematics to grades 5-12.

In addition to academic requirements, students who are enrolled in teacher education programs leading to Initial Certification or Initial/Professional certification are required to complete all seminars specifically required by New York State for program completion and graduation, including School Violence Prevention and Intervention (SAVE); Identification and Reporting of Child Abuse and Maltreatment; Alcohol and Other Drug Avoidance; Fire and Arson Safety; HIV and the Classroom; and Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training). These seminar requirements are subject to change.

After successfully completing the teacher certification program and passing required New York State teacher certification exams, students are eligible to apply for New York State certification through the Teacher Certification Office, Chase Hall 222. No degree or certificate is awarded by Buffalo State.

Financial Assistance

For financial aid purposes, students are considered fifth-year undergraduates, eligible for undergraduate loans.

Admission Requirements

Admission Requirements:

A New York State Certificate of Qualification (CQ), provisional certificate, or initial certificate to teach mathematics in grades 7-12 or candidacy in the M.S.Ed. in mathematics education program (6620).

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

This program requires 6 additional credit hours of coursework in middle school education. Courses are selected under advisement. Study includes early adolescent development and the application of diverse instructional strategies in middle childhood education, including interdisciplinary teaching and teaming of students and faculty to maximize student learning. Please contact the Mathematics Department for more information.

Mathematics Education (7–12; M.S.Ed.)

Master of Science in Education Program

Program Code: MSED-NS
Major Code: MTS
HEGIS 1701.01

Mathematics Department

National Council for Accreditation of Teacher Education (NCATE) Accredited
Buckham A238 (716) 878-5621
mathematics.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this

catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

This program is designed to develop, enhance, and extend the content knowledge and professional competencies of secondary mathematics teachers.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale) in all undergraduate mathematics courses.
2. Completion of at least 18 credit hours beyond calculus, including one semester of linear algebra or abstract algebra, one semester of geometry, and at least one semester of analysis, discrete mathematics, calculus-based probability, or calculus-based statistics. Those with minor deficiencies may enter the premajor program with written permission from the Mathematics Department chair; a copy of this statement will be filed in the Mathematics Department Office and the Graduate School.
3. Acceptance as a graduate student by the department chair and the Graduate School dean.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
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Mathematics Courses (12-15 credit hours)

Select from the following: 12-15

MAT 501	MATH FOR TEACHERS: ALGEBRA	
MAT 521	MATH FOR TEACHERS: GEOMETRY	
MAT 581	MATHEMATICS FOR TEACHERS: PROBABILITY AND STATISTICS	
MAT 601	TOPICS IN MODERN ALGEBRA I	
MAT 611	TOPICS IN REAL ANALYSIS ¹	
MAT 620	MODERN GEOMETRY:SELECTED TOPICS	
MAT 631	FOUNDATIONS OF MATHEMATICS	
MAT 651	THEORY OF NUMBERS	
MAT 670	DISCRETE MATHEMATICS AND FOUNDATIONS OF COMPUTER SCIENCE	
MAT 681	INTERMEDIATE PROBABILITY	
MAT 683	STATISTICAL THEORY	
MAT 696	HISTORY OF MATHEMATICS	
MAT 699	SELECTED ADVANCED TOPICS	
MAT 701	MODERN ALGEBRA I	

Mathematics Education Courses (6-9 credit hours)

Select from the following: 6-9

MED 601	SEMINAR IN THE TEACHING OF MATHEMATICS	
MED 602	MATHEMATICS FOR THE SECONDARY SCHOOL TEACHER: SELECTED TOPICS	
MED 604	TEACHING OF GEOMETRIC CONCEPTS	
MED 605	TEACHING OF ALGEBRAIC CONCEPTS	
MED 606	LOGO AND MATHEMATICS LEARNING	
MED 607	TECHNOLOGY IN MATHEMATICS EDUCATION	
MED 683	PROBLEM SOLVING AND PROBLEM POSING	

Curriculum and Research Courses (6 credit hours)

MED 595	RESEARCH METHODS AND TECHNIQUES IN MATHEMATICS EDUCATION	3
MED 600	CONTEMPORARY MATHEMATICS CURRICULUM DEVELOPMENT	3

Master's Project or Master's Thesis (3-6 credit hours)

MED 690	MASTER'S PROJECT	3-6
or MED 795	MASTER'S THESIS IN MATHEMATICS EDUCATION	

Total Credit Hours 30

¹ Required if not part of student's undergraduate program.

Mathematics Education (7–12; PTCP)

Postbaccalaureate Teacher Certification Program

Program Code: UG-PBC-NS

Major Code: MTS

HEGIS 1701.01

Mathematics Department

National Council for Accreditation of Teacher Education (NCATE) Accredited

Buckham A238, (716) 878-5621

mathematics.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs" (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The mathematics education (7-12) postbaccalaureate teacher certification program leads to eligibility for a New York State initial certificate to teach mathematics in grades 7-12. This program is designed for students who have earned a baccalaureate degree in mathematics from an accredited college or university and intend to complete coursework required for New York State certification to teach mathematics.

In addition to academic requirements, students who are enrolled in teacher education programs leading to Initial Certification or Initial/Professional certification are required to complete all seminars specifically required by New York State for program completion and graduation, including School Violence Prevention and Intervention (SAVE); Identification and Reporting of Child Abuse and Maltreatment; Alcohol and Other Drug Avoidance; Fire and Arson Safety; HIV and the Classroom; and Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training). These seminar requirements are subject to change.

After successfully completing the teacher certification program and passing required New York State teacher certification exams, students are eligible to apply for New York State certification through the Teacher Certification Office, Chase Hall 222. No degree or certificate is awarded by Buffalo State.

Financial Assistance

For financial aid purposes, students are considered fifth-year undergraduates, eligible for undergraduate loans.

Admission Requirements

1. A bachelor's degree in mathematics or an applied mathematics field from an accredited college or university with 36 credit hours of mathematics courses and a minimum GPA of 3.0 (4.0 scale) in mathematics courses.
2. Must have passed the New York State certification exams: the Liberal Arts and Sciences Test (LAST) and the Mathematics Content Specialty Test for provisional/initial certification. Contact the Teacher Certification Office, (716) 878-6121, for details.
3. Two years of high school or one year of college-level foreign language.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Requirements may be fulfilled entirely with graduate courses, entirely with undergraduate courses or with a combination of undergraduate and graduate courses. Graduate-level courses are numbered 500 and higher; undergraduate-level courses are numbered 100–499.

Code	Title	Credit Hours
Mathematics Education Courses (18-25 credit hours)		
MED 200	FOUNDATIONS OF TEACHING MATHEMATICS 7-12 AND FIELD EXPERIENCE	3
or MED 500	PRACTICUM I: GRADUATE FIELD EXPERIENCE IN SECONDARY MATHEMATICS EDUCATION	
MED 307	USES OF TECHNOLOGY IN THE TEACHING OF MATHEMATICS	3
or MED 607	TECHNOLOGY IN MATHEMATICS EDUCATION	
MED 383	LEARNING AND TEACHING PROBLEM SOLVING	3
Select one from the following:		3-4

MED 308	METHODS IN THE TEACHING OF SECONDARY SCHOOL MATHEMATICS	3
MED 601	SEMINAR IN THE TEACHING OF MATHEMATICS	
Select one from the following:		6-12
MED 407 & MED 408	STUDENT TEACHING OF MATHEMATICS IN JUNIOR HIGH/MIDDLE SCHOOL and STUDENT TEACHING OF MATHEMATICS IN HIGH SCHOOL (12)	
MED 501 & MED 502	PRACTICUM II: PRACTICE TEACHING MATHEMATICS IN THE MIDDLE SCHOOL and PRACTICUM III: PRACTICE TEACHING MATHEMATICS IN THE HIGH SCHOOL (6)	

Professional Education Courses (13-15 credit hours)

SPF 303	EDUCATIONAL PSYCHOLOGY: MIDDLE AND SECONDARY EDUCATION	3
SPF 403	HISTORICAL AND PHILOSOPHICAL FORCES INFLUENCING SECONDARY EDUCATION	3
or SPF 525	PHILOSOPHY OF EDUCATION	
EDU 417	ADOLESCENT LITERACY	3
or EDU 609	LITERACY INSTRUCTION IN THE UPPER GRADES	
EDU 416	TEACHING LITERACY IN MIDDLE AND SECONDARY SCHOOLS	3
or EDU 513	THEORY, RESEARCH AND PRACTICE IN LITERACY INSTRUCTION	
EXE 100	NATURE AND NEEDS OF INDIVIDUALS WITH SPECIAL NEEDS	1-3
or MED 524	MATHEMATICS INSTRUCTION AT THE SECONDARY LEVEL	

Total Credit Hours 34-43

Multidisciplinary Studies (M.A.)

Master of Arts Program

Program Code: MA-GR
Major Code: MUL
HEGIS 4999

Kevin J. Miller, Dean, The Graduate School
Kimberly J. Jackson, Program Coordinator and Assistant Dean for Strategic and Enrollment Planning,
The Graduate School
Cleveland Hall 204, (716) 878-5601
graduateschool.buffalostate.edu/

The Multidisciplinary Studies Program Individualized Track is designed for individuals with unique professional and educational objectives not readily met by traditional master's

degree programs. Through advisement and within certain guidelines students design their own degree program by selecting graduate courses from academic departments at the college or from other accredited institutions.

Upon satisfactory completion of an approved course of study, a Master of Arts (M.A.) degree is awarded.

Individualized Track

Kimberly J. Jackson, *Program Coordinator*
The Graduate School
Cleveland Hall 204, (716) 878-5601

Through advisement and within certain guidelines, the Individualized track allows students to design their own programs by selecting graduate courses from any department at the college or from other accredited institutions.

Guidelines for Designing a Multidisciplinary Studies Curriculum

A variety of curriculum options, depending upon student interest may be used to design a curriculum. The first step is for students to select graduate course work from a variety of academic areas at Buffalo State which may include, but not limited to: Biology, Business, Chemistry, Creative Studies, Criminal Justice, Data Analytics, Design, Earth Science and Science Education, Engineering Technology, English, Economics and Finance, Fine Arts, Geography and Planning, Great Lakes Ecosystem Science, Health Nutrition and Dietetics, Higher Education and Student Administration, History, Mathematics, Social and Psychological Foundations, and Sociology. Only graduate course work may be included in the Multidisciplinary Studies master's program.

When designing a curriculum, it is important to select a specific content area for which your main course work and cumulating experience (Master's Thesis) will reside. Once content courses have been determined, the student must seek out a graduate faculty member (with graduate faculty status designation) from a department directory (<http://graduateschool.buffalostate.edu/faculty-roster>) to work with. A copy of the Statement of Intent and the Principal Adviser Consent Form (<http://graduateschool.buffalostate.edu/supplemental-application-materials>) must be provided to the identified faculty member who has agreed to work with the student. Students who need assistance identifying a principal adviser should contact the program coordinator in the Graduate School Office.

In addition to content course work, elective courses must also be included the curriculum. Elective courses may vary and should complement the student's educational and professional objectives. Elective course options can be found in the course description section (p. 111) of the Graduate Catalog.

The flexibility of the Multidisciplinary Studies program allows for up to 15 credit hours of transfer work based upon the approval of the principal adviser and advisory committee (if required). See Transfer Credit Policy (p. 19) for guidelines.

See Program Requirements (p. 83) for additional information and guidelines for designing a Multidisciplinary Studies Curriculum.

Advisement

After completing the statement of intent and meeting with the program coordinator, students identify a principal adviser. The principal adviser reviews the statement of intent and

eventually approves a plan of study and agrees to serve as thesis adviser. A detailed plan of study, including specific courses, may be required.

When a principal adviser has been secured, the Principal Adviser Consent Form (<http://graduateschool.buffalostate.edu/supplemental-application-materials>) must be completed.

The principal adviser also enumerates any additional requirements the student must complete before being permitted to advance to candidacy, including but not limited to requiring that the student must identify a second adviser to support the course of study and read the eventual thesis.

The principal adviser is charged with working closely with the student throughout the plan of the study and with service as a point of contact with the Graduate School to support and advise the student. It is the student's responsibility to initiate and maintain contact and ongoing communication with the principal adviser.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 2.5 (4.0 scale).
2. A two- to three-page statement of intent (essay) that includes the following:
 - a. educational and professional objectives;
 - b. an explanation of the reasons for interest in a nontraditional study format; and
 - c. a detailed outline of the proposed plan of study, including specific courses.
3. Identification and consent of a principal adviser (<http://graduateschool.buffalostate.edu/supplemental-application-materials>) (see Advisement (p. 82) section). (Those students who need assistance identifying a principal adviser should contact the program coordinator in the Graduate School office.)
4. An interview with the program coordinator who will contact the student for an appointment after the completed application is received.

In addition, all applicants must review the Admission to a Graduate Program (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program>) section in this catalog

Program Requirements

1. Completion of a minimum of 30 credit hours, comprising at least 15 hours of 600- and 700-level courses, including the master's thesis.
2. A maximum of 18 credit hours may be taken in a discipline that offers a master's degree when the student does a master's thesis (6 credits).
3. A maximum of 18 credit hours may be taken in a discipline that does not offer a master's degree.
4. A maximum of 15 credit hours may be taken at another accredited institution. This coursework must conform to the limitations stated in 2 and 3 (above) and must have the prior approval of the principal adviser. See Transfer Credit (p. 19) policy.
5. Only grades of B or better will be accepted as transfer credit. An official transcript showing transfer credit must be submitted to the Graduate School.

6. Coursework (including transfer credit) must be completed within the six-year period immediately preceding the date of completion of the program.
7. A maximum of 6 credit hours of independent study may be included in the program.
8. Students must maintain a minimum cumulative GPA of 3.0 (4.0 scale).
9. Master of Arts candidates must complete a thesis approved by the principal adviser and a second reader. Individual principal advisers may impose further requirements on candidates based on practices and policies of their home department (third reader or oral defense, for example). These must be specified in writing at the outset of the degree program (completed Principal Adviser Consent Form).
10. A Degree Candidacy Application Form (<http://graduateschool.buffalostate.edu/candidacy-forms>), approved by the student's principal, secondary, and tertiary (if required) must be submitted to the Graduate School before the completion of 12 credit hours at Buffalo State.

Science and Science Education, Engineering Technology, English, Economics and Finance, Fine Arts, Geography and Planning, Great Lakes Ecosystem Science, Health Nutrition and Dietetics, Higher Education and Student Administration, History, Mathematics, Social and Psychological Foundations, and Sociology. Only graduate course work may be included in the Multidisciplinary Studies master's program.

When designing a curriculum, it is important to select a specific content area for which your main course work and cumulating experience (Master's Project) will reside. Once content courses have been determined, the student must seek out a graduate faculty member (with graduate faculty status designation) from a department directory (<http://graduateschool.buffalostate.edu/faculty-roster>) to work with. A copy of the Statement of Intent and the Principal Adviser Consent Form (<http://graduateschool.buffalostate.edu/supplemental-application-materials>) must be provided to the identified faculty member who has agreed to work with the student. Students who need assistance identifying a principal adviser should contact the program coordinator in the Graduate School Office.

In addition to content course work, elective courses must also be included in the curriculum. Elective courses may vary and should complement the student's educational and professional objectives. Elective course options can be found in the course description section (p. 111) of the Graduate Catalog.

The flexibility of the Multidisciplinary Studies program allows for up to 15 credit hours of transfer work based upon the approval of the principal adviser and advisory committee (if required). See Transfer Credit Policy (p. 19) for guidelines.

See Program Requirements (p. 85) for additional information and guidelines for designing a Multidisciplinary Studies Curriculum.

Advisement

After completing the statement of intent and meeting with the program coordinator, students identify a principal adviser. The principal adviser reviews the statement of intent and eventually approves a plan of study and agrees to serve as project adviser. A detailed plan of study, including specific courses, may be required.

When a principal adviser has been secured, the Principal Adviser Consent Form (<http://graduateschool.buffalostate.edu/supplemental-application-materials>) must be completed.

The principal adviser also enumerates any additional requirements the student must complete before being permitted to advance to candidacy, including but not limited to requiring that the student identify a second adviser (if needed) to support the course of study and read the eventual project.

The principal adviser is charged with working closely with the student throughout the plan of the study and with service as a point of contact with the Graduate School to support and advise the student. It is the student's responsibility to initiate and maintain contact and ongoing communication with the principal adviser.

Multidisciplinary Studies (M.S.)

Master of Science Program

Program Code: MS-GR

Major Code: MUL

HEGIS 4999

Kevin J. Miller, Dean, The Graduate School
Kimberly J. Jackson, Program Coordinator and Assistant Dean for Strategic and Enrollment Planning,
The Graduate School
Cleveland Hall 204, (716) 878-5601
graduateschool.buffalostate.edu/

The Multidisciplinary Studies Program Individualized Track is designed for individuals with unique professional and educational objectives not readily met by traditional master's degree programs. Through advisement and within certain guidelines students design their own degree program by selecting graduate courses from academic departments at the college or from other accredited institutions.

Upon satisfactory completion of an approved course of study, a Master of Science (M.S.) degree is awarded.

Individualized Track

Kimberly J. Jackson, *Program Coordinator*
The Graduate School
Cleveland Hall 204, (716) 878-5601

Through advisement and within certain guidelines, the Individualized track allows students to design their own programs by selecting graduate courses from any department at the college or from other accredited institutions.

Guidelines for Designing a Multidisciplinary Studies Curriculum

A variety of curriculum options, depending upon student interest may be used to design a curriculum. The first step is for students to select graduate course work from a variety of academic areas at Buffalo State which may include, but not limited to: Biology, Business, Chemistry, Creative Studies, Criminal Justice, Data Analytics, Design, Earth

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 2.5 (4.0 scale).
2. A two- to three-page statement of intent (essay) that includes the following:
 - a. educational and professional objectives;
 - b. an explanation of the reasons for interest in a nontraditional study format; and
 - c. a detailed outline of the proposed plan of study, including specific courses.
3. Identification and consent of a principal adviser (<http://graduateschool.buffalostate.edu/supplemental-application-materials>) (see Advisement (p. 84) section). (Those students who need assistance identifying a principal adviser should contact the program coordinator in the Graduate School office.)
4. An interview with the program coordinator who will contact the student for an appointment after the completed application is received.

In addition, all applicants must review the Admission to a Graduate Program (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program>) section in this catalog

Program Requirements

1. Completion of a minimum of 30 credit hours, comprising at least 15 hours of 600- and 700-level courses, including the master's project.
2. A maximum of 15 credit hours may be taken in a discipline that offers a master's degree when the student does a master's project (3 credits).
3. A maximum of 18 credit hours may be taken in a discipline that does not offer a master's degree.
4. A maximum of 15 credit hours may be taken at another accredited institution. This coursework must conform to the limitations stated in 2 and 3 (above) and must have the prior approval of the principal adviser. See Transfer Credit (p. 19) policy.
5. Only grades of B or better will be accepted as transfer credit. An official transcript showing transfer credit must be submitted to the Graduate School.
6. Coursework (including transfer credit) must be completed within the six-year period immediately preceding the date of completion of the program.
7. A maximum of 6 credit hours of independent study may be included in the program.
8. Students must maintain a minimum cumulative GPA of 3.0 (4.0 scale).
9. Master of Science candidates must complete a) a research methods course and b) a supervised project approved by the principal adviser. Individual principal advisers may impose further requirements on candidates based on practices and policies of their home department (second reader or oral defense, for example). These must be specified in writing at the outset of the degree program (completed Principal Adviser Consent Form).
10. A Degree Candidacy Application Form (<http://graduateschool.buffalostate.edu/candidacy-forms>), approved by the student's principal, secondary (if required), and tertiary (if required) must be submitted to

the Graduate School before the completion of 12 credit hours at Buffalo State.

Museum Studies (Graduate Certificate)

Graduate Certificate Program

Program Code: GRCT-NS

Major Code: MST

HEGIS 1099

History and Social Studies Education Department

Classroom Building C205, (716) 878-5412

history.buffalostate.edu/

The museum studies certificate is a flexible program designed to allow students to tailor a program to their background and primary work experience. Each student is assigned an academic adviser who works closely with the student to create an appropriate program. The certificate in museum studies can be applied toward a master's degree program at Buffalo State in art education (K-12), history, social studies education (7-12), creative studies, or applied economics. Students interested in combining the museum studies certificate with a degree program are advised to first discuss this option with an adviser from the corresponding degree program.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 2.75 (4.0 scale).
2. Two letters of recommendation.
3. A 500-word personal statement describing the applicant's graduate education goals and interest in the museum field.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (6 credit hours)		
MST 660	MUSEUMS AND SOCIETY	3
MST 601	THEORY AND METHOD IN MUSEUM STUDIES	3
Elective Courses (12 credit hours)¹		
Select from the following:		12
AED 505	FOUNDATIONS IN MUSEUM EDUCATION STUDIES	
COM 519	COMMUNICATION FOR LEADERS AND MANAGERS	
CRS 559	PRINCIPLES IN CREATIVE PROBLEM SOLVING	
CRS 560	FOUNDATIONS OF CREATIVE LEARNING	
DES 640	GRADUATE STUDIO IN DESIGN	
ECO 508	APPLIED MACROECONOMIC THEORY	
HIS 500	STUDIES IN AMERICAN HISTORY	
HIS 590	INDEPENDENT STUDY	

HIS 620	EXCEPTIONAL HISPANIC INDIVIDUALS: HISTORICAL AND CULTURAL CONCERNS	
HIS 623	PROBLEMS IN U.S. HISTORY	
MST 688	INTERNSHIP	
HIS 709	LOCAL HISTORY: RESEARCH METHODS AND TECHNIQUES	
Or other course(s) under advisement		
Total Credit Hours		18

¹ Selected under advisement.

Museum Studies (M.A.)

Master of Arts Program

Program Code: MA-NS

Major Code: MST

HEGIS 1099

History and Social Studies Education Department

Classroom Building C205, (716) 878-5412

history.buffalostate.edu/

The Museum Studies Master of Arts program is designed for individuals interested in pursuing a career in museums or related cultural institutions. The program utilizes a multidisciplinary approach including both theoretical instruction and practical experience to prepare students for museum careers. In addition to a set of core courses, students specialize in one of three fields of museum work. Each student works closely with an academic advisor to develop a program that will position him or her as an innovator who will serve the broad and changing needs of both collections and communities.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 2.75 (4.0 scale).
2. Three letters of recommendation.
3. A 500-word personal statement describing the applicant's graduate education goals and interest in the museum field.
4. Sample research paper from applicants in area of specialization.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (9 credit hours)		
MST 601	THEORY AND METHOD IN MUSEUM STUDIES	3
MST 660	MUSEUMS AND SOCIETY	3
CRS 559	PRINCIPLES IN CREATIVE PROBLEM SOLVING	3
Tracks (12 credit hours)		
Select one of the following tracks:		12
Collections Management and Curatorial Track (p.)		

Vistor Experience and Education Track (p.)		
Museum Operations Track (p.)		
All Tracks (6-9 credit hours)		
MST 590	INDEPENDENT STUDY	3
MST 688	INTERNSHIP	3-6
All Tracks (3-6 credit hours)		
MST 795	MASTER'S THESIS	3-6
or MST 690 MASTER'S PROJECT		
Total Credit Hours		33

Collections Management and Curatorial Track

Code	Title	Credit Hours
MST 621	MUSEUM REGISTRATION METHODS	3
MST 622	RESEARCHING AND PRESENTING MUSEUM COLLECTIONS	3
MST 623	DIGITAL MUSEUM COLLECTIONS	3
MST 624	MUSEUM ARCHIVES	3
Other course(s) under advisement		
Total Credit Hours		12

Visitor Experience and Education Track

Code	Title	Credit Hours
MST 630	VISTOR EXPERIENCE IN MUSEUMS	3
SSE/MST 632	TEACHING WITH HISTORIC PLACES	3
AED 505	FOUNDATIONS IN MUSEUM EDUCATION STUDIES	3
AED 604	FUNDAMENTALS OF EDUCATIONAL PROGRAMMING FOR MUSEUMS	3
EDT 617	EDUCATIONAL TECHNOLOGY FOR INFORMAL LEARNING ENVIRONMENTS	3
EXE 500	INDIVIDUALS WITH SPECIAL NEEDS	3
Other course(s) under advisement		
Total Credit Hours		18

Museum Operations Track

Code	Title	Credit Hours
MST 640	MUSEUM ADMINISTRATION	3
MST 641	REVENUE GENERATION FOR MUSEUMS	3
MST 643	MUSEUM MARKETING AND PUBLIC RELATIONS	3
BUS 545	BASIC ACCOUNTING FOR BUSINESS AND NONBUSINESS ORGANIZATIONS	3
BUS 688	LEADERSHIP IN ORGANIZATIONS	3

COM 519	COMMUNICATION FOR LEADERS AND MANAGERS	3
Other course(s) under advisement		
Total Credit Hours		18

Music Education (M.M.)

Master of Music Program

Program Code: MM-AH
Major Code: MUS
HEGIS 0832

Music Department

National Association of Schools of Music (Accredited)
Emily Boyce, *Chair*
Rockwell Hall 203, (716) 878-6401
Victoria J. Furby, *Program Coordinator*
Rockwell Hall 132 G, (716) 878-3159
furbyvj@buffalostate.edu
<http://music.buffalostate.edu/>

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The Mus.M degree is designed for the in-service music teacher who already possesses an initial Teaching Certificate. The degree program will help students become accomplished reflective educators as indicated by the Buffalo State College Teacher Education Unit Conceptual Framework for advanced programs. This online degree is comprised of courses that are critical to the ongoing professional development of the music teacher. The entire program will require 30 credits and includes 24 credits of required graduate coursework in music history, music theory, music education, and a master's project or master's thesis. An additional six credits of elective coursework will include graduate courses chosen from repertoire and ensemble leadership, educational foundations, musical theatre, and a flexible independent study. The department anticipates developing additional elective graduate offerings in the areas of music education, music technology, music history, music theory, composition, and/or performance after the initial implementation of the degree.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harrassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training). Exceptions for the face to face portion of the DASA requirement can be considered for out of state teachers enrolled in an online program if recommended by the program faculty.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative grade point average of 3.0 (on a 4.0 scale).
2. Bachelor's degree in music education from an accredited institution. It must also adhere to the general guidelines for undergraduate competencies in music theory, music history, music performance, conducting, ensemble participation and music education preparation as

established by the National Association of Schools of Music (NASM). Students must have earned a minimum cumulative GPA of 3.0 in required music courses in their undergraduate degrees.

3. Three letters of recommendation from persons familiar with the applicant's academic background, musicianship and teaching effectiveness. This letter should provide evidence of successful teaching experience, academic ability and professionalism.
4. A resume of educational and professional achievements.
5. A scholarly writing sample of no less than 4 and no more than 15 pages using appropriate citations and sources in the area(s) of music theory, music history, music education or educational psychology.
6. Although not required, formal music teaching experience in public or private school systems is preferred.
7. Applicants may be asked to participate in a phone or on-line interview at the discretion of the music education coordinator.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Additional Admission Requirements for those Applicants Seeking New York State Professional Certification

1. New York State Initial Certification. (Those students seeking New York State Professional Certification with teaching certificates/licenses from states other than New York must apply for and be granted a New York State Initial Teaching Certificate. Requirements for obtaining a New York State Initial Teaching Certificate can be found by visiting the following link: usny.nysed.gov/teachers/ (<http://usny.nysed.gov/teachers/>))
2. A minimum of one 3-credit hour course involving students with special needs. Transcripts must be provided that document a course which entails instruction regarding the understanding and development of effective teaching strategies for students with special needs. Students without documentation of a special needs class will be required to remediate this requirement by taking EXE 100-Individuals with Special Needs, offered online. This course will not fulfill the course requirements of the Mus. M. in Music Education. Additional coursework, (currently only offered in traditional format) that fulfill this requirement and also fulfill elective credits for the Mus.M in Music Education degree, include: EDU 577 Teaching Individuals with Exceptionalities and EXE 500 Individuals with Special Needs.)

Please Note: Applications accepted for Summer admission.

Program Requirements

Code	Title	Credit Hours
Music History/Theory (6 credit hours)		
MUS 602	ADVANCED TOPICS IN MUSIC HISTORY	3
MUS 620	ADVANCED TOPICS IN MUSIC THEORY	3
Music Education (12 credit hours)		
MUS 601	FOUNDATIONS OF MUSIC EDUCATION	3

MUS 625	CURRICULUM AND ASSESSMENT	3
MUS 630	CONTEMPORARY ISSUES IN MUSIC EDUCATION	3
MUS 640	RESEARCH METHODS IN MUSIC EDUCATION	3
Electives (6-9 credit hours)		
Select from the following:		6-9
SPF 503	EDUCATION PSYCHOLOGY	
MUS 590	INDEPENDENT STUDY	
MUS 624	SOCIAL COMMENTARY IN MUSICAL THEATRE	
MUS 641	REPERTOIRE AND ENSEMBLE LEADERSHIP	
Project/Thesis (3-6 credit hours)		
MUS 690	MASTER'S PROJECT	3,6
	or MUS 695 THESIS	
Total Credit Hours		30

Professional Applied and Computational Mathematics (M.S.)

Master of Science Program

Program Code: MS-NS
Major Code: ACM
HEGIS 1701

Mathematics Department

Buckham A238 (716) 878-5621
mathematics.buffalostate.edu/

Professional Applied and Computational Mathematics (PACM) is an innovative Professional Science Master's (PSM) degree program. This program, a collaboration between Buffalo State and a group of partners from Buffalo and the Western New York area, brings together a diverse interdisciplinary group of active faculty from academia and adjunct faculty and advisory board members from business, industry, non-profit organizations, and government agencies. The goal of the program is to train graduate students for careers in many emerging fields that now demand a new type of workforce with solid and in-depth background in applied and computational mathematics, as well as with effective business and communication skills.

The PACM program consists of 27 credits of academic training in data analysis, mathematical modeling, business communication and management, as well as 3 credits of research internship. The core courses are broken up into 1-credit modules that will be updated as needed to keep the program current. Also this format allows for more flexible scheduling, including night or weekend classes, and summer or J-Term sessions.

The development of the program was funded by the Alfred P. Sloan Foundation.

The program is recognized as a Professional Science Master's degree by the Council of Graduate Schools (CGS).

Admission Requirements

- Bachelor's degree with a minimum cumulative GPA of 3.0 (4.0 scale) in the last 60 credit hours.
- If minimum requirements are not met, the graduate faculty may grant an applicant conditional admission to the program as a premajor if the applicant has a minimum cumulative GPA of 2.5 (4.0 scale) in the last 60 credit hours. If accepted to the premajor, the applicant must obtain a 3.0 or higher in the first semester and then reapply to the major (no additional application fees are required).
- The following mathematics courses completed: Single and Multivariable Calculus; Differential Equations; Linear Algebra; Discrete Mathematics; Calculus-based Probability; Calculus-based Statistics.
- Students must demonstrate knowledge of a standard programming language such as C++, Java, Fortran, Maple, or Mathematica.
- An interview with PACM faculty. In addition, all applicants should review the Admission to Graduate School (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program>) section.

Program Requirements

Code	Title	Credit Hours
Required Analytical Mathematical Modeling (9 credit hours)		
ACM 610	CONTINUOUS FOUNDATIONS OF APPLIED MATHEMATICS FROM A PROBLEM SOLVING PERSPECTIVE	
ACM 611	DISCRETE FOUNDATIONS OF APPLIED MATHEMATICS FROM A PROBLEM SOLVING PERSPECTIVE	
ACM 612	COMPUTATIONAL FOUNDATIONS OF APPLIED MATHEMATICS FROM A PROBLEM SOLVING PERSPECTIVE	
ACM 620	OPTIMIZATION OF DISCRETE MODELS	
ACM 621	EMPIRICAL MODEL BUILDING	
ACM 622	MODELING CHANGE WITH DYNAMICAL SYSTEMS	
ACM 630	NUMERICAL LINEAR ALGEBRA	
ACM 631	EIGENVALUE PROBLEMS	
ACM 632	NUMERICAL CALCULUS	
Required Statistical Data Analysis (9-11 credit hours)		
ACM 640	LINEAR REGRESSION AND CORRELATION	
ACM 641	DESIGN AND ANALYSIS OF EXPERIMENTS	
ACM 642	NONPARAMETRIC STATISTICS	
ACM 650	RANDOM WALKS AND BROWNIAN MOTION	
ACM 651	MARKOV CHAINS	
ACM 652	CONTINUOUS-TIME STOCHASTIC PROCESSES	

ACM 653	MARKOV CHAIN MODELS IN CREDIT RISK MANAGEMENT
ACM 660	LOGISTIC REGRESSION
ACM 661	SURVIVAL ANALYSIS
ACM 662	TIME SERIES ANALYSIS AND FORECASTING

Required Business Fundamentals (9 credit hours)

Select one from each area: 9

Business Communication

PSM 602	COMMUNICATION STRATEGIES FOR MATH AND SCIENCE PROFESSIONALS
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Project Management

ACM 601	MATHEMATICAL MODELING AND APPLICATIONS II
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Other Topics

SPF 688	LEADERSHIP IN ORGANIZATIONS
SPF 715	MANAGEMENT PRACTICES AND TECHNIQUES
INT 602	OPERATIONS MANAGEMENT (ADVANCED SYSTEMS ANALYSIS)

Project (3 credit hours)

ACM 690	INTERNSHIP IN APPLIED AND COMPUTATIONAL MATHEMATICS
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Total requirements 30 cr

Public Administration in Public and Nonprofit Management (M.P.A.)

Master of Public Administration

Program Code: MPA-NS

Major Code: PNM

HEGIS 2101.00

Political Science Department, Division of Public Administration and Nonprofit Management

Classroom Building B218, (716) 878-6116

publicadministration.buffalostate.edu/

This program prepares individuals for positions of leadership and management in public and nonprofit organizations. The program provides students with an advanced course of graduate study concentrating on the conceptual, technical, and professional education and skills required for administrative and leadership positions in governmental offices and nonprofit organizations. The program blends three essential components of training to prepare graduates for a career in the public or nonprofit sector:

1. In-depth knowledge of the public and nonprofit sectors.
2. Professional or craft knowledge in the administration of government and nonprofit organizations.
3. Exposure of students to the world of practice by means of an MPA project (PAD 690).

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.00 (4.0 scale), or a master's degree from an accredited institution with a minimum cumulative GPA of 3.0 (4.0 scale).

Applicants who hold a bachelor's degree, but do not meet either of the above criteria may be considered for admission upon a successful interview with the academic intake coordinator or if they attain a minimum quantitative and verbal score of 152 on the Graduate Record Exam (GRE) or complete 6 credit hours of 500-level PAD courses (courses must be pre-approved by the academic intake coordinator) at SUNY Buffalo State as an accepted MPA pre-major student with a minimum cumulative GPA of 3.5.

2. Two letters of reference on the MPA admission form that attest to the applicant's academic performance or potential. Please note that at least one reference must be from a college professor or instructor. Those individuals who graduated from college more than five years ago can ask colleagues, supervisors, and individuals with whom they work on community or nonprofit endeavors (boards, etc.) to write on their behalf. The public administration admissions committee particularly seeks answers to the following questions: a. how long, and in what capacity have you known the applicant? b. Does the applicant have any special talents, abilities, or attributes that deserve mention? c. Do you have any concerns about this applicant that would impede success in graduate studies?
3. A letter of intent that should describe: why the applicant wishes to pursue the MPA; how the applicant's academic training and job experience, if applicable, are linked; why the applicant is prepared for study in the MPA program; a list of the applicant's educational objectives; background in statistics and/or methodology, if any; interest and future career goals; and the choice of track (nonprofit, public administration, or international public management) in which to concentrate. The letter of intent will be assessed as a writing sample according to organization conventions of language and content.

PAD 503 (Introduction to Writing for Public and Nonprofit Organizations) or an equivalent class as determined by the PAD admission committee will be required for students who wish to be admitted to the MPA program but who score below 80% on the MPA writing assessment of the letter of intent detailing their professional explanation for selecting this major and specialization. Students must receive a grade of B or above to be considered for admission to the program.

4. A resume.
5. Applicants for whom English is a second language must submit a score of the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) as documentation of English language proficiency. Applicants with a minimum TOEFL score of 550 or higher on the paper exam or 79 on the Internet exam, or with an IELTS score of 6.0 or higher will be considered for admission. Information on the TOEFL can be found at <http://www.toefl.org>. Information on the IELTS can be found at <http://www.ielts.org/>. English as a Second Language Program International students who do not meet the language requirement

can be admitted to Buffalo State's Intensive English Language Institute (IELI); students must complete required coursework in the English as a Second Language (ESL) program and take the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) as documentation of English language proficiency. The ESL program is a non-degree, non-credit bearing program designed to help students with varying levels of English proficiency through coursework, interaction with native speakers of English, and individualized language practice. Contact the department for more information.

6. In addition, all applicants should review the Admission to a Graduate Program (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program>) section in the Graduate Catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (21 credit hours)		
PAD 500	PUBLIC ADMINISTRATION AND POLICY	3
PAD 601	PUBLIC BUDGETING	3
PAD 640	HUMAN RESOURCE MANAGEMENT IN PUBLIC AND NONPROFIT ORGANIZATIONS	3
PAD 646	STRATEGIC PLANNING FOR PUBLIC AND NONPROFIT ORGANIZATIONS	3
PAD 680	RESEARCH METHODS IN PUBLIC ADMINISTRATION AND NONPROFIT MANAGEMENT	3
PAD 681	DATA ANALYSIS AND PRESENTATION	3
PAD 735	PUBLIC ORGANIZATIONS	3
Select one of the following tracks:		12
Public Administration Track (p. 90)		
Nonprofit Track (p. 90)		
International Public Management Track (p. 90)		
Master's Project (3 credit hours)		
PAD 690	MASTER'S PROJECT (by advisement)	3
Total Credit Hours		36

Public Administration Track

Code	Title	Credit Hours
Select four from the following:		12
PAD 501	COMPARATIVE PUBLIC ADMINISTRATION	
PAD 502	ADMINISTRATIVE LAW	
PAD 540	U.S. PUBLIC POLICY	
PAD 560	THE AGING NETWORK	
PAD 587	TOPICS COURSE	
PAD 588	GRADUATE INTERNSHIP	
PAD 590	INDEPENDENT STUDY	
PAD 602	COMPARATIVE PUBLIC POLICY	

PAD 643	SUPERVISION IN THE HUMAN SERVICES
PAD 650	INTRODUCTION TO HEALTH POLICY AND MANAGEMENT
PAD 685	PERFORMANCE-BASED MANAGEMENT IN THE PUBLIC SECTOR
PAD 688	LEADERSHIP IN PUBLIC AND NONPROFIT ORGANIZATIONS
PAD 700	MIGRATION POLICY
PAD 701	ADMINISTRATIVE ETHICS
PAD 704	HUMAN RIGHTS AND HUMANITARIAN POLICY
PAD 712	MANAGING PROGRAM EVALUATION
PAD 715	SURVEY METHODS AND DESIGN

Total Credit Hours 12

Nonprofit Track

Code	Title	Credit Hours
Select four from the following:		12
PAD 540	U.S. PUBLIC POLICY	
PAD 560	THE AGING NETWORK	
PAD 587	TOPICS COURSE	
PAD 588	GRADUATE INTERNSHIP	
PAD 590	INDEPENDENT STUDY	
PAD 603	NGO MANAGEMENT & INTERNATIONAL DEVELOPMENT	
PAD 643	SUPERVISION IN THE HUMAN SERVICES	
PAD 647	THE NONPROFIT AND VOLUNTARY SECTOR	
PAD 648	NONPROFIT GRANTS MANAGEMENT AND FUND DEVELOPMENT	
PAD 650	INTRODUCTION TO HEALTH POLICY AND MANAGEMENT	
PAD 701	ADMINISTRATIVE ETHICS	
PAD 712	MANAGING PROGRAM EVALUATION	
PAD 715	SURVEY METHODS AND DESIGN	
Total Credit Hours		12

Total Credit Hours 12

International Public Management Track

Code	Title	Credit Hours
Select four from the following:		12
Required Course:		
PAD 605	INTERNATIONAL PUBLIC MANAGEMENT AND SERVICE	
Track Electives - Select three courses from the following list (9 Credit Hour)		
PAD 501	COMPARATIVE PUBLIC ADMINISTRATION	
PAD 587	TOPICS COURSE	

PAD 588	GRADUATE INTERNSHIP
PAD 590	INDEPENDENT STUDY
PAD 602	COMPARATIVE PUBLIC POLICY
PAD 603	NGO MANAGEMENT & INTERNATIONAL DEVELOPMENT
PAD 700	MIGRATION POLICY
PAD 704	HUMAN RIGHTS AND HUMANITARIAN POLICY
PAD 712	MANAGING PROGRAM EVALUATION
PAD 715	SURVEY METHODS AND DESIGN
<hr/>	
Total Credit Hours	12

Public Management (Graduate Certificate)

Graduate Certificate Program

Program Code: GRCT-NS
Major Code: PMG
HEGIS 2102

Political Science Department, Division of Public Administration and Nonprofit Management

Classroom Building B218, (716) 878-6116
publicadministration.buffalostate.edu/

The Advanced Certificate in Public Management provides students with an advanced course of study at the graduate level concentrating on the conceptual, technical, and professional education and skills required for administrative and leadership positions in the public sector. The program, totaling 15 credit hours, includes three required core courses (9 credit hours) and two electives (6 credit hours) taken from Public Administration (PAD) graduate courses. Transfer credit may be given for one or both of the elective courses.

Admission Requirements

- A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.00 (4.0 scale) or a master's degree from an accredited institution with a minimum GPA of 3.0 (4.0 scale).
- A brief written statement of the applicant's professional or educational goals and how a graduate certificate in public management supports these goals.
- Successful review by the Admissions Committee.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (9 credit hours)		
PAD 500	PUBLIC ADMINISTRATION AND POLICY	3
PAD 601	PUBLIC BUDGETING	3
PAD 735	PUBLIC ORGANIZATIONS	3
Electives (6 credit hours)		
PAD 540	U.S. PUBLIC POLICY	

PAD 605	INTERNATIONAL PUBLIC MANAGEMENT AND SERVICE
PAD 608	INTERGOVERNMENTAL RELATIONS
PAD 640	HUMAN RESOURCE MANAGEMENT IN PUBLIC AND NONPROFIT ORGANIZATIONS
PAD 646	STRATEGIC PLANNING FOR PUBLIC AND NONPROFIT ORGANIZATIONS
PAD 650	INTRODUCTION TO HEALTH POLICY AND MANAGEMENT
PAD 685	PERFORMANCE-BASED MANAGEMENT IN THE PUBLIC SECTOR
PAD 688	LEADERSHIP IN PUBLIC AND NONPROFIT ORGANIZATIONS
PAD 700	MIGRATION POLICY
PAD 715	SURVEY METHODS AND DESIGN

Total Credit Hours 15

Public Relations (M.S.)

Master of Science Program

Program Code: MS-GR
Major Code: PBR
HEGIS: 0604

Deborah A. Silverman
Communication Department
Bishop Hall 225, (716) 878-3606
communication.buffalostate.edu/

The Communication Department's Master of Science degree in Public Relations, a part-time program (six credits per semester) provides a solid foundation in the principles and practice of public relations for students interested in careers in public relations. It educates students in the principles, theories, research methods and writing techniques that are needed for a career in public relations, with special emphasis on strategic communication planning skills and ethical standards that are required to succeed in public relations. The 33-credit program includes seven required public relations courses, two public relations electives, and two general electives.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of at least 2.75 on a 4.0 scale.
2. Graduate Record Exam (GRE) scores. The GRE cannot be replaced by the GMAT, LSAT, or other scores.
3. Three writing samples.
4. A 500-word letter of intent describing educational objectives and career goals.
5. Three letters of recommendation that attest to the applicant's potential as a graduate student.

In addition, international applicants from non-English speaking countries must take the Test of English as a Foreign Language (TOEFL) with a score of 100 or higher. Because this degree program is writing-intensive, reflecting the nature

of public relations jobs, students with a TOEFL score below 100 are likely to have difficulty completing the program.

Application Deadline: The application deadline is July 1 for the following year.

In addition, all applicants should review the Admission to a Graduate Program (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program>) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (21 credit hours)		
COM 610	PUBLIC RELATIONS PRINCIPLES AND PRACTICES	3
COM 621	THEORIES OF PUBLIC RELATIONS	3
COM 631	ADVANCED PUBLIC RELATIONS WRITING	3
COM 635	INTERNSHIP IN PUBLIC RELATIONS	3
COM 641	RESEARCH METHODS IN PUBLIC RELATIONS	3
COM 650	PUBLIC RELATIONS MANAGEMENT	3
COM 690	MASTER'S PROJECT	3
Public Relations Electives (6 credit hours)		
Two Communication courses by advisement		6
General Electives (6 credit hours)		
Two courses from other areas, by advisement		6
Total Credit Hours		33

Science Education (M.S.Ed.)

Master of Science in Science Education Program

Program Code: MSED-NS

Major Code: SBI (Leading to Initial NYS Teacher Certification in Biology 7-12)

SCH (Leading to Initial NYS Teacher Certification in Chemistry 7-12)

SEA (Leading to Initial NYS Teacher Certification in Earth Science 7-12)

SPH (Leading to Initial NYS Teacher Certification in Physics 7-12)

HEGIS: 0834

Earth Sciences and Science Education Department

National Council for Accreditation of Teacher Education (NCATE) Accredited

SAMC 160, (716) 878-6731

earthsciences.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

This Master of Science in Science Education program is designed for individuals holding an undergraduate degree in a core science (Biology, Chemistry, Earth Sciences, Geology, or

Physics). Candidates who complete 31-37 credit hours (which includes student teaching and a master's project) in education coursework may qualify for NYSED initial certification allowing them to teach science in grades 7-12 in New York State.

In addition to academic requirements, students who are enrolled in teacher education programs leading to Initial Certification or Initial/Professional certification are required to complete all seminars specifically required by New York State for program completion and graduation, including School Violence Prevention and Intervention (SAVE); Identification and Reporting of Child Abuse and Maltreatment; Alcohol and Other Drug Avoidance; Fire and Arson Safety; HIV and the Classroom; and Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training). These seminar requirements are subject to change.

Admission Requirements

Candidates new to Buffalo State College

Potential candidates will follow Buffalo State College entrance procedures, which include an online Graduate School Application (graduateschool.buffalostate.edu/admissions). Applicants must have a baccalaureate degree with sufficient academic background in the prospective area of teaching to take graduate work in the discipline. Candidates are strongly encouraged to contact the department's program coordinator for a transcript review and a pre-application interview.

The following criteria must also be met:

1. Official transcripts from all institutions that the candidate has attended.
2. Overall GPA 3.0 or higher.
3. Proficiency in a foreign language through the 102 level (one year of foreign language).
4. Science certification area (Biology, Chemistry, Earth Sciences, Geology or Physics) GPA of 3.0 or higher.
5. A minimum of thirty credit hours in the science discipline (Biology, Chemistry, Earth Sciences, Geology, or Physics) in which certification is sought.
6. Statement of intent that should include:
 - a. reasons for pursuing graduate study in science education;
 - b. career aspirations;
 - c. special interests within the field;
 - d. any unusual features of background that might need explanation or be of interest to the program's admissions committee.
7. Letter of reference that includes an assessment of the applicant's ability to work with others.

Buffalo State Quick Admit

For candidates with undergraduate degrees from SUNY Buffalo State, Science Education has agreements with the content science departments to "Buffalo State Fast Track" their majors wishing to become certified to teach. Students in the following degree programs at SUNY Buffalo State who meet the above admission requirements can move directly into the M.S.Ed. program with this Buffalo State Fast Track option:

1. B.A. Biology
2. B.S. Chemistry
3. B.A. Geology; B.S. Earth Sciences
4. B.A. Physics; B.S. Physics

Official transcripts are not required for candidates on Buffalo State Fast Track.

In addition, all applicants should review the Admission to a Graduate Program (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program>) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (31-37 credit hours)		
<i>Professional Education and Science Education (15-21 credit hours)</i>		
SCI 502	SECONDARY SCIENCE EDUCATION TEACHING: THEORY, CONTENT AND PEDAGOGY	3
SCI 545	LITERACY FOR TEACHING SCIENCE	3
SCI 650	CURRICULAR RESEARCH TOPICS IN SCIENCE	3
SCI 664	TEACHING SCIENCE WITH TECHNOLOGY	3
EXE 500	INDIVIDUALS WITH SPECIAL NEEDS	3
SPF 503	EDUCATION PSYCHOLOGY	3
EDU 609	LITERACY INSTRUCTION IN THE UPPER GRADES	3
<i>Practica (13 credit hours)</i>		
SCI 677	INITIAL MIDDLE SCHOOL SCIENCE TEACHING EXPERIENCE	6
SCI 678	INITIAL HIGH SCHOOL SCIENCE TEACHING EXPERIENCE	6
SCI 679	SEMINAR IN SCIENCE EDUCATION	1
Culminating Project (3 credit hours)		
SCI 690	MASTER'S PROJECT	3
Total Credit Hours		31-37

Social Studies Education (7-12; 5-6 Extension; PTCP)

UG-PBC-NS SSX

History and Social Studies Education Department Postbaccalaureate Teacher Certification Program (HEGIS 2201.1)

Council for the Accreditation of Educator Preparation (CAEP) Accredited
Classroom Building C205
(716) 878-5412
history.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The social studies education (7–12; 5–6 extension) postbaccalaureate certification-only program prepares persons with existing undergraduate degrees who have a history or social science major to meet the disciplinary content and educational requirements leading to New York State's Initial Certificate in adolescence education required to teach social studies in grades 5–12. The program supplies the background knowledge necessary for teachers to implement the NYS Learning Standards for social studies in grades 5–12. It also meets the standards set by national professional organizations such as the Council for the Accreditation Educator Preparation (CAEP).

In addition to academic requirements, students who are enrolled in teacher education programs leading to Initial Certification or Initial/Professional certification are required to complete all seminars specifically required by New York State for program completion and graduation, including School Violence Prevention and Intervention (SAVE); Identification and Reporting of Child Abuse and Maltreatment; Alcohol and Other Drug Avoidance; Fire and Arson Safety; HIV and the Classroom; and Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training). These seminar requirements are subject to change.

Admission Requirements

Applicants must have an existing undergraduate degree with a 36-credit concentration in history and/or social science courses, as well as a minimum 3.0 cumulative GPA; a minimum 3.0 GPA in all history and social sciences courses.

Students complete a minimum of 30–35 clock hours of field experience in each of three courses: SSE 200, SSE 303, and SSE 309. Another course, SSE 488/HIS 488, will be used by students to complete the additional 50 clock hours in field experience required for the 5-6 extension. The department has established relationships with several high-need urban and suburban school districts where field experiences are held. All majors will have study and experiences that together provide a solid foundation for teaching in high-need schools.

Program Requirements

Code	Title	Credit Hours
History of the Western Hemisphere (15 credit hours)		
HIS 106	HISTORY OF AMERICAN LIFE I	3
HIS 107	HISTORY OF AMERICAN LIFE II	3
HIS 308	HISTORY OF EARLY CANADA	3
HIS 314	MODERN LATIN AMERICA	3
HIS 415	HISTORY AND GOVERNMENT OF NEW YORK STATE	3
History of the Eastern Hemisphere (15 credit hours)		
HIS 230	WORLD CIVILIZATIONS I	3
Select two from the following:		6

HIS 115	FOUNDATIONS OF WESTERN CIVILIZATION	
HIS 116	EUROPE SINCE 1500	
HIS 117	TWENTIETH-CENTURY EUROPE	
Geography (6 credit hours)		
GEG 300	WORLD REGIONAL GEOGRAPHY	3
Select one from the following: 3		
GEG 102	HUMAN GEOGRAPHY	
GEG 206	GEOGRAPHY OF NEW YORK STATE	
GEG 309	URBAN GEOGRAPHY	
GEG 360	GEOGRAPHY OF ASIA	
GEG 362	GEOGRAPHY OF THE UNITED STATES AND CANADA	
GEG 364	GEOGRAPHY OF EUROPE	
Political Science (3 credit hours)		
Select one from the following: 3		
PSC 102	INTRODUCTION TO AMERICAN GOVERNMENT AND POLITICS	
PSC 320	U.S. CIVIL LIBERTIES	
Economics (3 credit hours)		
Select one from the following: 3		
ECO 101	THE ECONOMIC SYSTEM	
ECO 201	PRINCIPLES OF MACROECONOMICS	
ECO 202	PRINCIPLES OF MICROECONOMICS	
Cultural Diversity (3 credit hours)		
SSE/HIS 363	AMERICAN IDENTITY IN TRANSITION: DIVERSITY AND PLURALISM IN THE UNITED STATES	3
History/Social Science Electives (11 credit hours)		
Select 11 credit hours 11		
Professional Education Requirements (30 credit hours)		
SPF 303	EDUCATIONAL PSYCHOLOGY: MIDDLE AND SECONDARY EDUCATION	3
EDU 416	TEACHING LITERACY IN MIDDLE AND SECONDARY SCHOOLS	3
ENG 309	TEACHING AND EVALUATING WRITING	3
or EDU 417	ADOLESCENT LITERACY	
EXE 100	NATURE AND NEEDS OF INDIVIDUALS WITH SPECIAL NEEDS	3
or EXE 372	FOUNDATIONS OF TEACHING ADOLESCENTS WITH DISABILITIES	
PSY 357	ADOLESCENT AND YOUNG ADULT DEVELOPMENT	3
SSE 200	INTRODUCTION TO SECONDARY TEACHING	3
SSE 303	METHODS AND MATERIALS IN TEACHING MIDDLE SCHOOL SOCIAL STUDIES	3

SSE 309	METHODS AND MATERIALS IN TEACHING HIGH SCHOOL SOCIAL STUDIES	3
SSE 370	COMPUTER TECHNOLOGY IN THE SOCIAL STUDIES CLASSROOM	3
SSE 402	HISTORICAL AND PHILOSOPHICAL FOUNDATIONS OF SOCIAL EDUCATION	3
or SSE/HIS 407	THE TEACHING OF HISTORY	

Student Teaching Requirements (15 credit hours)

To complete the program, a student must be in the major and have achieved a cumulative GPA of 3.0 or higher and a minimum 3.0 GPA in the major.

SSE 409	STUDENT TEACHING OF SOCIAL STUDIES IN THE MIDDLE SCHOOL	6
SSE 410	STUDENT TEACHING OF SOCIAL STUDIES IN SENIOR HIGH SCHOOL	6
SSE/HIS 488	INTERNSHIP	1-12

Total Credit Hours 95

Social Studies Education (7-12; M.S.Ed.)

Master of Science in Education Program

Program Code: MSED-NS

Major Code: SSS

HEGIS 2201.01

History and Social Studies Education Department

National Council for Accreditation of Teacher Education (NCATE) Accredited

Classroom Building C205, (716) 878-5412

history.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The master of science in social studies education (7-12) program helps candidates become educational leaders and innovative change agents as they acquire eligibility for permanent/professional teaching certification for grades 7-12.

The program is based on a model that gives equal weight to pedagogy and content matter. Fifteen credit hours of social studies education/pedagogy and 15 credit hours of history/social sciences are required for the M.S. in education degree. The social studies education/pedagogy portion of the program consists of courses in social studies curriculum, social studies methods, theory, and research methods to address the curricular concerns of the National Council for the Social Studies. The history/social science portion is divided into 9 credit hours of concentration and 6 credit hours of electives. Furthermore, the program links pedagogy and the content area by requiring two block courses (6 credit hours each) so

students concurrently take a history and related pedagogy course in the same semester.

At the completion of 12 credit hours of coursework in the program, the student must have achieved a minimum GPA of 3.0 (4.0 scale).

Advisement: Each student is assigned an academic adviser. It is imperative that students regularly consult with their advisers. All students must have their programs of study approved by their advisers and the department chair.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

Graduation Requirements

1. Successful completion of a master's thesis (SSE 795)
2. A comprehensive examination
3. Defense of a graduate portfolio.

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale).
2. 36 credit hours in history and/or the social sciences.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Program Requirements

At least 15 credit hours must be from 600- or 700-level courses.

Code	Title	Credit Hours
Required Courses (15 credit hours) ¹		
History and/or social science courses; 9 more credit hours must be concentrated in a single discipline.		15
Professional Education Courses (15 credit hours)		
SSE 502	TEACHING SOCIAL STUDIES ²	3
SSE 513	SEMINAR IN SECONDARY SOCIAL STUDIES	3
SSE 655	SOCIAL STUDIES LABORATORY ²	3
SSE 689	RESEARCH METHODS AND TECHNIQUES IN SECONDARY SOCIAL STUDIES	3
SSE Elective	Social Studies Education Elective	3
Master's Thesis, Portfolio Defense, or Comprehensive Examination (0-6 credit hours)		
Select one from the following:		0-6
SSE 795	MASTER'S THESIS	
Defense of Graduate Portfolio		
Comprehensive Examination		
Total Credit Hours		30-36

¹ Selected under advisement.

² Must be taken concurrently with one History content course.

Social Studies Education (7-12; PTCP)

UG-PBC-NS SSX

History and Social Studies Education Department Postbaccalaureate Teacher Certification Program (HEGIS 2201.01)

Council for the Accreditation of Educator Preparation (CAEP) Accredited
Classroom Building C205
(716) 878-5412
history.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The social studies education (7–12) postbaccalaureate certification-only program prepares persons with undergraduate degrees in history or social science, or with a 36-credit concentration in history and/or social science courses, to meet the disciplinary content and educational requirements leading to New York's Initial Certificate in adolescence education required to teach social studies in grades 5–12. The program supplies the background knowledge necessary for teachers to implement the NYS Learning Standards for social studies in grades 5–12. It also meets the standards set by national professional organizations such as the National Council for the Social Studies and the Council for the Accreditation of Educator Preparation (CAEP).

In addition to academic requirements, students who are enrolled in teacher education programs leading to Initial Certification or Initial/Professional certification are required to complete all seminars specifically required by New York State for program completion and graduation, including School Violence Prevention and Intervention (SAVE); Identification and Reporting of Child Abuse and Maltreatment; Alcohol and Other Drug Avoidance; Fire and Arson Safety; HIV and the Classroom; and Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training). These seminar requirements are subject to change.

Admission Requirements

Applicants must have an existing undergraduate degree with a 36-credit concentration in history and/or social science courses, as well as a minimum 3.0 cumulative GPA; a minimum 3.0 GPA in all history and social science courses.

Students complete a minimum of 30–35 clock hours of field experience in each of three courses: SSE 200 (<http://catalog.buffalostate.edu/undergraduate/sse-200.htm>), SSE 303 (<http://catalog.buffalostate.edu/undergraduate/sse-303.htm>), and SSE 309 (<http://catalog.buffalostate.edu/undergraduate/sse-309.htm>). The department has established relationships with several high-need urban and suburban school districts where field experiences are held. All majors will have study

and experiences that together provide a solid foundation for teaching in high-need schools.

The program of study must include economics, government, and a minimum of 30 semester hours of study in the history and geography of the United States and the world. All students' history/social science coursework must include the following or the equivalent of the following:

Program Requirements

Code	Title	Credit Hours
Basic History (9 credit hours)		
HIS 106	HISTORY OF AMERICAN LIFE I	3
HIS 107	HISTORY OF AMERICAN LIFE II	3
HIS 415	HISTORY AND GOVERNMENT OF NEW YORK STATE	3
Basic World History (9 credit hours)		
HIS 230	WORLD CIVILIZATIONS I	3
Select two from the following:		6
HIS 115	FOUNDATIONS OF WESTERN CIVILIZATION	
HIS 116	EUROPE SINCE 1500	
HIS 117	TWENTIETH-CENTURY EUROPE	
Other World History (6 credit hours)		
Two Asian, Middle-Eastern, or African History courses		6
Geography (6 credit hours)		
GEG 300	WORLD REGIONAL GEOGRAPHY	3
Select one from the following:		3
GEG 102	HUMAN GEOGRAPHY	
GEG 206	GEOGRAPHY OF NEW YORK STATE	
GEG 309	URBAN GEOGRAPHY	
GEG 360	GEOGRAPHY OF ASIA	
GEG 362	GEOGRAPHY OF THE UNITED STATES AND CANADA	
GEG 364	GEOGRAPHY OF EUROPE	
Political Science (3 credit hours)		
Select one from the following:		3
PSC 102	INTRODUCTION TO AMERICAN GOVERNMENT AND POLITICS	
PSC 320	U.S. CIVIL LIBERTIES	
Economics (3 credit hours)		
Select one from the following:		3
ECO 101	THE ECONOMIC SYSTEM	
ECO 201	PRINCIPLES OF MACROECONOMICS	
ECO 202	PRINCIPLES OF MICROECONOMICS	
Cultural Diversity (3 credit hours)		
SSE/HIS 363	AMERICAN IDENTITY IN TRANSITION: DIVERSITY AND PLURALISM IN THE UNITED STATES	3
History/Social Science Electives (11 credit hours)		

Professional Education Requirements (30 credit hours)		
SPF 303	EDUCATIONAL PSYCHOLOGY: MIDDLE AND SECONDARY EDUCATION	3
EDU 416	TEACHING LITERACY IN MIDDLE AND SECONDARY SCHOOLS	3
ENG 309	TEACHING AND EVALUATING WRITING	3
or EDU 417	ADOLESCENT LITERACY	
EXE 100	NATURE AND NEEDS OF INDIVIDUALS WITH SPECIAL NEEDS	3
or EXE 372	FOUNDATIONS OF TEACHING ADOLESCENTS WITH DISABILITIES	
PSY 357	ADOLESCENT AND YOUNG ADULT DEVELOPMENT	3
SSE 200	INTRODUCTION TO SECONDARY TEACHING	3
SSE 303	METHODS AND MATERIALS IN TEACHING MIDDLE SCHOOL SOCIAL STUDIES	3
SSE 309	METHODS AND MATERIALS IN TEACHING HIGH SCHOOL SOCIAL STUDIES	3
SSE 370	COMPUTER TECHNOLOGY IN THE SOCIAL STUDIES CLASSROOM	3
SSE 402	HISTORICAL AND PHILOSOPHICAL FOUNDATIONS OF SOCIAL EDUCATION	3
or SSE/HIS 407	THE TEACHING OF HISTORY	
Student Teaching Requirements (12 credit hours)		
To student teach, a student must have achieved a cumulative GPA of 3.0 or higher and a minimum 3.0 GPA in the social studies major, as well as obtain a grade of C or higher in SSE 303 and SSE 309.		
SSE 409	STUDENT TEACHING OF SOCIAL STUDIES IN THE MIDDLE SCHOOL	6
SSE 410	STUDENT TEACHING OF SOCIAL STUDIES IN SENIOR HIGH SCHOOL	6

Special Education

Master of Science in Education Programs:

Special Education: Early Childhood Program Code: MSED-ED

Major Code: EXC

Special Education: Childhood Program Code: MSED-ED
Major Code: XCE

Special Education: Students with Disabilities (SWD)
Generalist 7-12 Program Code: MSED-ED
Major Code: EXS

Graduate Certificate Program

Teaching Bilingual Exceptional Individuals Program Code:
GRCT-ED
Major Code: BXE
HEGIS 0808

Exceptional Education Department

National Council for Accreditation of Teacher Education
(NCATE) Accredited
Ketchum Hall 204
(716) 878-3038
General Information (voice mail): (716) 878-3038
exceptionaleducation.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The special education programs lead to a master of science in education degree and eligibility for New York State certification in special education. The teaching bilingual exceptional individuals program leads to eligibility for a New York State Bilingual Education Extension. The early childhood and childhood special education graduate programs are designed for students with undergraduate majors in education or special education.

The Exceptional Education Department offers three specialty master of science in education degree programs in special education: early childhood, childhood, and generalist 7-12. Students who are not provisionally/initially certified in special education must complete 15-18 credit hours of preliminary coursework in addition to the program area requirements. Students in the generalist 7-12 program or one of the 17 generalist 7-12 and 7-12 subject area extension programs may require additional New York State content core and/or specific subject area coursework. Required preliminary courses are listed under each program area below. All three programs require the completion of a research component: EXE 684 and EXE 690, which must be taken in sequential order at the end of the program. The Exceptional Education Department also offers a Bilingual Special Education Certificate Program. Successful completion of this program leads to recommendation for New York State certification extension in bilingual special education. Students are able to complete this certificate program concurrently with one of the special education masters of science in education programs offered by the department.

Advisement

Because of the variety of options available in the department, it is imperative that majors and premajors seek advisement as early as possible. Students should contact their assigned academic advisers. The student designs programs of study with his or her adviser according to the student's goals and background.

Practicum

Practicum assignments link theoretical coursework with the applied demands of a wide variety of internship settings. Practicum sites are available to meet the needs and interests

of nearly all students and are selected by the program coordinator.

Certification

Students in the department who are certified in early childhood education, childhood education, or adolescent education must fulfill course and degree requirements for New York State certification in special education and/or teaching bilingual exceptional education.

Premajor Status

Students may not apply for premajor status. They apply to the graduate program, and the department decides if they are accepted to the program as majors or premajors. Premajors may enroll, by advisement, in two EXE courses at the 500 level (e.g., EXE 500, EXE 501) only. Premajors may not register for courses identified as "majors only" during the preregistration period. Student teaching and other fieldwork experiences are closed to premajors. There is no waiting list for admission to the Exceptional Education Department. Premajors apply for admission as majors by submitting a change of major form to the Graduate School during or after the completion of two EXE courses. Premajors are not guaranteed admission to the program.

Doctor of Philosophy Degree in Special Education

The Buffalo State College Exceptional Education Department and the University at Buffalo Learning and Instruction Department have developed a doctor of philosophy degree in special education. Students interested in more information about this program should contact Sharon Raimondi, Ph.D., (716) 645-5042.

Special Education: Childhood Program (XCE)

Master of Science in Education Program:

Program Code: MSED-ED
Major Code: XCE
HEGIS: 0808

Exceptional Education Department

National Council for Accreditation of Teacher Education
(NCATE) Accredited
Ketchum Hall 204
(716) 878-3038
General Information (voice mail): (716) 878-3038
exceptionaleducation.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The special education programs lead to a master of science in education degree and eligibility for New York State certification in special education. The teaching bilingual exceptional individuals program leads to eligibility for a

New York State Bilingual Education Extension. **The early childhood and childhood special education graduate programs are designed for students with undergraduate majors in education or special education.**

The Exceptional Education Department offers three specialty master of science in education degree programs in special education: early childhood, childhood, and generalist 7-12. Students who are not provisionally/initially certified in special education must complete 15-18 credit hours of preliminary coursework in addition to the program area requirements. Students in the generalist 7-12 program or one of the 17 generalist 7-12 and 7-12 subject area extension programs may require additional New York State content core and/or specific subject area coursework. Required preliminary courses are listed under each program area below. All three programs require the completion of a research component: EXE 684 and EXE 690, which must be taken in sequential order at the end of the program. The Exceptional Education Department also offers a Bilingual Special Education Certificate Program. Successful completion of this program leads to recommendation for New York State certification extension in bilingual special education. Students are able to complete this certificate program concurrently with one of the special education masters of science in education programs offered by the department.

Advisement

Because of the variety of options available in the department, it is imperative that majors and premajors seek advisement as early as possible. Students should contact their assigned academic advisers. The student designs programs of study with his or her adviser according to the student's goals and background.

Practicum

Practicum assignments link theoretical coursework with the applied demands of a wide variety of internship settings. Practicum sites are available to meet the needs and interests of nearly all students and are selected by the program coordinator.

Certification

Students in the department who are certified in early childhood education, childhood education, or adolescent education must fulfill course and degree requirements for New York State certification in special education and/or teaching bilingual exceptional education.

Premajor Status

Students may not apply for premajor status. They apply to the graduate program, and the department decides if they are accepted to the program as majors or premajors. Premajors may enroll, by advisement, in two EXE courses at the 500 level (e.g., EXE 500, EXE 501) only. Premajors may not register for courses identified as "majors only" during the preregistration period. Student teaching and other fieldwork experiences are closed to premajors. There is no waiting list for admission to the Exceptional Education Department. Premajors apply for admission as majors by submitting a change of major form to the Graduate School during or after the completion of two EXE courses. Premajors are not guaranteed admission to the program.

About the Childhood Program

This program prepares teachers for delivery of educational services in inclusive classrooms, resource rooms, self-contained classrooms, special schools, residential facilities, or consultant teachers in general education settings to help infuse special education practices into the general education class. The program focus is on the education of students who have a variety of regular and special instructional needs.

The coursework is designed to prepare teachers with the knowledge and skills to make appropriate modifications to the curriculum for students with mild/moderate disabilities in general and special education settings. The goal of this program is to prepare special educators, working closely with general educators, to provide the best teaching strategies to promote student learning, as well as to design positive environments that foster learning for students both with and without disabilities.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale). Admission is competitive; not all qualified applicants are admitted.
2. Employment or other experience relevant to the graduate course of study.
3. A written statement describing the applicant's philosophy of education and relevant experiences in the field. This statement must adhere to standard written English.
4. Faculty review.
5. Completion of a special application (available from the department or download from <http://graduateschool.buffalostate.edu/supplemental-application-materials>).
6. The ability to speak English and Spanish, and an oral interview (for bilingual exceptional individuals certificate program applicants only).

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Successful completion of the undergraduate program in exceptional education at Buffalo State is not a guarantee of admission to a graduate program. A point system based on the above criteria is used to evaluate applicants. Applicants with the highest point totals are admitted to the program each admission period. Only students admitted to the major (as majors or premajors) may take courses other than .

Program Requirements

Code	Title	Credit Hours
Preliminary Courses (0-18 credit hours)		
Required for students without provisional/initial certification in special education		
EXE 500	INDIVIDUALS WITH SPECIAL NEEDS	3

EXE 501	EDUCATIONAL ASSESSMENT TECHNIQUES FOR SPECIAL EDUCATION	3
EXE 502	CONTINGENCY MANAGEMENT	3
EXE 503	INSTRUCTIONAL STRATEGIES FOR INDIVIDUALS WITH MILD DISABILITIES	3
EXE 504	GRADUATE PRACTICUM IN SPECIAL EDUCATION	6

Required Courses (24-27 credit hours)

EXE 520	TEACHING OF INDIVIDUALS WITH SEVERE/MULTIPLE DISABILITIES AND AUTISM SPECTRUM DISORDERS	3
or EXE 620	ADVANCED TEACHING OF INDIVIDUALS WITH SEVERE/MULTIPLE DISABILITIES AND AUTISM SPECTRUM DISORDERS	
EXE 628	COLLABORATION AND CONSULTATIVE PRACTICES IN INCLUSIVE SETTINGS	3
EXE 631	ADAPTING LANGUAGE ARTS AND READING INSTRUCTION FOR STUDENTS WITH MILD DISABILITIES	3
EXE 632	DIRECT INSTRUCTION INTERVENTION MODELS FOR STUDENTS WITH SPECIAL NEEDS	3
EXE 633	ADAPTING CONTENT AREA INSTRUCTION FOR CHILDREN AND ADOLESCENTS WITH DISABILITIES	3
EXE 634	APPLIED BEHAVIOR ANALYSIS	3
EXE 636	PROMOTING EFFECTIVE SOCIAL INTERACTIONS IN THE SCHOOLS	3
EXE 682	INSTRUCTIONAL FIELD EXPERIENCE IN SPECIAL EDUCATION ¹	3-9
EXE 684	GRADUATE SEMINAR IN EXCEPTIONAL EDUCATION	3

Elective Courses (0-3 credit hours) ²

Select up to one from the following:		3
EXE 530	PARENT AND FAMILY INVOLVEMENT IN SPECIAL EDUCATION PROGRAMS	
EXE 534	UNDERSTANDING STUDENTS WITH BEHAVIOR PROBLEMS IN THE CLASSROOM	
EXE 544	MODELS OF CLASSROOM DISCIPLINE FOR STUDENTS WITH DISABILITIES	
EXE 627	TRANSITION FROM SCHOOL TO ADULT COMMUNITY LIFE	
EXE 644	ADVANCED BEHAVIOR ANALYSIS FOR CHALLENGING BEHAVIORS	
EXE 650	ASSESSMENT OF YOUNG CHILDREN WITH DISABILITIES	

EXE 652	INTERVENTION IN EARLY CHILDHOOD SPECIAL EDUCATION	
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Master's Project or Master's Thesis (3-6 credit hours)

EXE 690	MASTER'S PROJECT	3-6
or EXE 695	MASTER'S THESIS	

Total Credit Hours 30-54

¹ EXE 682 is for students in the Childhood Program who do not complete EXE 504 .

² Selected under advisement.

Special Education: Early Childhood Program (EXC)

Master of Science in Education Programs:

Program Code: MSED-ED
Major Code: EXC
HEGIS: 0808

Exceptional Education Department

National Council for Accreditation of Teacher Education (NCATE) Accredited
Ketchum Hall 204
(716) 878-3038
General Information (voice mail): (716) 878-3038
exceptionaleducation.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The special education programs lead to a master of science in education degree and eligibility for New York State certification in special education. The teaching bilingual exceptional individuals program leads to eligibility for a New York State Bilingual Education Extension. **The early childhood and childhood special education graduate programs are designed for students with undergraduate majors in education or special education.**

The Exceptional Education Department offers three specialty master of science in education degree programs in special education: early childhood, childhood, and generalist 7-12. Students who are not provisionally/initially certified in special education must complete 15-18 credit hours of preliminary coursework in addition to the program area requirements. Students in the generalist 7-12 program or one of the 17 generalist 7-12 and 7-12 subject area extension programs may require additional New York State content core and/or specific subject area coursework. Required preliminary courses are listed under each program area below. All three programs require the completion of a research component: EXE 684 and EXE 690, which must be taken in sequential order at the end of the program. The Exceptional Education Department also offers a Bilingual Special Education Certificate Program. Successful completion of this program leads to recommendation for New York State certification extension in bilingual special education. Students

are able to complete this certificate program concurrently with one of the special education masters of science in education programs offered by the department.

Advisement

Because of the variety of options available in the department, it is imperative that majors and premajors seek advisement as early as possible. Students should contact their assigned academic advisers. The student designs programs of study with his or her adviser according to the student's goals and background.

Practicum

Practicum assignments link theoretical coursework with the applied demands of a wide variety of internship settings. Practicum sites are available to meet the needs and interests of nearly all students and are selected by the program coordinator.

Certification

Students in the department who are certified in early childhood education, childhood education, or adolescent education must fulfill course and degree requirements for New York State certification in special education and/or teaching bilingual exceptional education.

Premajor Status

Students may not apply for premajor status. They apply to the graduate program, and the department decides if they are accepted to the program as majors or premajors. Premajors may enroll, by advisement, in two EXE courses at the 500 level (e.g., EXE 500, EXE 501) only. Premajors may not register for courses identified as "majors only" during the preregistration period. Student teaching and other fieldwork experiences are closed to premajors. There is no waiting list for admission to the Exceptional Education Department. Premajors apply for admission as majors by submitting a change of major form to the Graduate School during or after the completion of two EXE courses. Premajors are not guaranteed admission to the program.

About the Early Childhood Program

This program prepares early interventionists and teachers to work with infants and young children with disabilities—or young children at risk for being identified with a disability—and their families. The program is cross-categorical; prospective teachers receive coursework related to working with students with physical, intellectual, sensory, communication, and/or behavioral disorders.

The role of the early interventionist or preschool teacher is to facilitate the child's development of social, motor, communication, self-help, cognitive, and behavioral skills. Interventionists are expected to design activities and environments to enhance the child's concept of self, sense of competence and control, and independence. Because a number of educational programs serving this population subscribe to an interdisciplinary approach, much of the assessment, planning, and implementation of programs is done in collaboration with other members of the professional team.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale). Admission is competitive; not all qualified applicants are admitted.
2. Employment or other experience relevant to the graduate course of study.
3. A written statement describing the applicant's philosophy of education and relevant experiences in the field. This statement must adhere to standard written English.
4. Faculty review.
5. Completion of a special application (available from the department or download from <http://graduateschool.buffalostate.edu/supplemental-application-materials>).
6. The ability to speak English and Spanish, and an oral interview (for bilingual exceptional individuals certificate program applicants only).

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Successful completion of the undergraduate program in exceptional education at Buffalo State is not a guarantee of admission to a graduate program. A point system based on the above criteria is used to evaluate applicants. Applicants with the highest point totals are admitted to the program each admission period. Only students admitted to the major (as majors or premajors) may take courses other than .

Program Requirements

Code	Title	Credit Hours
Preliminary Courses (0-15 credit hours)		
Required for students without provisional/initial certification in special education		
EXE 500	INDIVIDUALS WITH SPECIAL NEEDS	3
EXE 501	EDUCATIONAL ASSESSMENT TECHNIQUES FOR SPECIAL EDUCATION	3
EXE 502	CONTINGENCY MANAGEMENT	3
EXE 504	GRADUATE PRACTICUM IN SPECIAL EDUCATION	6
Required Courses (24 credit hours)		
EXE 510	COGNITION AND EMERGENT LITERACY IN YOUNG CHILDREN WITH DISABILITIES	3
EXE 612	MANAGING THE BEHAVIOR OF YOUNG CHILDREN WITH DISABILITIES	3
EXE 520	TEACHING OF INDIVIDUALS WITH SEVERE/MULTIPLE DISABILITIES AND AUTISM SPECTRUM DISORDERS	3
or EXE 620	ADVANCED TEACHING OF INDIVIDUALS WITH SEVERE/MULTIPLE DISABILITIES AND AUTISM SPECTRUM DISORDERS	
EXE 628	COLLABORATION AND CONSULTATIVE PRACTICES IN INCLUSIVE SETTINGS	3

EXE 650	ASSESSMENT OF YOUNG CHILDREN WITH DISABILITIES	3
EXE 652	INTERVENTION IN EARLY CHILDHOOD SPECIAL EDUCATION	3
EXE 682	INSTRUCTIONAL FIELD EXPERIENCE IN SPECIAL EDUCATION	3
EXE 684	GRADUATE SEMINAR IN EXCEPTIONAL EDUCATION ¹	3

Elective Courses (0-6 credit hours) ²

Select up to two from the following. 3

EXE 530	PARENT AND FAMILY INVOLVEMENT IN SPECIAL EDUCATION PROGRAMS	
EXE 534	UNDERSTANDING STUDENTS WITH BEHAVIOR PROBLEMS IN THE CLASSROOM	
EXE 544	MODELS OF CLASSROOM DISCIPLINE FOR STUDENTS WITH DISABILITIES	
EXE 631	ADAPTING LANGUAGE ARTS AND READING INSTRUCTION FOR STUDENTS WITH MILD DISABILITIES	
EXE 632	DIRECT INSTRUCTION INTERVENTION MODELS FOR STUDENTS WITH SPECIAL NEEDS	
SLP 540	CHILDHOOD LANGUAGE DISABILITIES	

Master's Project or Master's Thesis (3-6 credit hours)

EXE 690	MASTER'S PROJECT	3-6
	or EXE 695 MASTER'S THESIS	

Total Credit Hours 33-51

¹ Admission to EXE 684 (<http://catalog.buffalostate.edu/graduate/exe-684.htm>) is by special permission. An application is completed the semester prior to admission. See the department office for application deadlines.

² Selected under advisement.

Special Education: Generalist 7-12 (EXS) and Students with Disabilities 7-12 Subject Area Extensions

Master of Science in Education Programs:

Program Code: MSED-ED
Major Code: EXS
HEGIS: 0808

Exceptional Education Department

National Council for Accreditation of Teacher Education (NCATE) Accredited
Ketchum Hall 204
(716) 878-3038

General Information (voice mail): (716) 878-3038
exceptionaleducation.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The special education programs lead to a master of science in education degree and eligibility for New York State certification in special education. The teaching bilingual exceptional individuals program leads to eligibility for a New York State Bilingual Education Extension. The early childhood and childhood special education graduate programs are designed for students with undergraduate majors in education or special education.

The Exceptional Education Department offers three specialty master of science in education degree programs in special education: early childhood, childhood, and generalist 7-12. Students who are not provisionally/initially certified in special education must complete 15-18 credit hours of preliminary coursework in addition to the program area requirements. Students in the generalist 7-12 program or one of the 17 generalist 7-12 and 7-12 subject area extension programs may require additional New York State content core and/or specific subject area coursework. Required preliminary courses are listed under each program area below. All three programs require the completion of a research component: EXE 684 and EXE 690, which must be taken in sequential order at the end of the program. The Exceptional Education Department also offers a Bilingual Special Education Certificate Program. Successful completion of this program leads to recommendation for New York State certification extension in bilingual special education. Students are able to complete this certificate program concurrently with one of the special education masters of science in education programs offered by the department.

Advisement

Because of the variety of options available in the department, it is imperative that majors and premajors seek advisement as early as possible. Students should contact their assigned academic advisers. The student designs programs of study with his or her adviser according to the student's goals and background.

Practicum

Practicum assignments link theoretical coursework with the applied demands of a wide variety of internship settings. Practicum sites are available to meet the needs and interests of nearly all students and are selected by the program coordinator.

Certification

Students in the department who are certified in early childhood education, childhood education, or adolescent education must fulfill course and degree requirements for New York State certification in special education and/or teaching bilingual exceptional education.

Premajor Status

Students may not apply for premajor status. They apply to the graduate program, and the department decides if they are

accepted to the program as majors or premajors. Premajors may enroll, by advisement, in two EXE courses at the 500 level (e.g., EXE 500, EXE 501) only. Premajors may not register for courses identified as "majors only" during the preregistration period. Student teaching and other fieldwork experiences are closed to premajors. There is no waiting list for admission to the Exceptional Education Department. Premajors apply for admission as majors by submitting a change of major form to the Graduate School during or after the completion of two EXE courses. Premajors are not guaranteed admission to the program.

About the Students with Disabilities Programs

These programs prepare teachers to work with students with disabilities at the secondary level. The programs are intended to develop highly qualified teachers who possess the knowledge and skills to develop and facilitate effective instruction and programs. Secondary special education teacher candidates are prepared to work collaboratively with general education subject matter specialists, as well as with career education personnel. Graduates of this program become knowledgeable in subject matter content, as well as best practices for transition planning. They also acquire a solid base in the technology of teaching, with knowledge related to direct and interactive instruction (cooperative learning, peer tutoring, differentiated instruction, and responsive instructional strategies).

The programs recognize the unique needs of adolescents with learning problems. A major goal of this program is to prepare teachers to address secondary students' skill deficits, social adaptation problems, and vocational competence.

The program leads to a master of science in education degree and eligibility for New York State certification in Generalist 7-12. The additional SWD Generalist 7-12 and subject extension programs lead to a master of science in education degree and eligibility for New York State certification in SWD Generalist 7-12 as well as 7-12 subject area extensions. The 7-12 subject area extensions to the SWD Generalist 7-12 program are: Earth Science, Biology, Chemistry, Physics, Social Studies, Mathematics, English Language Arts, Spanish, French, Italian, German, Greek, Hebrew, Japanese, Latin, Mandarin, and Urdu.

The candidate designs programs of study with his or her adviser according to the candidate's goals and background. The process will require an analysis of candidate's transcripts. Transcript analysis will include a review of previous courses in accordance with part 80 of the Regulations and Requirements from the Office of Teaching Initiatives will be used to determine if this requirement was met. Recommendation will include a review of the teacher candidate's transcripts to ensure 24 credit hours in the content core requirement have been met. In addition, students pursuing one of the 17 subject area extensions must complete a minimum of 18 semester hours in the chosen subject area. Recommendation will be contingent on upon completion of this requirement. The Student with Disabilities Checklist will be used to document completion of this requirement.

In addition to academic requirements, students who are enrolled in teacher education programs leading to Initial Certification or Initial/Professional certification are required to complete all seminars specifically required by New York State for program completion and graduation, including School

Violence Prevention and Intervention (SAVE); Identification and Reporting of Child Abuse and Maltreatment; Alcohol and Other Drug Avoidance; Fire and Arson Safety; HIV and the Classroom; and Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training). These seminar requirements are subject to change.

To view the program requirement checklist and/or the list of subject area extensions, visit: graduateschool.buffalostate.edu/supplemental-application-materials

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale). Admission is competitive; not all qualified applicants are admitted.
2. Employment or other experience relevant to the graduate course of study.
3. A written statement describing the applicant's philosophy of education and relevant experiences in the field. This statement must adhere to standard written English.
4. Faculty review.
5. Completion of a special application (available from the department or download from <http://graduateschool.buffalostate.edu/supplemental-application-materials>).
6. The ability to speak English and Spanish, and an oral interview (for bilingual exceptional individuals certificate program applicants only).

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

Successful completion of the undergraduate program in exceptional education at Buffalo State is not a guarantee of admission to a graduate program. A point system based on the above criteria is used to evaluate applicants. Applicants with the highest point totals are admitted to the program each admission period. Only students admitted to the major (as majors or premajors) may take courses other than .

Program Requirements

Code	Title	Credit Hours
Content Core Requirements (24 credit hours) ¹		
Must have six semester hours in each subject area:		
Math		3
Math		3
ELA		3
ELA		3
Social Studies		3
Social Studies		3
Science		3
Science		3
Preliminary Courses (18 credit hours)		
Required for students without provisional/initial certification in special education		
EXE 500	INDIVIDUALS WITH SPECIAL NEEDS	3

EXE 501	EDUCATIONAL ASSESSMENT TECHNIQUES FOR SPECIAL EDUCATION	3
EXE 502	CONTINGENCY MANAGEMENT	3
EXE 503	INSTRUCTIONAL STRATEGIES FOR INDIVIDUALS WITH MILD DISABILITIES	3
EXE 504	GRADUATE PRACTICUM IN SPECIAL EDUCATION	6

Required Courses (27 credit hours)

EXE 520	TEACHING OF INDIVIDUALS WITH SEVERE/MULTIPLE DISABILITIES AND AUTISM SPECTRUM DISORDERS	3
or EXE 620	ADVANCED TEACHING OF INDIVIDUALS WITH SEVERE/MULTIPLE DISABILITIES AND AUTISM SPECTRUM DISORDERS	
EXE 627	TRANSITION FROM SCHOOL TO ADULT COMMUNITY LIFE	3
EXE 628	COLLABORATION AND CONSULTATIVE PRACTICES IN INCLUSIVE SETTINGS	3
EXE 631	ADAPTING LANGUAGE ARTS AND READING INSTRUCTION FOR STUDENTS WITH MILD DISABILITIES	3
or CTE 605	OCCUPATIONAL GUIDANCE FOR CAREER EXPLORATION	
EXE 632	DIRECT INSTRUCTION INTERVENTION MODELS FOR STUDENTS WITH SPECIAL NEEDS	3
EXE 633	ADAPTING CONTENT AREA INSTRUCTION FOR CHILDREN AND ADOLESCENTS WITH DISABILITIES	3
EXE 634	APPLIED BEHAVIOR ANALYSIS	3
EXE 682	INSTRUCTIONAL FIELD EXPERIENCE IN SPECIAL EDUCATION	3
EXE 684	GRADUATE SEMINAR IN EXCEPTIONAL EDUCATION	3

Master's Project or Master's Thesis (3-6 credit hours)

EXE 690	MASTER'S PROJECT	3-6
or EXE 695	MASTER'S THESIS	

Total Credit Hours 30-75

¹ Some or all content core requirements may be met through prior undergraduate or graduate courses by transcript analysis.

Subject Area Extension Requirements (48-93 credit hours)

In addition to completing the requirements, candidates in a subject area extension program must complete a minimum of 18 semester hours in the chosen subject area. Advisor approved courses from previous undergraduate and graduate studies may be used to fulfill some or all of a subject area's extension requirements. The 7-12 subject area extensions

to the SWD Generalist 7-12 program are: Earth Science, Biology, Chemistry, Physics, Social Studies, Mathematics, English Language Arts, Spanish, French, Italian, German, Greek, Hebrew, Japanese, Latin, Mandarin, and Urdu.

Teaching Bilingual Exceptional Individuals

Graduate Certificate Program

Teaching Bilingual Exceptional Individuals Program Code: GRCT-ED
Major Code: BXE
HEGIS 0808

Exceptional Education Department

National Council for Accreditation of Teacher Education (NCATE) Accredited
Ketchum Hall 204
(716) 878-3038
General Information (voice mail): (716) 878-3038
exceptionaleducation.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

Students who complete the certificate program are eligible for a New York State Bilingual Education Extension. Job opportunities are available for a full range of services to individuals with disabilities. Graduates will be eligible for placements in inclusion settings, resource rooms, self-contained classrooms, and residential services. State certification allows graduates to work with individuals with mild disabilities, from early childhood to adult, in both monolingual and bilingual (Spanish-English) settings.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

All courses must be planned with an academic adviser and approved by the department chair.

Admission Requirements

1. Current enrollment in one of the special education master's programs (i.e., early childhood, childhood, or generalist 7-12), or
2. Current enrollment in the speech-language pathology master's program, or
3. A master's degree in special education.

In addition, all applicants should review the Admission to a Graduate Program (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program>) section in this catalog.

Program Requirements

Code	Title	Credit Hours
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Required Courses (18 credit hours)

BXE 623	POLICIES AND PRACTICES OF BILINGUAL SPECIAL EDUCATION	3
BXE 625	CURRICULUM I: STRATEGIES FOR CULTURALLY AND LINGUISTICALLY DIVERSE EXCEPTIONAL STUDENTS	3
BXE 626	ASSESSMENT TECHNIQUES IN BILINGUAL SPECIAL EDUCATION	3
BXE 627	CURRICULUM II: APPLIED STRATEGIES IN BILINGUAL SPECIAL EDUCATION	3
BXE 628	BILINGUAL SPECIAL EDUCATION FIELD PRACTICUM	6
Total Credit Hours		18

Speech-Language Pathology (M.S.Ed.)

Master of Science in Education Program

Program Code: MSED-SP
Major Code: SLP
HEGIS 1220

Speech-Language Pathology Department

The Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) of the American Speech-Language-Hearing Association Accredited Council for the Accreditation of Educator Preparation (CAEP) Accredited
Caudell 316, (716) 878-4412
speech.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

Programs must be planned under advisement and approved by the director of the graduate studies and the department chair. Students are expected to complete academic and clinical education requirements to qualify for the Certificate of Clinical Competence (CCC) in speech-language pathology issued by the American Speech-Language-Hearing Association (ASHA) and New York State licensure in speech-language pathology. Additional coursework may be required for teacher certification. Students must complete a minimum of three semesters of supervised practica in the Speech-Language-Hearing Clinic prior to placement at off-campus practica. Only students in good standing are permitted to enroll in SLP 505 Graduate Practicum in an Educational Setting and SLP 611 Externship in Communication Disorders. Students must meet with their academic adviser before initial registration to plan a program that will ensure completion of ASHA certification, New York State licensure, and New York State teacher certification requirements.

The Speech-Language Pathology master's in education (M.S.Ed.) program is a full-time program that is accredited

by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA), <http://www.asha.org/academic/accreditation/>, of the American Speech-Language-Hearing Association, 2200 Research Boulevard #310, Rockville, Maryland 20850, 800-498-2071 or 301-296-5700. The program is currently accredited through 2023. This is the most current accreditation information, which may differ from information found in older print documents. The CAA's Accreditation Action Report is available online on CAA's webpage under program: <http://www.asha.org/Academic/accreditation/caaDecisions/>

The master's in education (M.S.Ed.) degree program in speech-language is also registered with the New York State Education Department
89 Washington Avenue
Albany, New York 12234
[nysed.gov/contact-NYSED](http://www.nysed.gov/contact-NYSED) (<http://www.nysed.gov/contact-NYSED>)

for licensure in speech-language pathology (op.nysed.gov/prof/slpa) and for the initial/professional teaching certificate (Teacher of Speech and Language Disabilities; Teacher Certification, (518) 474-3901).

Admission Requirements

1. A bachelor's degree from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale).
2. A minimum of 25 credit hours of undergraduate coursework in speech-language pathology that includes courses related to the normal development of speech, language, and hearing processes; courses related to disordered speech, language, and hearing; and courses related to the speech and hearing sciences. Students with an undergraduate degree in a different discipline may apply directly to the master's program. In this situation, the student will be required to complete preparatory "make up" courses in our undergraduate program prior to beginning graduate coursework and clinical practica. The specific courses that will be needed will be determined by the Director of Graduate Studies once the student has been admitted to the program. For ASHA certification and NYS teacher certification, the following courses are also required. If they were not taken at the undergraduate level, they will be added to the graduate program:
 - a. 3 credits in a biological science
 - b. 3 credits in the physical sciences
 - c. 3 credits in statistics
 - d. 3 credits in math (can be MAT 311)
 - e. 3 credits in the social and behavioral sciences
 - f. SPF 202 Child Development and Education
 - g. SPF 302 Educational Psychology: Elementary Education
 - h. EXE 100 Nature and Needs of Individuals with Special Needs
3. Three letters of recommendation that attest to the applicant's potential as a graduate student. For students with an undergraduate major in speech-language pathology or communication sciences and disorders, two of the letters must come from faculty in the major. For students from other majors, two of the letters must come from faculty in the major.

5. Graduate Record Examination (GRE) scores. All three scores will be evaluated.
6. A writing sample.

Application Deadline

Applicants must apply by January 15 for fall admission for summer or fall admission. No applications are accepted for spring admission.

Application Procedures

The Speech-Language Pathology Department is currently participating in the Communication and Sciences Centralized Application Service (CSDCAS). To apply to the graduate program in speech-language pathology students must submit application to the SUNY Buffalo State Graduate School and apply online using the CSDCAS application.

In addition, all applicants should review the Admission to a Graduate Program (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program>) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (38 credit hours) ¹		
SLP 501	CLINICAL METHODS	2
SLP 511	NEURAL PROCESSES OF COMMUNICATION	3
SLP 516	DIAGNOSTIC PRINCIPLES AND PROCEDURES	2
SLP 518	EXTENDED APPLICATIONS IN COMMUNICATION SCIENCES AND DISORDERS	1
SLP 541	LANGUAGE DISORDERS: BIRTH TO AGE 5	3
SLP 580	RESEARCH METHODS IN SPEECH-LANGUAGE PATHOLOGY	2
SLP 605	CONTEMPORARY ISSUES IN CLINICAL INTERACTIONS: FAMILIES AND CULTURE	2
SLP 606	FLUENCY DISORDERS AND CLEFT PALATE	3
SLP 607	DYSPHAGIA ACROSS THE LIFE SPAN	2
SLP 608	NEUROMOTOR SPEECH DISORDERS AND DYSPHAGIA ACROSS THE LIFE SPAN	2
SLP 609	DISORDERS OF VOICE	2
SLP 610	EVALUATION AND TREATMENT OF PHONOLOGICAL DISORDERS	3
SLP 621	AUGMENTATIVE AND ALTERNATIVE COMMUNICATION	2
SLP 622	LANGUAGE DISORDERS OF SCHOOL-AGED INDIVIDUALS	3
SLP 623	ACQUIRED LANGUAGE DISORDERS	3
SLP 625	ADVANCED TOPICS AND ISSUES IN COMMUNICATION SCIENCES AND DISORDERS ²	3

Practicum (19 credit hours) ¹		
SLP 505	GRADUATE PRACTICUM IN AN EDUCATIONAL SETTING	6
SLP 515	CLINICAL PRACTICUM	1-8
SLP 611	EXTERNSHIP IN COMMUNICATION DISORDERS	3-12
Master's Project or Master's Thesis (3-6 credit hours) ¹		
SLP 690	MASTER'S PROJECT	3-6
	or SLP 695 MASTER'S THESIS	
Comprehensive Examination (0 credit hours)		
	Students who elect to take the comprehension examination must enroll in SLP 625	0
Total Credit Hours		57-60

¹ Selected under advisement.

² Students who elect to take the comprehension examination must enroll in SLP 625.

Teaching Bilingual Exceptional Individuals (BXE)

See Special Education (p. 96).

Teaching English to Speakers of Other Languages (C.A.S.)

Certificate of Advanced Study Program

Program Code: CAS-ED

Major Code:ESOL

HEGIS: 1508.00

Exceptional Education Department

Awilda Ramos-Zagarrigo, *Program Director*

Ketchum Hall 204

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exceptionaleducation.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs" (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>) found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The Certificate of Advanced Studies (CAS) in teaching English to Speakers of Other Languages is comprised of five required content courses (15 credit hours). Each course within the program requires 10 field/observation/practical hours for a total of 50 clock hours that are arranged by the instructor and which offer candidates the opportunity to reflect upon the application of course work in school settings. As an initial certificate, the program requires student teaching experience with English Language Learners (ELL). This may be achieved during employment in a school with a significant ELL population. The student teaching practicum is a total of 20 days divided between elementary and middle/secondary grades where ELLs are the focus of instruction. The CAS is designed to provide the skills necessary to

effectively address the needs of non-native speakers of English in American educational settings. The program allows practicing teachers to broaden their understanding of language acquisition processes, pedagogical concerns, and English language content. After successfully completing the program and completing all other state-mandated requirements candidates will receive a college recommendation for Initial Certification in Teaching English to Speakers of Other Languages (TESOL).

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

Admission Requirements

Applicants are required to have a minimum 3.0 GPA and submit scores from a national test (GRE or MAT). The MAT test is offered at Buffalo State: contact the Graduate School for information. More information about the GRE can be found at gre.org (<http://www.gre.org>). Applicants who have below a 3.0 GPA but above a 2.5 will be subject to additional admission review; students are encouraged to check with the department.

Additional Admission Requirements

- Evidence of a completed undergraduate degree from a regionally accredited institution of higher education or a nationally recognized institution of higher education in another country.
- Completion of a New York State teacher-education program leading to a college recommendation for Initial Certification in a core area such as early childhood or childhood or secondary education.
- Evidence of a minimum of 12 credit hours at the higher education level in the study of a foreign language (NB: This requirement can be fulfilled during the program of study for the CAS.)
- Evidence of English language proficiency for candidates whose native language is not English (e.g. TOEFL, IELTS, local proficiency exam, or bachelor's degree from an English-speaking university).

In addition, all applicants should review the Admission to a Graduate Program (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program>) section in this catalog.

Program Requirements

Code	Title	Credit Hours
Required Courses (18-21 credit hours)		
ESL 503	FOUNDATIONS OF FOREIGN AND SECOND LANGUAGE EDUCATION	3
ESL 540	SECOND-LANGUAGE ACQUISITION	3
ESL 600	ENGLISH AS A SECOND LANGUAGE METHODS	3
ESL 602	ASSESSMENT IN FOREIGN AND SECOND LANGUAGE EDUCATION	3
ESL 613	CONTENT AREA ENGLISH AS A SECOND LANGUAGE INSTRUCTION	3

EDU 500	PRACTICUM IN EDUCATION	3-6
Total Credit Hours		18-21

50 hours of field experiences distributed in coursework followed by 20 days of student teaching in high need schools divided between elementary level (1-6) and secondary level (7-12).

Technology Education (M.S.Ed.)

Master of Science in Education Program

Program Code: MSED-ED
Major Code: TED
HEGIS 0839.01

Career and Technical Education Department

National Council for Accreditation of Teacher Education (NCATE) Accredited
Technology Building 326, (716) 878-4220
cte.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

This program develops and enhances technological and professional competencies in technology education and provides a basis for advanced study. Completion of the program leads to the master of science in education degree and satisfies the requirements for eligibility for professional New York State teaching certification.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

Program variations must be approved by the student's academic adviser and the department chair. At least half the credit hours in the program must be in technology education.

Admission Requirements

1. A bachelor's degree in industrial arts/technology education from an accredited college or university with a minimum cumulative GPA of 3.0 (4.0 scale).
2. Acceptance by the program coordinator.

In addition, all applicants should review the Admission to a Graduate Program (p. 11) section in this catalog.

This program is currently under review. Please contact the Technology Department for further information.

Program Requirements

Code	Title	Credit Hours
Required Courses (15-18 credit hours)		
CTE 602	ADMINISTRATION OF VOCATIONAL EDUCATION	3
SPF 611	EVALUATION IN EDUCATION	3

SPF/INT 689	METHODS AND TECHNIQUES OF EDUCATIONAL RESEARCH	3
TED 600	FOUNDATIONS IN TECHNOLOGY EDUCATION	3
Elective Courses (12-15 credit hours) ¹		
CTE 536	CONTEMPORARY METHODOLOGY	
CTE 550	ORGANIZATION OF DIVERSIFIED COOPERATIVE WORK-STUDY PROGRAMS	
CTE 555	OPERATION OF DIVERSIFIED COOPERATIVE WORK-STUDY PROGRAMS	
CTE 603	SELECT TOPICS IN THE ORGANIZATION AND ADMINISTRATION/ SUPERVISION OF VOCATIONAL EDUCATION	
CTE 604	TECHNICAL PROJECT	
CTE 605	OCCUPATIONAL GUIDANCE FOR CAREER EXPLORATION	
CTE 606	HISTORY AND PHILOSOPHY OF OCCUPATIONAL EDUCATION	
SPF 503	EDUCATION PSYCHOLOGY	
TED 521	OCCUPATIONAL AND PRACTICAL ARTS EDUCATION FOR STUDENTS WITH SPECIAL NEEDS	
TED 701	SEMINAR IN TECHNOLOGY EDUCATION: WRITING AND PUBLISHING	
TED 703	SEMINAR IN THE DEVELOPMENT OF INSTRUCTIONAL MATERIALS	
TED 705	CAREER EXPLORATION IN TECHNOLOGY FOR THE MIDDLE SCHOOL	
12-15 credit hours		12-15
Master's Project or Master's Thesis (3-6 credit hours)		
TED 690 or TED 695	MASTER'S PROJECT MASTER'S THESIS	3-6
Total Credit Hours		30

¹ Selected under advisement.

Technology Education (PTCP)

UG-PBC-ED TED

**Career and Technical Education Department
Postbaccalaureate Teacher Certification Program (HEGIS
0839.01)**

National Council for Accreditation of Teacher Education (NCATE) Accredited
Bacon 122
(716) 878-4717
cte.buffalostate.edu/

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

This program is designed for students who have earned a baccalaureate degree in a technology-related field from an accredited college or university and intend to complete coursework required for New York State certification to teach technology. It generally takes at least three semesters for a person with a degree in engineering or architecture to complete this program.

The professional semester, also known as student teaching, is completed with two seven-week rotations: one in a middle school and one in a high school. Students are assigned to specific schools based on their qualifications; however, each student must complete one rotation in a school with a racially diverse population.

In addition to academic requirements, students who are enrolled in teacher education programs leading to Initial Certification or Initial/Professional certification are required to complete all seminars specifically required by New York State for program completion and graduation, including School Violence Prevention and Intervention (SAVE); Identification and Reporting of Child Abuse and Maltreatment; Alcohol and Other Drug Avoidance; Fire and Arson Safety; HIV and the Classroom; and Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training). These seminar requirements are subject to change.

Admission Requirements

1. A bachelor's degree from an accredited college or university.
2. Completion of 36 credit hours of coursework in technology or a technologically-related area, such as engineering, architecture, engineering technology, electrical technology, or industrial technology.
3. Evidence of coursework or professional experience from among the following areas: biotechnical systems, communication systems, structural systems, production systems, and transportation systems.

Program Requirements

Code	Title	Credit Hours
Technology Education Requirements (6 credit hours)		
CTE 301	FOUNDATIONS OF CAREER AND TECHNICAL EDUCATION	3
CTE 404	METHODS OF TEACHING CAREER AND TECHNICAL SUBJECTS	3
Other Education Requirements (15 credit hours)		
CTE 302	CURRICULUM AND EVALUATION IN CAREER AND TECHNICAL EDUCATION	3
CTE 402	ASSESSMENT IN CAREER AND TECHNICAL EDUCATION	3

SPF 303	EDUCATIONAL PSYCHOLOGY: MIDDLE AND SECONDARY EDUCATION	3
EDU 416	TEACHING LITERACY IN MIDDLE AND SECONDARY SCHOOLS	3
CTE 421/ EXE 372	CAREER AND TECHNICAL EDUCATION FOR STUDENTS WITH SPECIAL NEEDS	3
Professional Semesters (12 credit hours)		
TED 450	STUDENT TEACHING IN TECHNOLOGY EDUCATION	6
TED 451	STUDENT TEACHING IN TECHNOLOGY EDUCATION II	6
Total Credit Hours		33

Other Program Requirements

In addition to the required coursework, students must complete:

1. New York State Certification Exams: LAST, ATS-W, and CST. Registration materials for these exams may be obtained from the Teacher Certification Office, Chase Hall 222.
2. Seminars:
 - a. S.A.V.E. (School Anti-Violence Education) workshop
 - b. Child abuse identification workshops
 - c. Drug and alcohol awareness seminar
 - d. Fire and arson safety seminar

Urban Education, M.S.

Master of Science in Education Program

Program Code: MS-ED
HEGIS 0899

Major Codes:

MS-ED UEN Urban Education English 7-12
MS-ED UMA Urban Education Mathematics 7-12
MS-ED USS Urban Education Social Studies 7-12
MS-ED UTE Urban Education Technology Education
MS-ED UVA Urban Education Visual Arts
MS-ED UBM Urban Education Business/Marketing
MS-ED UEC Urban Education Early Childhood Education Birth-2
MS-ED UCH Urban Education Childhood Education 1-6
MS-ED USE Urban Education Special Education 1-6
MS-ED UTS Urban Education Trade Subject 7-12

Social and Psychological Foundations of Education

spfe.buffalostate.edu/ (<http://elementaryeducation.buffalostate.edu>)

Enrollment in all teacher education programs follows the guidelines for "Admission to Teacher Education Programs (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program/admission-all-education-programs>)" found in this catalog. Applicants who do not yet meet all admissions criteria should consult with the department.

The purpose of this degree program is to prepare teachers intellectually and pragmatically to be effective in urban classrooms and to become leaders in urban school districts.

Students seeking entrance into the program who have not had experience in urban settings will be required to work closely with at least one urban educator during their degree program in order to experience the urban classroom first-hand.

This Master of Science in Urban Education degree program will provide the academic requirements for a NYS Professional Certificate for post-baccalaureate students through advanced study in the theory and pedagogy of urban education and further study in the content or concentration field required for professional certification.

All applicants for Professional Certification in New York State must show evidence of completing the required seminar in Harassment, Bullying, Cyberbullying, and Discrimination in Schools: Prevention and Intervention (DASA Training).

Admissions Requirements:

Applicants are required to have a minimum undergraduate or graduate GPA of 3.0 and to submit scores from the GRE, GMAT, or MAT or equivalent nationally normed graduate level assessment for admission to all teacher education programs in SUNY. The MAT test is offered at Buffalo State: contact the Graduate School for information. More information about the GRE can be found at www.gre.org (<http://www.gre.org>). Applicants whose entering GPA is less than a 3.0 GPA but above a 2.5 will be subject to additional admission review and potential pre-major coursework; students are encouraged to check with the Department that represents the content area they desire to pursue.

Additional admissions requirements:

Evidence of a completed undergraduate degree from a regionally accredited institution of higher education.

Evidence of current or pending Teaching Certification at the initial level. Recent graduates or students who are completing their undergraduate programs at the time of application should list their anticipated date of certification on the admission application.

A word-processed statement addressing the following:

1. Professional goals for the urban master's program.
2. Related professional experiences.

The statement will be evaluated according to the following criteria:

1. Organization
2. Conventions of language
3. Content

Three letters of recommendations from persons familiar with the applicant's academic background and teaching effectiveness. This letter should provide evidence of applicant's understanding and commitment to working in an urban setting as well as their professionalism and academic ability.

Applicants will be required to participate in a phone or face-to-face interview.

In addition, all applicants should review the Admission to a Graduate Program (<http://ecatalog.buffalostate.edu/graduate/admission-graduate-program>) section in this catalog.

Code	Title	Credit Hours
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Required Courses 30 credit hours

Urban Core:

UED 617	CONTEMPORARY SOCIAL CONTEXTS OF URBAN EDUCATION	
UED 625	PEDAGOGIES FOR THE URBAN CLASSROOM	
UED 632	CRITICAL EDUCATION THEORY IN URBAN EDUCATION	
UED 655	SOCIAL ACTION: TEACHER AS AGENT OF CHANGE	

Required Capstone Courses:

SPF 689	METHODS AND TECHNIQUES OF EDUCATIONAL RESEARCH	
EDU 690	MASTER'S PROJECT (or equivalent capstone in subject area)	

Evidence of completion of all NYS required workshops for teachers including DASA (non-credit)

Code	Title	Credit Hours
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Choose your area of Initial Certification - 12 cr hrs.

Childhood Education (1-6)

EDU 513	THEORY, RESEARCH AND PRACTICE IN LITERACY INSTRUCTION	
EDU 651	THEORY, RESEARCH, AND PRACTICE IN MATHEMATICS INSTRUCTION	
EDU 654	THEORY RESEARCH AND PRACTICE IN SOCIAL STUDIES INSTRUCTION	
EDU 671	THEORY, RESEARCH, AND PRACTICE IN SCIENCE INSTRUCTION	

Early Childhood (B-2)

EDU 513	THEORY, RESEARCH AND PRACTICE IN LITERACY INSTRUCTION	
EDU 651	THEORY, RESEARCH, AND PRACTICE IN MATHEMATICS INSTRUCTION	
EDU 654	THEORY RESEARCH AND PRACTICE IN SOCIAL STUDIES INSTRUCTION	
EDU 671	THEORY, RESEARCH, AND PRACTICE IN SCIENCE INSTRUCTION	

Students with Disabilities (1-6)

EXE 520	TEACHING OF INDIVIDUALS WITH SEVERE/MULTIPLE DISABILITIES AND AUTISM SPECTRUM DISORDERS	
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EXE 620	ADVANCED TEACHING OF INDIVIDUALS WITH SEVERE/MULTIPLE DISABILITIES AND AUTISM SPECTRUM DISORDERS	
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EXE 631	ADAPTING LANGUAGE ARTS AND READING INSTRUCTION FOR STUDENTS WITH MILD DISABILITIES	
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EXE 633	ADAPTING CONTENT AREA INSTRUCTION FOR CHILDREN AND ADOLESCENTS WITH DISABILITIES	
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Career and Technical Education

BME 602	CURRICULUM DEVELOPMENT AND PLANNING IN BUSINESS AND MARKETING EDUCATION	
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BME 605	EVALUATION IN BUSINESS AND MARKETING EDUCATION	
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CTE 530	CAREER EDUCATION: RATIONALE, NATURE, AND CONCEPTS	
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CTE 536	CONTEMPORARY METHODOLOGY	
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Business and Marketing Education:

BME 600	PRINCIPLES OF BUSINESS AND MARKETING EDUCATION	
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BME 602	CURRICULUM DEVELOPMENT AND PLANNING IN BUSINESS AND MARKETING EDUCATION	
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BME 604	IMPROVING INSTRUCTION IN BUSINESS AND MARKETING	
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BME 605	EVALUATION IN BUSINESS AND MARKETING EDUCATION	
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Technology Education:

CTE 602	ADMINISTRATION OF VOCATIONAL EDUCATION	
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OR

BME 602	CURRICULUM DEVELOPMENT AND PLANNING IN BUSINESS AND MARKETING EDUCATION	
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SPF 611	EVALUATION IN EDUCATION	
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TED 600	FOUNDATIONS IN TECHNOLOGY EDUCATION	
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TED 507	TECHNOLOGY EDUCATION FACILITY PLANNING AND MANAGEMENT	
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Mathematics:

12 Hours selected in consultation with advisor in Mathematics Education

English Language Arts:

12 Hours selected in consultation with advisor in English Education.

Visual Arts:

12 Hours by advisement in Art Education

Social Studies:

12 Hours selected in consultation with advisor in Social Studied Education

All courses are 3 credit hours unless otherwise indicated.

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Adult Education (ADE)

ADE 500 INTRODUCTION TO ADULT EDUCATION

3, 3/0

Prerequisites: Graduate Standing. An exploration of the field of adult education as it exists today in a variety of formal and non-formal settings. The core elements of the discipline will be examined from past, present, and future trend perspectives. Topics covered include: evolution of the field, major providers and programs, teaching methods and planning approached, mini-teaching delivery, and review of the literature.

ADE 575 FAMILY VIOLENCE AND ADULT EDUCATION

3, 3/0

Prerequisites: Graduate status. An in-depth examination of the impact of family violence on adult education, with a focus on interpersonal violence and rape/sexual assault. Through weekly discussions, personal journal writing, small group dialog, and independent research, students gain an understanding of the dynamics of violence against women and families, and best practices for addressing such violence within adult education settings.

ADE 580 PARENTING/SEXUALITY EDUCATION PRACTICES IN HEALTH

3, 3/0

Prerequisite: Graduate Status. Undergraduate coursework in health or human sexuality. Parenting/sexuality curricula and the utilization of technology in teaching health education; theories and practices in sexuality education in American school systems; appropriate course content specific to different grade levels and cultural settings.

Equivalent Course: HEW 580

ADE 582 INTRODUCTION TO ADULT LITERACY EDUCATION IN THE U.S.

3, 3/0

Prerequisites: Graduate status. Examination of the adult literacy education system in the United States from historical and modern perspectives; exploration of research, theory, and professional wisdom of the field; reflection on, discussion of, and critique of the current policy, instructional, philosophical, and social issues that affect the adult literacy education field.

ADE 584 LITERACY SKILLS AND THE ADULT LEARNER

3, 3/0

Prerequisite: Graduate status. Theories, practice, curricula, and content of instruction appropriate for adult learners; the theories of Paulo Freire, Ira Shor, and Henry Giroux; collaboratively participate in the design and implementation of an action research project focusing on adult literacy.

Equivalent Course: EDU 584

ADE 590 INDEPENDENT STUDY

1-3, 3/0

Individualized study. Instructor permission required.

ADE 594 SELECTED TOPICS

3, 3/0

ADE 598 MICROCOURSE-SELECTED TOPICS

3, 0/0

Micorcourse. Selected Topics.

ADE 600 ADULTHOOD AND DEVELOPMENT

3, 3/0

Prerequisite: Graduate status. Study of adulthood and development during the adult years; consideration of the physiological and psychological development of the individual from young adulthood through old age-changing roles, conflicts, adjustments, dilemmas, aspirations, ethnicity, potentials, responsibilities, rights, and freedoms-as indicated in theory and research.

ADE 602 MANAGEMENT: ADMINISTRATIVE BEHAVIOR

3, 0/3

Prerequisite: Graduate status. Basic administrative theories; managerial behavior as expressed through conceptual, human, and technical skills. Observation of field managers.

ADE 603 HUMAN RESOURCE MANAGEMENT

3, 3/0

Prerequisite: Graduate Status: Personnel-related functions and the utilization of resources to support these functions within organizations: design of in-service training programs; supervisory skills for enhancing motivation and productivity; employee benefit packages; grievance and labor relations plans; proposals to obtain funding and training.

Equivalent Courses: BUS 603, SWK 603

ADE 605 HISTORICAL, SOCIAL, AND PHILOSOPHICAL FOUNDATIONS OF ADULT EDUCATION

3, 3/0

Prerequisite: Graduate status. Historical antecedents, social movement characteristics, and philosophical foundations of adult education, with perspectives on why and where the adult learner and others fit into this evolving field of professional practice.

ADE 608 INSTRUCTIONAL DESIGN AND ASSESSMENT

3, 0/0

Prerequisite: Graduate status. Designing instruction to achieve specific learning outcomes; systematic models that facilitate planning, developing, revising, and evaluating instruction; planning instruction that incorporates educational technology.

ADE 610 METHODS OF ADULT EDUCATION

3, 3/0

Prerequisite: ADE 608 and Graduate status. Principles, practices, and evaluation of adult learning across the full spectrum of settings in which adult education is conducted.

ADE 615 ISSUES AND PERSPECTIVES IN ADULT EDUCATION

3, 3/0

Prerequisite: Graduate status. Nature of adult education and the various programs and situations in which it occurs; key issues in the field and various approaches to adult learning theory; nature of participation; inclusion of ethnic minorities, women, individuals with disabilities, and distance learners; adult learning environments nationally and internationally; emerging trends.

ADE 620 APPLICATION OF INSTRUCTIONAL TECHNOLOGY TO ADULT EDUCATION

3, 3/0

Prerequisite: Graduate status. Methods of teaching adult learners using traditional and contemporary modes; use of technology-teleconferencing, distance education, and online instruction in the present delivery systems for teaching and learning.

ADE 624 INTERNSHIP

3, 3/0

Prerequisite: Graduate status. Supervised internship experience in an adult education setting.

ADE 625 DESIGNING AND EVALUATING PROGRAMS FOR ADULT LEARNERS

3, 3/0

Prerequisite: Graduate status. Planning, designing, and assessing training outcomes for adult learners; methods and materials in program planning in adult education; review of types of programs, community services, and developing funded proposals.

ADE 634 WORKPLACE LITERACY

3, 3/0

Prerequisite: Graduate status. Designing, teaching in, and assessing workplace-literacy and job-readiness programs. Methods of developing customized curricula and teaching literacy and ESL via a sociocultural literacy framework. Analysis and critique of case studies that focus on (1) federal, state, and local workforce policies; (2) educating, training, and re-skilling an underskilled workforce in a global economy; and (3) issues of diversity in the workplace.

ADE 640 HUMAN RESOURCE DEVELOPMENT

3, 3/0

Prerequisite: Graduate status. Preparation to conduct educational and training programs for workers and volunteers to improve organizational effectiveness. Key competencies and principal roles of human resource development professionals: human performance analysis; training needs assessment; organizational development; career development; program and instructional design; learning materials design; program evaluation; ethical and human diversity issues in training and development.

ADE 645 PROGRAM DESIGN FOR ORGANIZATIONAL EMPLOYEES

3, 3/0

Prerequisites: Graduate Status: Admission to the Adult Education Master's Degree Program or Multidisciplinary Master's Degree Program or permission of instructor. Instructional design and assessment coursework or experience. A practical approach in a simulated environment, integrating adult learning and instructional design theories for the analysis, design and development of employee/volunteer programs for targeted organizational learners; use of authentic evaluation and assessment concepts to design programs and workforce learner assessments.

ADE 655 DIVERSITY ISSUES IN ADULT EDUCATION AND TRAINING

3, 3/0

Prerequisite: Graduate status. Teaching and learning implications of diversity for adult educational achievement and career opportunities. Implications for course content and classroom management styles when adult educators are sensitive to race, ethnicity, gender, sexual orientation, class, and physical ability. Methods for structuring course content, designing curricula, and educating learners by promoting and embracing a diverse population of colleagues, learners, workers, and clients.

Equivalent Course: CTE 655

ADE 660 GRANT WRITING FOR EDUCATION AND TRAINING

3, 3/0

Prerequisites: Graduate Standing. This course provides an in-depth examination of the strategies for writing a successful grant funding application in the field of education. Students participate in all aspects of the grant development process, including identifying agency strengths, researching potential funding sources and opportunities, writing application materials, developing budgets, and creating evaluation plans.

ADE 675 POSTSECONDARY TEACHING PRACTICUM

3, 2/0

Prerequisites: Graduate status, ADE 610 or CTE 536, and instructor permission. Promotes expertise in teaching in human resource development adult education, workforce training, community colleges, and GED program settings. Extended teaching assignments with coach/mentor assistance. Seminar-type discussions reflecting on learning and development of learners as they taught, principles of teaching, their teaching behaviors, strategies promoting continuing growth as teachers. Analyze issues in teaching: diversity, technology, exceptionality, promoting social justice.

Equivalent Course: CTE 675

ADE 688 LEADERSHIP IN ORGANIZATIONS

3, 3/0

Theories of leadership; organizational contexts and culture for leadership; the role of the leader in organizations; leadership competencies for organizational effectiveness; the leader's role in mentoring and coaching for effective performance; the leader's role in achievement of organizational mission and goals.

Equivalent Courses: BUS 688, SPF 688

ADE 690 MASTER'S PROJECT

3, 3/0

Prerequisite: Graduate status. A study undertaken by one or more individuals on a problem of special interest, submitted in acceptable form according to directions from the Educational Foundations Department.

ADE 695 METHODS AND TECHNIQUES OF EDUCATIONAL RESEARCH

3, 3/0

Background of educational research; selection and development of research problems; sources of information and data; methods, tools, and techniques; collection, treatment, application, and interpretation of research data; organizing and writing a research report.

ADE 715 MANAGEMENT PRACTICES AND TECHNIQUES

3, 3/0

Prerequisites: Graduate Status. Major management theories and factors affecting organizational systems; managing conflict and negotiating agreements; effective interpersonal skills for managers; defining problems and generating creative alternatives; types and sources of information needed by managers; relation of leadership style to staff productivity and development; relating effectively to upper-level management.

Equivalent Course: SPF 715

ADE 721 THESIS/PROJECT CONTINUATION

0, 0/0

ADE 722 THESIS/PROJECT EXTENDED

0, 0/0

Anthropology (ANT)

ANT 587 TOPICS COURSE

3, 3/0

In-depth examination of rapidly and significantly changing disciplinary issues, topics, or practices; offered occasionally.

ANT 590 INDEPENDENT STUDY

1-6, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

ANT 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

ANT 690 MASTER'S PROJECT

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

ANT 695 MASTER'S THESIS

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

Applied & Computational Math (ACM)

ACM 587 TOPICS COURSE

1-4, 1/0

In-depth examination of rapidly and significantly changing disciplinary issues, topics, or practices; offered occasionally.

ACM 588 TOPIC COURSE

3, 3/0

See the graduate Course Catalog (<http://catalog.buffalostate.edu/undergraduate/docs/currentugcat.pdf>).

ACM 590 INDEPENDENT STUDY

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

ACM 600 MATHEMATICAL MODELING AND APPLICATIONS I

1, 1/0

Prerequisites: Instructor permission or admission to the Professional Applied and Computational Mathematics (PACM) Program. Processes of mathematical modeling, use of dimensional analysis, scaling, and elementary perturbation methods; constrained and unconstrained optimization, sensitivity analysis, derivation and analysis of system of discrete dynamical models.

ACM 601 MATHEMATICAL MODELING AND APPLICATIONS II

1, 1/0

Prerequisites: Instructor permission or admission to the Professional Applied and Computational Mathematics (PACM) Program. Mathematical modeling and applications of differential equations, simulation of dynamical systems, and partial differential equations.

ACM 602 MATHEMATICAL MODELING AND APPLICATIONS III

1, 1/0

Prerequisites: Instructor permission or admission to the Professional Applied and Computational Mathematics (PACM) Program. Applications of series and integral transforms, and the study and simulations of probability models.

ACM 604 TOPICS IN STATISTICAL INFERENCE

1, 1/0

Prerequisites: Instructor permission. Topics include continuous distributions, sampling distributions, point and interval estimation, and tests of hypotheses. Offered occasionally.

ACM 610 CONTINUOUS FOUNDATIONS OF APPLIED MATHEMATICS FROM A PROBLEM SOLVING PERSPECTIVE

1, 1/0

Prerequisite: Admission to program or instructor permission. Problem solving and applications of continuous mathematics, including real analysis, single and multivariable calculus, differential equations, optimization, and Fourier analysis. Emphasis on team building and group management through problem-solving activities.

ACM 611 DISCRETE FOUNDATIONS OF APPLIED MATHEMATICS FROM A PROBLEM SOLVING PERSPECTIVE

1, 1/0

Prerequisite: Admission to program or instructor permission. Problem solving and applications of discrete mathematics, including combinatorics, graph theory, logic, linear algebra, number theory, and set theory. Emphasis on team building and group management through problem-solving activities.

ACM 612 COMPUTATIONAL FOUNDATIONS OF APPLIED MATHEMATICS FROM A PROBLEM SOLVING PERSPECTIVE

1, 1/0

Prerequisite: Admission to program or instructor permission. Introduction to algorithm design to implement mathematical models, procedural, and functional programming, programming paradigms, higher-level languages; statistical and visualization software, typesetting software for science and mathematics.

ACM 613 SPREADSHEETS AND DATABASES FOR MATH

1, 1/0

Prerequisites: Instructor permission. Applications of spreadsheet and database software programming to solve real life problems in computational mathematics. Analysis of data to produce reports and presentations for diverse audiences.

ACM 614 STATISTICAL AND DATA ANALYSIS SOFTWARE FOR MATH AND SCIENCE PROFESSIONALS

1, 1/0

Prerequisite: Instructor permission. Survey of statistical and data programming software and applications to real life problems in computational mathematics. Analysis of data to produce reports and presentations for diverse audiences with a focus on understanding the syntax and use of statistical programming languages.

ACM 620 OPTIMIZATION OF DISCRETE MODELS

1, 1/0

Prerequisite: Admission to the program or instructor permission. Mathematical analysis and solution of real-world problems that optimize linear objective functions subject to systems of linear inequalities; the two-phase revised simplex method; applications in diverse areas such as business management, industry, economics, finance, and game theory.

ACM 621 EMPIRICAL MODEL BUILDING

1, 1/0

Prerequisite: Admission to program or instructor permission. Exploratory data analysis, polynomial interpolation, curve fitting, least squares, cubic splines, minimax polynomial, Taylor and Chebyshev series, applications to fitting experimental data.

ACM 622 MODELING CHANGE WITH DYNAMICAL SYSTEMS

1, 1/0

Prerequisite: Admission to program or instructor permission. Difference equations, systems of differential equations, Euler and Runge-Kutta methods, error analyses, logistic models; applications to ecology, finance, conflicts, natural and social sciences.

ACM 630 NUMERICAL LINEAR ALGEBRA

1, 1/0

Prerequisite: Admission to program or instructor permission. Numerical algorithms for linear algebra problems, matrix operations, matrix decompositions, solving systems of linear equations, selected problems from applied settings.

ACM 631 EIGENVALUE PROBLEMS

1, 1/0

Prerequisite: Admission to program or instructor permission. Numerical algorithms for eigenvalue problems, matrix factorization, matrices, vectors, eigenvalues, eigenvectors, eigenspaces, eigenvalue algorithms, selected problems from applied settings.

ACM 632 NUMERICAL CALCULUS

1, 1/0

Prerequisite: Admission to program or instructor permission. Numerical methods and algorithms for finding roots of non-linear equations, numerical integrals, Fourier series and Laplace transform; selected problems from applied settings.

ACM 640 LINEAR REGRESSION AND CORRELATION

1, 1/0

Prerequisite: Admission to program or instructor permission. Simple linear regression and correlation, multiple linear regression, multicollinearity, multiple and partial correlations, confounding and interaction, sequential methods of model selection.

ACM 641 DESIGN AND ANALYSIS OF EXPERIMENTS

1, 1/0

Prerequisite: Admission to program or instructor permission. Design of experiments (one, two and three factors), multiple comparisons, randomized complete block designs, Latin square design.

ACM 642 NONPARAMETRIC STATISTICS

1, 1/0

Prerequisite: Admission to program or instructor permission. Introduction to nonparametric tests such as sign-test, signed rank test, rank sum test, two-way analysis of variance by ranks, tests of randomness, rank correlation coefficient.

ACM 650 RANDOM WALKS AND BROWNIAN MOTION

1, 1/0

Prerequisite: Admission to program or instructor permission. Symmetric random walks, ballot theorem, returns to origin and arcsine laws, gambler's ruin, Brownian motion, conditional distributions, hitting times and maxima.

ACM 651 MARKOV CHAINS

1, 1/0

Prerequisite: Admission to program or instructor permission. Transition matrices, classification of states, limiting probabilities, applications.

ACM 652 CONTINUOUS-TIME STOCHASTIC PROCESSES

1, 1/0

Prerequisite: Admission to program or instructor permission. Exponential distribution, Poisson, Yule, pure birth, birth and death processes, applications.

ACM 653 MARKOV CHAIN MODELS IN CREDIT RISK MANAGEMENT

1, 1/0

Prerequisites: Graduate standing. Practical introduction to mortgage lending and the practice of measuring and managing consumer credit risk. Introduction to Markov chain theory and transition roll rate modeling through extensive case study of the collapse of the U.S. mortgage industry in 2007 - 2008 and the origins of the Great Recession. Risk reporting and segmenting; probability of default; loss given default; house price dynamics; loss forecasting with consideration of micro and macro-factors. Use of statistical software package SAS to analyze loan-level datasets. Suggested preparation: previous coursework or experience in calculus, linear algebra, linear regression, and introduction to programming.

ACM 654 MATHEMATICS OF FINANCE I: MODELING, ANALYSIS AND NUMERICAL METHODS

1, 1/0

Prerequisites: Instructor permission or admission to the Professional Applied and Computational Mathematics Master program. In-depth study of probability, differential equations and numerical analysis and their connections to finance and economics; put-call parity equation; risk-neutral probability; binomial tree analysis.

**ACM 655 MATHEMATICS OF FINANCE II:
MODELING, ANALYSIS AND NUMERICAL METHODS
1, 1/0**

Prerequisites: Instructor permission or admission to the Professional Applied and Computational Mathematics Master program. Additional study of probability, differential equations and numerical analysis and their connections to finance and economics; Black-Scholes equation, risk-neutral probability, Brownian motion, hedging, continuous and discrete stochastic models.

**ACM 660 LOGISTIC REGRESSION
1, 1/0**

Prerequisite: ACM 640 or instructor permission. Comparison of linear and logistic regression, multiple logistic regression, regression diagnostics, indicator variables, multicollinearity, confounding and interaction, model selection, maximum likelihood techniques, polychotomous logistic regression.

**ACM 661 SURVIVAL ANALYSIS
1, 1/0**

Prerequisite: ACM 640 or instructor permission. Survival and hazard functions, life tables, Kaplan-Meier survival analysis, Cox regression proportional hazards model and Cox regression with time-dependent variables; comparison with logistic regression approaches.

**ACM 662 TIME SERIES ANALYSIS AND FORECASTING
1, 1/0**

Prerequisite: ACM 640 or instructor permission. Time and frequency domain techniques including autocorrelation, spectral analysis, autoregressive moving average and integrated moving average models, Box-Jenkins methodology, fitting, forecasting and seasonal adjustments.

**ACM 690 INTERNSHIP IN APPLIED AND
COMPUTATIONAL MATHEMATICS
1-3, 1/0**

Prerequisite: Written approval of faculty adviser and department chair. Research or investigation of a particular problem, planned and carried out under the guidance of a qualified member of the graduate faculty, submitted in acceptable form according to directions given by the Mathematics Department.

**ACM 721 THESIS/PROJECT CONTINUATION
0, 0/0**

**ACM 722 THESIS/PROJECT EXTENDED
0, 0/0**

Art Conservation (CNS)

**CNS 590 INDEPENDENT STUDY
1-3, 0/0**

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

**CNS 600 CONSERVATION IMAGING: TECHNICAL
EXAMINATION AND DOCUMENTATION I
2, 2/0**

Prerequisites: acceptance into the Art Conservation Department co-requisite with CNS 601. Methods and techniques used to determine and document the condition of artifacts in visible light. Development of theoretical understanding and advanced practical skills in scientific photography, conservation photodocumentation, and studio photography. Development of advanced skills in digital photography using DSLR cameras emphasizing precision, standardization, consistency, and color accuracy. Offered annually.

**CNS 601 CONSERVATION IMAGING: TECHNICAL
EXAMINATION AND DOCUMENTATION LAB I
1, 0/3**

Prerequisites: acceptance into the Art Conservation Department; Co-requisite with CNS 600. Laboratory component of CNS 600. Supervised applied practice in: visual examination with visible lights; digital conservation photodocumentation of paintings, paper and objects using DSLR cameras; specialized conservation and studio lighting techniques; close-up photography and photomacrography. Emphasis on individual supervision for the rapid development of skills sufficient for independent mastery of techniques presented. Offered annually.

**CNS 602 CONSERVATION IMAGING: TECHNICAL
EXAMINATION AND DOCUMENTATION LAB II
2, 2/0**

Prerequisites: Successful completion of CNS 600 and 601; co-requisite with CNS 603. Ultraviolet, infrared, and other specialized techniques used to examine and document the structure and condition of artworks and cultural artifacts using visible and non-visible radiations; emphasizes theoretical understanding and development of advanced practical skills using digital cameras and electronic imagers. Offered annually.

**CNS 603 CONSERVATION IMAGING: TECHNICAL
EXAMINATION AND DOCUMENTATION LAB II
1, 0/3**

Prerequisites: Successful completion of CNS 600 and 601; co-requisite with CNS 602. Supervised applied practice in: ultraviolet examination and digital photodocumentation (reflected UV and UV induced fluorescence methods); infrared examination and digital photodocumentation using digital cameras and infrared imagers; other special examination and imaging techniques. Emphasis on individual supervision for the rapid development of skills sufficient for independent mastery of techniques presented. Offered annually.

CNS 604 CONSERVATION IMAGING: TECHNICAL EXAMINATION AND DOCUMENTATION III

2, 2/0

Prerequisites: Successful completion of CNS 602 and 603; co-requisite with CNS 605. Time Lapse photography: theory and practice of effective approach to document treatment in progress. Multispectral imaging: theory, application, practice, and critical assessment. Documentation in action: practice and critical evaluation of effective use of various cameras in treatment laboratories. Radiographic techniques: history and basic physics of x-rays and radioactive materials; theoretical study and advanced practice in applying various digital radiographic techniques for museum artifacts; radiation safety. Offered annually.

CNS 605 CONSERVATION IMAGING: TECHNICAL EXAMINATION AND DOCUMENTATION LAB III

1, 0/3

Prerequisites: Successful completion of CNS 602 and 603; co-requisite with CNS 604. Applied practice in: use of flatbed and film scanners; profiling of digital cameras, scanners, monitors and printers; film-based and computed radiography of museum artifacts; Adobe Photoshop restoration techniques; use of color temperature meters. Emphasis on individual supervision for the rapid development of skills sufficient for independent mastery of techniques presented.

CNS 606 CONSERVATION IMAGING: TECHNICAL EXAMINATION AND DOCUMENTATION IV

2, 2/0

Prerequisites: Successful completion of CNS 604 and 605; co-requisite with CNS 607. Advanced studies in examination and documentation; and in radiography, ultraviolet, infrared, and other imaging techniques appropriate to a student's areas of conservation specialization and to their specialization research project. Application of computed imaging methods, including Reflectance Transformation Imaging, stereoscopy, and photogrammetry. Emphasis on individual supervision for the rapid development of skills sufficient for independent mastery of all examination and documentation techniques presented. Offered annually.

CNS 607 CONSERVATION IMAGING: TECHNICAL EXAMINATION AND DOCUMENTATION LAB IV

1, 0/1

Prerequisites: Successful completion of CNS 604 and 605; co-requisite with CNS 606. Supervised applied practice in examination and documentation and in radiography, ultraviolet, infrared, and other imaging techniques appropriate to a student's areas of conservation specialization and to their specialization research project. Supervised practice with Reflectance Transformation Imaging, 3D imaging, and video documentation. Emphasis on individual supervision for the rapid development of skills sufficient for independent mastery of techniques presented. Offered annually.

CNS 610 POLYMERS IN ART & CONSERVATION

3, 3/0

Corequisite: CNS 611. The chemistry and physics of polymers used to create and treat artwork. Nomenclature, reactivity, structure-property relationships, solubility, surfactants, emulsions, natural and synthetic coatings and adhesives, degradation, mechanical properties, polymer additives, and analytical methods of identification and characterization.

CNS 611 POLYMERS IN ART & CONSERVATION (LAB)

1, 0/3

Corequisite: CNS 610. The chemistry and physics of polymers to explain the behavior of materials used to create and treat artwork. Nomenclature, reactivity, structure-property relationships, solubility, surfactants, emulsions, natural and synthetic coatings and adhesives, degradation, mechanical properties, polymer additives, and analytical methods of identification and characterization.

CNS 612 CONSERVATION SCIENCE: POLARIZED LIGHT MICROSCOPY, LIGHT & MATTER

2, 3/0

Prerequisite: CNS 610/611. Corequisite: CNS 613. Introduction to aspects of the elements of light, color, and optics as they pertain to polarized light microscopy in the field of art conservation; principles of optical microscopy; how light interacts with matter, especially as it applies to the appearance of art and cultural objects.

CNS 613 CONSERVATION SCIENCE: POLARIZED LIGHT MICROSCOPY, LIGHT & MATTER LABORATORY

1, 0/3

Prerequisite: CNS 610/611. Corequisite: CNS 612. Expands on lectures in CNS 612 by providing practice of laboratory applications related to treatment and analysis of works of art; focus on the use of polarized light microscopy and microchemical testing of materials found in works of art and cultural artifacts.

CNS 614 CONSERVATION SCIENCE: INORGANIC MATERIALS IN ART AND CONSERVATION

3, 3/0

Prerequisite: CNS 612/613. Corequisite: CNS 615. Specialized understanding of inorganic materials with an emphasis on alternative scientific techniques used for their investigation (i.e., scanning electron microscopy, x-ray fluorescence analysis, x-ray diffraction). Material is presented at a level that prepares students to use the equipment at a basic level, or to communicate effectively with professional scientists who run the equipment.

CNS 615 CONSERVATION SCIENCE: INORGANIC MATERIALS IN ART & CONSERVATION LABORATORY

1, 0/3

Prerequisite: CNS 612/613. Corequisite: CNS 614. Expands on lectures in CNS 614 and provides students with practice laboratory applications related to treatment and analysis of works of art. Focus on the use of polarized light microscopy and microchemical testing of materials found in works of art and cultural artifacts.

CNS 616 TECHNICAL ASPECTS OF PREVENTATIVE CONSERVATION

3, 3/0

Prerequisites: CNS614/615; co-requisite with CNS617. Explores the scientific principles behind preventive conservation and delivers hands-on experience in manipulating the storage and display environment for cultural heritage objects control. Topics include: degradation kinetics, environmental monitoring & control, artificial aging, materials testing, protective coatings, and mitigation of biological degradation. Laboratory exercises provide hands-on experiences in preventive conservation.

CNS 617 TECHNICAL ASPECTS OF PREVENTATIVE CONSERVATION (LAB)

1, 0/3

Prerequisites: CNS614/615; co-requisite with CNS616. Laboratory course explores the scientific principles behind preventive conservation. Hands-on experiences in experimentally manipulating the storage and display environment for cultural heritage objects, and the results of that manipulation.

CNS 620 TECHNOLOGY AND CONSERVATION OF PAINTINGS I

2, 2/0

Prerequisites: Formal acceptance into the Art Conservation Department; co-requisite with CNS621. Historical survey of processes and materials employed by artists in the creation of wall and easel paintings from Paleolithic to the present and the implications for their conservation. Painting types include rock art, Egyptian and Etruscan tomb painting, medieval egg tempera, Italian Renaissance fresco, oil on panel and canvas, and modern media.

CNS 621 TECHNOLOGY AND CONSERVATION OF PAINTINGS I (LAB)

1, 0/3

Prerequisites: Co-requisite with CNS620. Students create two mock-up paintings using historical materials and techniques to the greatest extent possible: 14th century Sienese egg tempera panel and 17th century Flemish or Spanish oil painting on canvas. The technical examination of an aged oil painting of value is performed in detail, and recorded in writing for the client.

CNS 622 TECHNOLOGY AND CONSERVATION OF PAINTINGS II

2, 2/0

Prerequisites: Successful completion of CNS620 and 621; co-requisite with CNS623. The theory and practice of conserving easel paintings is examined in detail. Topics include treatment proposal ethics and design, aqueous and solvent based cleaning systems, resins and solvents used for consolidation, mechanics and dynamics of canvas paintings and support systems, humidification and lining treatments, varnishes and varnishing techniques and color matching theory and its application to in-painting.

CNS 623 TECHNOLOGY AND CONSERVATION OF PAINTINGS II LABORATORY

1, 0/3

Corequisite: CNS 622. The practice of conserving easel paintings using aqueous and solvent based cleaning systems, resins and solvents used for consolidation, mechanics and dynamics of canvas paintings and support systems, humidification and lining treatments, varnishes and varnishing techniques and color-matching theory and its application to inpainting. Professional ethics applied to treatment proposal and reports.

CNS 624 TECHNOLOGY AND CONSERVATION OF PAINTINGS III

2, 2/0

Prerequisites: Laboratory course offered as a continuation of CNS623. Greater involvement with easel painting treatments allows the student to broaden her/his repertoire of skills, to further develop acuity for recognizing condition problems and to strengthen visual connoisseurship for distinguishing original paint from later additions.

CNS 626 TECHNOLOGY AND CONSERVATION OF PAINTINGS IV

4, 0/6

Laboratory course offered as a continuation of CNS 624. Restricted to students majoring in paintings conservation. Greater involvement with easel painting treatments allows students to broaden their repertoire of skills, further develop acuity for recognizing condition problems, and strengthen visual connoisseurship for distinguishing original paint from later additions. Involves original research and materials analysis.

CNS 630 TECHNOLOGY & CONSERVATION OF WORKS OF ART ON PAPER I

2, 2/0

Corequisite: CNS 631. The structure and fabrication of paper and the media commonly found in works of art on paper, photographs, and books; examination and identification of paper and media; causes and effects of deterioration in paper and media; student writes and defends the examination report for a work of art on paper.

CNS 631 TECHNOLOGY & CONSERVATION OF WORKS OF ART ON PAPER I LABORATORY

1, 0/3

Corequisite: CNS 630. Studio recreations of paper and the media found in art on paper using historical recipes and techniques; identifications of media and sheets found in works of art on paper; rudimentary repairs on a variety of papers.

CNS 632 TECHNOLOGY AND CONSERVATION OF WORKS OF ART ON PAPER II

2, 2/0

Prerequisites: CNS 630 and CNS 631. Corequisite: CNS 633. History and theory of basic techniques in paper conservation (washing, deacidification/neutralization, tape removal, lining, adhesives, compensation of losses, formats for storage, etc.); hands-on practice of these and other techniques on mock-ups.

CNS 633 TECHNOLOGY AND CONSERVATION OF WORKS OF ART ON PAPER II LABORATORY

1, 0/3

Prerequisites: CNS 630 and CNS 631. Corequisite: CNS 632. Treatment of the first project in paper conservation under the close supervision of the faculty; a second project

CNS 634 TECHNOLOGY AND CONSERVATION OF WORKS OF ART ON PAPER III LABORATORY

2, 0/3

Prerequisites: CNS 630/631 and CNS 632/633. First advanced course in paper conservation allows the student to examine and treat a wider variety of media, paper, and conservation problems. Independent decision making and problem solving is encouraged. Short research projects are also possible.

CNS 636 TECHNOLOGY AND CONSERVATION OF WORKS OF ART ON PAPER IV

4, 0/6

Prerequisite: CNS 634. Final course in the series of treatment courses for the paper conservation specialist; intended to allow the student to examine and treat a wider variety of media, paper, and conservation problems. Independent decision making and problem solving are required. Short research projects are needed for each treatment.

CNS 640 TECHNOLOGY AND CONSERVATION OF OBJECTS I

2, 2/0

Co-requisite with CNS 641. Technology and material science of cultural objects composed of organics (wood, plant materials, animal materials including leather, bone, ivory, etc., and non-cellular organics such as resins and coatings); changing attitudes towards these materials, and changes in the strategies of working these materials.

CNS 641 TECHNOLOGY AND CONSERVATION OF OBJECTS I LABORATORY

1, 0/3

CNS 642 TECHNOLOGY AND CONSERVATION OF OBJECTS II

2, 2/0

Continuation of CNS 640. Technological history and conservation of a wide variety of materials encountered in historic and artistic objects: metals, glass, ceramics, wood, decorative surface techniques (lacquering, japanning, gilding), skins and other organics, stone; fabrication techniques and how they can be identified; conservation treatments and recommendations; studio sessions include demonstrations of techniques and supervised work on a variety of objects. Field trips.

CNS 643 TECHNOLOGY AND CONSERVATION OF OBJECTS II LABORATORY

1, 0/3

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CNS 644 TECHNOLOGY AND CONSERVATION OF OBJECTS III

2, 0/3

Advanced study of the technology and materials of objects, especially technology and conservation of inorganic materials (metals, glass, stone, ceramics, etc); changes in the strategies of working them over time, and as conditioned by culture; appropriate conservation techniques.

CNS 646 TECHNOLOGY AND CONSERVATION OF OBJECTS IV

4, 0/0

Students select an area of specialization (requires approval of the faculty member involved) and then participate in unique conservation treatments, which may involve research and scientific experimentation.

CNS 685 PROFESSIONALISM IN CONSERVATION I

2, 2/0

Professional ethics and standards in relation to works of art and colleagues; systems for surveying collections; instructing other museum departments; assisting the public to better understand conservation principles; practical aspects of storing and handling hazardous materials; establishing, insuring, and equipping a conservation studio.

CNS 686 PROFESSIONALISM IN CONSERVATION II

1, 1/0

Continuation of CNS 685. Ethical and practical aspects of professional conservation activity. Students specializing in paintings, paper, or objects attend one of three concurrent seminars aimed at enriching course material covered in previous semesters, as well as introducing new topics for discussion and/or demonstration. Guest speakers from conservation and allied professions. Field trips.

CNS 690 MASTERS PROJECT

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CNS 695 STUDENT SPECIALIZATION

4, 0/0

Directed study course, guided by one or more faculty members, in which the student performs research and/or treatment related to a selected artifact or group of artifacts within his or her chosen concentration. Procedures are completely documented and presented in both oral and written form at the end of the semester.

CNS 698 INTERNSHIP SUSTAINING

12, 0/0

CNS 699 INTERNSHIP

12, 0/0

A 12-month off-campus academic program under the direction of an established conservator working either privately or within an institution. Both the program of study and the supervising conservator must be approved by the department faculty. Department faculty monitor student progress through regular reports from the internship supervisor and intern.

CNS 699L INTERNSHIP

0, 0/0

CNS 721 THESIS/PROJECT CONTINUATION

0, 0/0

CNS 722 THESIS/PROJECT EXTENDED

0, 0/0

Art Education (AED)

AED 505 FOUNDATIONS IN MUSEUM EDUCATION STUDIES

3, 3/0

History of museum education; practical experience creating interpretive programs and exhibitions using museum collections, archival resources, and publications; overview of museum operations; current and controversial issues and future trends; definition, history, theory, and responsibilities of museums and museum education; opportunity to work firsthand with curators and museum educators to create appropriate and accessible programs for diverse audiences.

AED 506 COLLOQUIUM IN THE ARTS

3, 3/0

Common and related concerns, experiences, and activities in the various arts, including visual and performing arts, and other acts of individual and/or group expression; seminar reports, discussions, presentations; planning of integrated arts activities and investigation for potential implementation in the field; individual or group project as practical.

AED 510 ART MATERIALS WORKSHOP

3, 2/2

Studio experiences with visual arts media, processes, and techniques for art and classroom learning activities; individual and/or group investigations of experiences and adaptations to classroom application. Extra class studio hours as needed.

AED 518 ART EDUCATION AND MULTICULTURALISM
3, 3/0

Cultural competence in art education; attitudes, approaches, and materials required for teaching art to today's diverse school populations; understanding and appreciating the arts and life ways of various peoples and their cultures; curriculum development; interaction with various community resources.

AED 519 ART IN THE ELEMENTARY AND EXCEPTIONAL EDUCATION CLASSROOM
3, 3/0

Prerequisites: graduate status or instructor permission. Examine relationships between children's art and development pre-K through middle school; research contemporary theory for teaching art in non-arts classrooms including arts integration and supporting Common

AED 520 ART AND THERAPY
3, 3/0

Art experiences/products of children and adults in therapeutic settings; slide lectures, demonstrations, films, videotapes, articles, books, observations, and group and field experiences.

AED 526 FIELD STUDY OF ART IN WASHINGTON AND PHILADELPHIA
1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

AED 527 FIELD STUDIES
1-3, 0/0

Prerequisites: Art education program major; consent of department chair. Supervised field experiences in the major discipline.

AED 565 SEMINAR IN FEMINIST ART AND CRITICISM FOR TEACHING
3, 3/0

A forum for development and critique of teaching methods, visuals, and instructional materials for using feminist art and criticism in art education; practical direction in applying relevant contemporary art, written criticism, and oral interpretation in classroom settings.

AED 588 TOPICS COURSE
3, 3/0

AED 590 INDEPENDENT STUDY
1-3, 1/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

AED 591 RESEARCH PROJECT
3, 3/0

Research or investigation of a particular problem in the discipline, planned and carried out by the student, and supervised by the instructor.

AED 594 GRADUATE WORKSHOP
1-3, 1/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

AED 598 ART THERAPY ISSUES
3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

AED 603 INTERNSHIP (ART EDUCATION OR ART THERAPY)
1-3, 3/0

Prerequisite: Consent of department chair. Supervised internship in an educational setting consistent with the student's program of study.

AED 604 FUNDAMENTALS OF EDUCATIONAL PROGRAMMING FOR MUSEUMS
3, 3/0

Theories and practices of planning and implementing museum education programs for diverse audiences; techniques and methods for creating innovative programs within a museum setting.

AED 605 SEMINAR IN ART EDUCATION
3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

AED 606 VISUAL ART CURRICULUM DESIGN
3, 3/0

Prerequisites: Initial certification in education. Analyzing, evaluating, and designing contemporary art teaching materials, content, and strategies. Focus on teacher-student dialogue; learning behavior, and artistic educational practices.

AED 609 STUDIO METHODS
3, 2/2

Technical studio experience as appropriate to the teaching artist: processes, procedures, skills, knowledge, and attitudes; integration of personal and classroom investigations. May be repeated up to three times.

AED 610 CONTEMPORARY ART THEORY
3, 3/0

Prerequisite: Degree in a visual arts-related field. Theoretical perspectives in art criticism and aesthetics that contribute to contemporary art education practices.

AED 675 YOUTH CULTURE
3, 3/0

Interdisciplinary analysis of adolescent-driven contemporary cultures through the investigation of their intertwined worlds of family, peers, and school. Focus on youth-centered educational research, secondary pedagogical practices, and curriculum design.

AED 680 HISTORY & PHILOSOPHY OF ART EDUCATION
3, 3/0

Critical examination of the historical roots and ideological underpinnings of art education within public/private schooling from elementary to higher education in the U.S., with special attention to the relations among schools and society with respect to social equality and a democratic way of life.

AED 688 SEMINAR IN ART EDUCATION
3, 3/0

Contemporary problems; review of curriculum developments, methodology, innovative developments, and interdisciplinary concepts; individualized studies under faculty advisement.

AED 689 RESEARCH
3, 3/0

Prerequisite: AED 688. Individual and group study of methods of research in the discipline; training in research methods, interpretation, evaluation, and adaptation of research findings for application to professional needs.

AED 690 MASTER'S PROJECT

3, 3/0

Prerequisite: AED 689. A study undertaken by one or more individuals on a problem of professional significance, to demonstrate an area of mastery in the field.

AED 695 MASTER'S THESIS

1-6, 6/0

Prerequisite: AED 689. Individual investigation of an original problem representing a significant contribution to the literature of the field. May be repeated.

AED 721 THESIS/PROJECT CONTINUATION

0, 0/0

AED 722 THESIS/PROJECT EXTENDED

0, 0/0

Art Therapy Studies (ATS)

ATS 520 ART AND THERAPY

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

ATS 590 INDEPENDENT STUDY

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

ATS 690 MASTERS PROJECT

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

ATS 695 MASTERS THESIS

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

ATS 721 THESIS/PROJECT CONTINUATION

0, 0/0

ATS 722 THESIS/PROJECT EXTENDED

0, 0/0

Bilingual Exceptional Edu (BXE)

BXE 590 INDEPENDENT STUDY

1-3, 0/0

Individualized study. Instructor permission required.

BXE 623 POLICIES AND PRACTICES OF BILINGUAL SPECIAL EDUCATION

3, 3/0

Historical, philosophical, and legal foundations for bilingual education and bilingual special education; pedagogical concerns; program design; multicultural perspectives; sociocultural considerations; psycholinguistic concerns; current research findings; current practices in the fields of bilingual education and bilingual special education.

BXE 625 CURRICULUM I: STRATEGIES FOR CULTURALLY AND LINGUISTICALLY DIVERSE EXCEPTIONAL STUDENTS

3, 3/0

Prerequisites: Bilingual special education program major; EXE 500 and EXE 623. Unique needs of culturally and linguistically diverse exceptional students in the areas of language literacy and the development of effective content in English and Spanish; curriculum models, instructional design, teaching methods, and material development; implications of disability and cultural and linguistic diversity.

BXE 626 ASSESSMENT TECHNIQUES IN BILINGUAL SPECIAL EDUCATION

3, 3/0

Prerequisite: Bilingual special education program major. Theoretical and applied knowledge of procedures and instruments for assessing culturally and linguistically diverse individuals who are disabled; role of culture and language in the assessment process; practical techniques, materials, and experience in assessment.

BXE 627 CURRICULUM II: APPLIED STRATEGIES IN BILINGUAL SPECIAL EDUCATION

3, 3/0

Prerequisites: Bilingual special education program major; BXE 625 and BXE 626. Pedagogical and theoretical research in bilingual special education; practical application; 50-hour field participation in which students demonstrate understanding of the strategies and competencies needed to effectively teach English-language learners with disabilities.

BXE 628 BILINGUAL SPECIAL EDUCATION FIELD PRACTICUM

6, 0/6

Prerequisites: Bilingual special education program major; BXE 627. Field-based practicum experience. Direct involvement with English-language learners with disabilities in a local setting. Students assess needs, plan lessons, and teach children with disabilities. Includes weekly seminar. Equivalent Course: SLP 611

Biology (BIO)

BIO 587 TOPICS IN BIOLOGY

1-4, 1/0

In-depth examination of rapidly and significantly changing disciplinary issues, topics, or practices; offered occasionally.

BIO 590 INDEPENDENT STUDY

1-6, 0/0

Independent investigation into a specific area of biology; topic selected by the student in consultation with a faculty member

BIO 600 FOUNDATIONS OF GRADUATE STUDIES IN BIOLOGY

3, 3/0

Prerequisite: Graduate student status in Biology. Introduction to the culture and structure of graduate studies in Biology including the methodology and tools, writing, experimental design, and communication of biological research.

BIO 601 FOUNDATIONS OF CELL AND MOLECULAR BIOLOGY

3, 3/0

Prerequisites: Undergraduate courses in cell biology and genetics or instructor permission. Fundamental paradigms in cell and molecular biology as illustrated by current research; mechanisms by which genes control morphogenesis of plants and animals; evolution of the eukaryotic genome; mechanisms by which the transcription of eukaryotic genes is regulated; regulation of the cell-division cycle in eukaryotic cells. Emphasizes current literature, as well as writing and oral expression about the literature readings.

BIO 602 FOUNDATIONS OF ENVIRONMENTAL PHYSIOLOGY

3, 3/0

Prerequisites: Undergraduate courses in botany and zoology or instructor permission. Evolution of specialized features in plants and animals that allow them to maintain a stable internal environment while being exposed to a variety of external environmental conditions: adaptations of organisms for environments low in water or oxygen; problems associated with ionic and water regulation in freshwater and marine organisms; fundamental physiological principles that apply to both plants and animals.

BIO 603 FOUNDATIONS OF ECOLOGY AND EVOLUTION

3, 3/0

Prerequisites: Undergraduate courses in ecology and evolution or instructor permission. Current theories and paradigms of modern ecology and evolution; population and community interactions of organisms; coevolution; ecological and evolutionary genetics; micro- and macroevolution.

BIO 608 MOLECULAR GENETICS

3, 3/0

Prerequisite: One course in genetics. Molecular basis of the structure, replication, and genetic function of DNA; mutation, recombination, and the nature of genes; the genetic code, messenger and transfer RNA, and protein biosynthesis; molecular evolution of proteins.

BIO 612 TOPICS IN ECOLOGY

3, 3/0

Prerequisites: One semester each of ecology and biometrics or equivalent. Lecture and discussion on a specific topic in ecology, such as population ecology, microbial ecology, plant ecology, ecology of the Great Lakes, or advanced limnology. Topics vary with each session. May be taken more than once.

BIO 616 TOPICS IN ANIMAL PHYSIOLOGY

3, 3/0

Prerequisites: General physics, organic chemistry, and one year of physiology. Lecture and discussion on special topics in animal physiology, such as immunology, advanced animal physiology, and animal responses to stress. Topics vary with each session. May be taken more than once.

BIO 617 RESEARCH SEMINAR

1, 1/0

Presentations and discussions of current research projects by graduate students in biology. Each participant presents a seminar. Required for all candidates for the M.A. degree in biology.

BIO 626 TOPICS IN BOTANY

3, 3/0

Prerequisites: 9 credit hours of botany-oriented courses. Lecture and discussion on a specific topic in botany, such as biosystematics, dendrology, wetland plants, plant pathology, or plant response to stress. Topics vary with each session. May be taken more than once.

BIO 627 TOPICS IN ZOOLOGY

3, 3/0

Prerequisites: 9 credit hours of zoology-oriented courses. Lecture and discussion on a specific topic in zoology, such as invertebrate zoology, entomology, fisheries biology, or functional vertebrate morphology. Topics vary with each session. May be taken more than once.

BIO 629 FISHERIES MANAGEMENT

3, 3/3

Prerequisite: One semester of ecology or instructor permission. Advanced study of the ecology and management of fish populations emphasizing inland fisheries in North America. Topics include management philosophies, fisheries statistics and modeling, habitat protection and manipulation, introduced and endangered species, stocking, and Great Lakes fisheries.

BIO 630 STREAM ECOLOGY

3, 3/3

Prerequisite: One semester each of ecology and statistics or instructor permission. Biological, chemical, geomorphic, and hydrologic features affecting the ecology of flowing water systems. Emphasis on freshwater invertebrate life histories, adaptations, and community structure in shallow streams.

BIO 635 GREAT LAKES ECOLOGY

3, 3/0

Prerequisite: One semester of ecology or instructor permission. Study of the North American Great Lakes: physical and chemical features, biological structure, and ecological interactions. Focus on environmental issues, including water quality and the effect of introduced species.

BIO 670 BIOLOGICAL DATA ANALYSIS

3, 3/0

Prerequisite: One course in statistics. Experimental design and statistical analysis of biological data; applications of computers to biological investigations. Designed for students in the initial stages of planning their research.

BIO 672 FORENSIC MOLECULAR BIOLOGY

4, 3/3

Prerequisites: BIO 303 or BIO 350; FOR 612 or CHE 312; CHE 670 or CHE 470 or BIO 305; or equivalents. Applications of biology, biochemistry, and genetics to forensic science with an in-depth look at the evidential information that can be obtained from blood, semen, saliva, and hair. Details of DNA profiling, including DNA extraction, DNA quantification, PCR amplification, STR analysis and interpretation, and mtDNA sequencing. Protein polymorphisms and immunological tests. Laboratory component providing hands-on experience with techniques commonly used in a forensic biology laboratory.

Equivalent Course: CHE 672

BIO 690 MASTER'S PROJECT

1-3, 0/0

Prerequisite: Approval of proposal by the student's project committee; open to M.S. in education candidates. Investigation of a special-interest problem, planned and executed with consultation and advisement from the instructor and the student's project committee.

BIO 695 RESEARCH THESIS IN BIOLOGY

1-6, 0/0

Prerequisite: Approval of proposal by the student's thesis committee; open to M.A. or M.S. in education candidates. Individual investigation of an original problem submitted in acceptable form according to directions given by the Graduate School.

BIO 699 COMPREHENSIVE EXAMINATION

1, 0/0

Prerequisites: Permission of the graduate committee. A comprehensive written and oral examination that provides the culminating "capstone" experience of the M.A. Biology program for students pursuing the non-thesis option. Examination topics determined with advisement of the graduate committee.

BIO 721 THESIS/PROJECT CONTINUATION

0, 0/0

BIO 722 THESIS/PROJECT EXTENDED

0, 0/0

Business & Marketing Education (BME)

BME 590 INDEPENDENT STUDY

1-3, 0/0

BME 600 PRINCIPLES OF BUSINESS AND MARKETING EDUCATION

3, 3/0

Prerequisite: Teacher certification in an education discipline. Historical and philosophical developments in business and marketing (distributive) education.

BME 601 RESEARCH SEMINAR

3, 3/0

Prerequisite: Graduate status. Current research in occupational/vocational/business education; methods of research; locating appropriate information; development of a research proposal. Required for all BUS, CTE, DED, TED students.

Equivalent Course: SPF 689

BME 602 CURRICULUM DEVELOPMENT AND PLANNING IN BUSINESS AND MARKETING EDUCATION

3, 3/0

Prerequisite: Teacher certification in an education discipline. Historical developments and changing concepts of curriculum; principles of curricula development; components of the curriculum-development process; dimensions of curriculum design systems; purposes and problems of curriculum evaluation. Required for all, BUS, CTE, and TED students.

Equivalent Course: CTE 602

BME 604 IMPROVING INSTRUCTION IN BUSINESS AND MARKETING

3, 3/0

Prerequisite: Teacher certification in an education discipline. Development of instructional techniques and resources; current best practices in educational settings; application of curriculum enhancement through effective pedagogy and program development.

BME 605 EVALUATION IN BUSINESS AND MARKETING EDUCATION

3, 3/0

Prerequisite: Teacher certification in an education discipline. General principles of evaluation and measurement; construction and use of objective tests, informal devices, and techniques of evaluation applicable to occupational education; selection and use of observation, rating scales, anecdotal records, individual and group projects; interpreting, recording, and using the results of evaluation data for the improvement of instruction. Required for all BUS, CTE, and TED students.

BME 690 MASTER'S PROJECT

3, 3/0

BME 721 THESIS/PROJECT CONTINUATION

0, 0/0

BME 722 THESIS/PROJECT EXTENDED

0, 0/0

Business (BUS)

BUS 500 MARKETING OF SERVICES

3, 3/0

Prerequisite: BME 600 Introduction to Marketing or equivalent. Applications of marketing principles in the service sector; service systems and the principles and practices involved in the marketing of services; past, current, and emerging trends in services marketing; development of marketing programs in the service sector.

BUS 512 INTRODUCTION TO USING ACCOUNTING INFORMATION FOR DECISION-MAKING

3, 3/0

Prerequisite: Graduate standing. Overview of fundamental financial and managerial accounting statements or reports, including their structure, contents, underlying concepts, analysis, interpretation, and use for economic decision making.

BUS 519 COMMUNICATION FOR LEADERS AND MANAGERS

3, 0/0

Theories of effective communication; face-to-face communication; group problem solving; public speaking; power and leadership in organizational settings; persuasive messages and campaigns that public relations practitioners design for a variety of publics. Designed for graduate students interested in improving their workplace communication skills. Equivalent Course: COM 519

BUS 534 SELECTED TOPICS IN BUSINESS STUDIES

3, 3/0

Review and synthesis of current content in business, product knowledge, and distributive education studies.

BUS 535 SMALL-BUSINESS OPERATIONS

3, 3/0

Role of small business in the social, economic, and political environment of the United States; forms of small-business ownerships; management concepts; legal and government controls; marketing principles.

BUS 536 THE AMERICAN ENTERPRISE SYSTEM

3, 3/0

Problems and issues relating to the free enterprise system functioning within a modern industrial society; analysis of the interrelationships of basic business concepts with the decision-making processes of corporate management; historical trends and their futuristic implications.

Equivalent Course: HIS 536

BUS 545 BASIC ACCOUNTING FOR BUSINESS AND NONBUSINESS ORGANIZATIONS

3, 3/0

Financial, managerial, and not-for-profit accounting; accounting concepts, principles, and procedures.

BUS 590 INDEPENDENT STUDY

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

BUS 594 WORD PROCESSING - INSTRUCTIONAL TECHNIQUES AND METHODOLOGIES

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

BUS 598 MICRO-COURSE

1, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

BUS 603 HUMAN RESOURCE MANAGEMENT

3, 3/0

Personnel-related functions and the utilization of resources to support these functions within organizations: design of in-service training programs; supervisory skills for enhancing motivation and productivity; employee benefit packages; grievance and labor relations plans; proposals to obtain funding and training.

Equivalent Course: SWK 603

BUS 640 HUMAN RESOURCE DEVELOPMENT

3, 3/0

Prerequisite: Graduate status. Preparation to conduct educational and training programs for workers and volunteers to improve organizational effectiveness; key competencies and principal roles of human resource development professionals; human performance analysis; training needs assessment; organizational development; career development; program and instructional design; learning materials design; program evaluation; ethical and human diversity issues in training and development.

BUS 688 LEADERSHIP IN ORGANIZATIONS

3, 3/0

Theories of leadership; organizational contexts and culture for leadership; the role of the leader in organizations; leadership competencies for organizational effectiveness; the leader's role in mentoring and coaching for effective performance; the leader's role in achievement of organizational mission and goals.

Equivalent Courses: ADE 688, SPF 688

BUS 690 MASTER'S PROJECT

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

Equivalent Course: DED 690

BUS 695 MASTER'S THESIS

3, 0/0

Individual investigation of an original problem submitted in acceptable form according to directions given by the Graduate School.

BUS 712 MANAGING PROGRAM EVALUATION

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

Equivalent Courses: PAD 712, SPF 712, SWK 712

BUS 715 MANAGEMENT PRACTICES AND TECHNIQUES

3, 3/0

Prerequisites: PSY 101 grade of C, and instructor permission. Major management theories and factors affecting organizational systems; managing conflict and negotiating agreements; effective interpersonal skills for managers; defining problems and generating creative alternatives; types and sources of information needed by managers; relation of leadership style to staff productivity and development; relating effectively to upper-level management.

BUS 721 THESIS/PROJECT CONTINUATION

0, 0/0

BUS 722 THESIS/PROJECT EXTENDED

0, 0/0

Career & Technical Education (CTE)

CTE 620 STRUC OCC PROG

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CTE 530 CAREER EDUCATION: RATIONALE, NATURE, AND CONCEPTS

3, 3/0

Career education concepts, terminology, and models for elementary school through college; present programs, research, and current thinking on career education.

CTE 536 CONTEMPORARY METHODOLOGY

3, 3/0

New and emerging techniques of instruction and their applications to specific individual problems; development of models appropriate to students' particular subject areas.

CTE 550 ORGANIZATION OF DIVERSIFIED COOPERATIVE WORK-STUDY PROGRAMS

3, 3/0

Information for occupational teachers and department chairs or supervisors interested in establishing diversified cooperative programs; procedures for promoting a new program; working with advisory boards; developing employment opportunities; arranging trainee outlines; planning instructional facilities; securing Regents accreditation.

CTE 555 OPERATION OF DIVERSIFIED COOPERATIVE WORK-STUDY PROGRAMS

3, 3/0

Conducting effective instruction in diversified cooperative programs; interviewing employers; supervising trainees; interpreting legal aspects; preparing records and reports; conducting classes in related theory.

CTE 590 INDEPENDENT STUDY

1-3, 0/0

CTE 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CTE 600 CONTEMPORARY ISSUES IN OCCUPATIONAL EDUCATION

3, 3/0

Current issues, practices, policies, and literature in occupational education.

CTE 601 SUPERVISION OF VOCATIONAL EDUCATION

3, 3/0

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

CTE 602 ADMINISTRATION OF VOCATIONAL EDUCATION

3, 3/0

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

Equivalent Course: BME 602

CTE 603 SELECT TOPICS IN THE ORGANIZATION AND ADMINISTRATION/SUPERVISION OF VOCATIONAL EDUCATION

3, 3/0

Prerequisite: CTE 601 or instructor permission. Problems arising in the organization, administration, and supervision of vocational technical education.

CTE 604 TECHNICAL PROJECT

3, 3/0

Internship experience with industry or business to study new techniques, operations, and processes, cooperatively initiated by faculty and student. Students develop instructional material reflecting the new knowledge and skills gained.

CTE 605 OCCUPATIONAL GUIDANCE FOR CAREER EXPLORATION

3, 3/0

Prerequisite: Graduate status and career and technical education program major or instructor permission. Vocational guidance techniques and procedures that may be effectively used in career counseling for the changing world of work.

CTE 606 HISTORY AND PHILOSOPHY OF OCCUPATIONAL EDUCATION

3, 3/0

Historical review of the philosophical, sociological, economic, and political indices that have influenced the development of vocational technical education.

CTE 620 STRUCTURE OF OCCUPATIONAL PROGRAMS

3, 3/0

Prerequisite: Graduate status or instructor permission. Structure of occupational education; survey and analysis of present programs; assessment of articulation between programs; viability of the occupational education structure in light of internal and external forces promoting change.

CTE 625 INTERRELATIONSHIPS OF LABOR, MANAGEMENT, AND OCCUPATIONAL EDUCATION

3, 3/0

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

CTE 655 DIVERSITY ISSUES IN ADULT EDUCATION AND TRAINING

3, 3/0

Prerequisite: Graduate status. Teaching and learning implications of diversity for adult educational achievement and career opportunities. Implications for course content and classroom management styles when adult educators are sensitive to race, ethnicity, gender, sexual orientation, class, and physical ability. Methods for structuring course content, designing curricula, and educating learners by promoting and embracing a diverse population of colleagues, learners, workers, and clients.

Equivalent Course: ADE 655

CTE 675 POSTSECONDARY TEACHING PRACTICUM

3, 2/0

Prerequisites: Graduate status, ADE 610 or CTE 536, and instructor permission. Promotes expertise in teaching in human resource development adult education, workforce training, community colleges, and GED program settings. Extended teaching assignments with coach/mentor assistance. Seminar-type discussions reflecting on learning and development of learners as they taught, principles of teaching, their teaching behaviors, strategies promoting continuing growth as teachers. Analyze issues in teaching: diversity, technology, exceptionalty, promoting social justice.

Equivalent Course: ADE 675

CTE 690 MASTER'S PROJECT

3, 3/0

Research or investigation of a particular problem, planned and carried out by the student and guided by the instructor.

CTE 695 MASTER'S THESIS

6, 6/0

Individual investigation of an original problem submitted in acceptable form according to directions given by the Graduate School. Problem and procedure must be approved by the student's graduate adviser, CTE advisory committee, and the department chair before the investigation begins.

CTE 721 THESIS/PROJECT CONTINUATION

0, 0/0

CTE 722 THESIS/PROJECT EXTENDED

0, 0/0

Chemistry (CHE)

CHE 501 QUANTITATIVE CHEMICAL ANALYSIS

3, 2/6

Not open to students who have had CHE 301 or equivalent. Advanced theoretical background and laboratory techniques required for quantitative and qualitative chemical analysis; emphasis on fundamental principles and applications of gravimetric, volumetric, electrochemical, and spectrophotometric analytical techniques; statistics for experimental data handling; conducting independent chemical analysis projects.

CHE 530 ADVANCED ENVIRONMENTAL CHEMISTRY

3, 3/0

Suggested Prerequisite: CHE 201 or equivalent. Chemistry of the environment, air, water, soil, living environments, and the effects of technology thereon; the atmosphere, industrial ecosystems, phase interactions, water pollution and treatment, air pollution, global warming and green chemistry, smog, hazard wastes, soil chemistry, and toxicological chemistry.

CHE 540 SPECIAL TOPICS IN ORGANIC CHEMISTRY

3, 3/0

Suggested Prerequisite: CHE 202 or equivalent. Advanced topics, discussed in detail, with emphasis on the current state of knowledge; topics are essentially independent of each other. Class may be repeated, provided that a student has not already received credit for the same topic.

CHE 550 ADVANCED PHYSICAL CHEMISTRY

4, 4/0

Prerequisites: Graduate status and instructor permission. Advanced study of thermodynamics and quantum mechanics, with applications to chemical problems.

CHE 560 SPECIAL TOPICS IN INORGANIC CHEMISTRY

3, 3/0

Suggested Prerequisite: CHE 462 or equivalent. One of the following topics, presented in detail: coordination chemistry, nonaqueous solvents, the representative elements and lanthanides, synthetic inorganic chemistry. Topics are essentially independent of each other. Class may be repeated, provided that a student has not already received credit for the same topic.

CHE 571 BIOCHEMICAL PRINCIPLES I

3, 3/0

Prerequisites: CHE 202 or equivalent; BIO 211 or BIO 214 recommended; not open to students who have taken CHE 470 or equivalent. Molecular structure and function of the four major classes of biomolecules: proteins, nucleic acids, lipids, and carbohydrates. Enzyme kinetics, mechanism, and regulation. Molecular nature of DNA replication; introduction to recombinant DNA technology.

CHE 572 ADVANCED BIOCHEMISTRY

3, 3/0

Suggested Prerequisite: CHE 571 or CHE 470 or equivalent; not open to students who have had CHE 472 or equivalent. Examination of metabolic processes in living systems. Relationship of metabolic enzyme activity to cellular control. The chemistry of genetic information, storage and expression.

CHE 588 TOPICS COURSE

3, 3/0

CHE 590 INDEPENDENT STUDY

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CHE 598 GRADUATE MICRO-COURSE

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

Equivalent Course: FOR 598

CHE 620 KINETICS AND REACTION MECHANISMS

4, 4/0

Suggested Prerequisites: CHE 202, CHE 306 or CHE 550, and CHE 462 or instructor permission. Methods of determining mechanisms of chemical processes. Required for all M.A. in chemistry candidates.

CHE 626 SYMMETRY, GROUP THEORY, AND VIBRATIONAL SPECTROSCOPY

1, 1/0

Prerequisites: CHE202 and CHE204 or equivalents. Symmetry, point groups, and simple applications of group theory, with special emphasis on the vibrational spectroscopy of small molecules. Use of the department's IR spectrometers.

CHE 627 X-RAY CRYSTALLOGRAPHY

1, 1/0

Prerequisites: CHE 202 AND CHE 204 or equivalents. The seven crystal systems, 14 Bravais lattices, 32 crystallographic point groups, 230 space groups, the theory of X-ray diffraction, and the methods of crystal structure determination. Data mining using structural databases (Brookhaven Protein Data Bank and Cambridge Structural Database) for various applications in organic, coordination, pharmaceutical, and forensic chemistry. Collecting powder and/or single crystal diffraction data on the department's X-ray diffractometers; solving and refining a crystal structure using the appropriate software packages.

CHE 628 NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY

1, 1/0

Prerequisites: CHE 202 and CHE 204 or equivalents. Theory and practice of nuclear magnetic resonance spectroscopy, including pulse and two-dimensional methods. Use of the department's NMR spectrometer.

CHE 629 MASS SPECTROMETRY

1, 1/0

Prerequisites: CHE202 and CHE204 or equivalents. Theory and practice of mass spectrometry. Basic physics of mass spectrometry and ionization methods. Gas phase chemistry, rearrangements, and ion molecule reactions. Use of the department's electron impact ionization and electrospray mass spectrometers.

CHE 670 BIOMOLECULES: PROTEINS, NUCLEIC ACIDS, AND ENZYMES

3, 3/0

Prerequisites: CHE202 or equivalent. Structure-function relationships in proteins, enzymes, and nucleic acids. Introduction to biochemical techniques for the study of proteins, nucleic acids, and enzymes. Examination of the molecular basis of enzyme function, signal transduction, and neural and sensory responses in living systems.

CHE 672 FORENSIC MOLECULAR BIOLOGY

4, 3/3

Prerequisites: CHE 470 D or BIO 305 and BIO 303 or BIO 350 and FOR 612 or CHE 312 or equivalents. Applications of biology, biochemistry, and genetics to forensic science with an in-depth look at the evidential information that can be obtained from blood, semen, saliva, and hair. Details of DNA profiling, including DNA extraction, DNA quantification, PCR amplification, STR analysis and interpretation, and mtDNA sequencing. Protein polymorphisms and immunological tests. Laboratory component providing hands-on experience with techniques commonly used in a forensic biology laboratory.

Equivalent Course: BIO 672

CHE 680 ADVANCED ANALYTICAL CHEMISTRY

3, 3/0

Prerequisites: CHE 501 or equivalent, or instructor permission. A study of chemical analysis using representative instrumental techniques, including spectroscopy, chromatography, and mass spectroscopy; emphasis on fundamental theory, principles of operation, capabilities, and limitations of various analytical instruments; integration of laboratory-based demonstrations of data collection and analysis using selected analytical techniques.

CHE 690 MASTER'S PROJECT

3, 3/0

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

CHE 698 JOURNAL SEMINAR

1, 1/0

Prerequisites: Matriculated status in the M.S. in Forensic Science program or instructor permission. Examination of methods used to compose and deliver an effective seminar in the sciences. Searching the scientific literature. Oral presentation of a topic from the current literature in chemistry or forensic science. Required of all students in the M.S. in Forensic Science program.

CHE 699 THESIS SEMINAR AND DEFENSE

2, 2/0

Prerequisites: CHE 698. Oral presentation of master's thesis research at a departmental seminar. Defense of master's thesis to thesis committee. Required of all students in the M.S. in Forensic Science program.

CHE 721 THESIS/PROJECT CONTINUATION

0, 0/0

CHE 722 THESIS/PROJECT EXTENDED

0, 0/0

CHE 795 RESEARCH THESIS IN CHEMISTRY

1-12, 0/0

Individual investigation of an original problem in Chemistry submitted in acceptable form according to directions given by the Chemistry Department and the Graduate School.

Coaching and Physical Education (HPR)

HPR 500 PHILOSOPHIES, PRINCIPLES, AND ORGANIZATION OF ATHLETICS IN EDUCATION

3, 3/0

Basic philosophy and principles of coaching interscholastic athletics; state, local, and national policies and regulations related to athletics. Partially fulfills New York State requirements for interscholastic coaching certification.

HPR 519 SOCIAL IMPACT OF SPORT

3, 3/0

Diverse sociological perspectives of sport: social organization of sport-related activities; formal and informal organizational networks of social status, norms, goals, and values; the impact of sport on American society.

HPR 530 PHYSICAL EDUCATION AND RECREATION FOR THE DISABLED CHILD

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

Equivalent Course: HEW 530

HPR 535 ATHLETIC TRAINING: PREVENTION AND CARE OF ATHLETIC INJURIES

3, 3/0

Prerequisites: Background in anatomy and physiology from BIO 308, HPR 301, or equivalent. Relationship between conditioning performance and injury prevention: techniques and programs designed to stress the importance of body conditioning needed for specific sports, as well as the possible treatment of athletic injuries. Partially fulfills New York State requirements for interscholastic coaching certification.

HPR 588 TOPICS COURSE

3, 3/0

HPR 590 INDEPENDENT STUDY

1-3, 0/0

Equivalent Course: HEW 590

HPR 690 MASTER'S PROJECT

3, 0/0

Equivalent Course: HEW 690

HPR 721 THESIS/PROJECT CONTINUATION

0, 0/0

HPR 722 THESIS/PROJECT EXTENDED

0, 0/0

Communication (COM)

COM 519 COMMUNICATION FOR LEADERS AND MANAGERS 3, 3/0

Theories of effective communication; face-to-face communication; group problem solving; public speaking; power and leadership in organizational settings; persuasive messages and campaigns that public relations practitioners design for a variety of publics. Designed for graduate students interested in improving their workplace communication skills. Equivalent Course: BUS 519

COM 590 INDEPENDENT STUDY 1-3, 1/0

COM 610 PUBLIC RELATIONS PRINCIPLES AND PRACTICES 3, 3/0

Prerequisites: Admission into the master's degree in public relations program, the Public Relations Management track of the Multidisciplinary Studies master's program, or graduate status. Corequisite: COM 621. Organizational principles and strategic communication planning practices underscoring effective management of public relations; history and definitions of public relations; the role of ethics, corporate social responsibility, and legal issues in public relations. Offered occasionally.

COM 621 THEORIES OF PUBLIC RELATIONS 3, 3/0

Prerequisites: Admission into the master's degree in public relations program, the Public Relations Management track of the Multidisciplinary Studies master's program, or graduate status. Corequisite: COM 610. Theoretical body of knowledge in public relations and its application to public relations practice; evolution of public relations; diversity, professional standards, and ethics in public relations. Offered occasionally.

COM 631 ADVANCED PUBLIC RELATIONS WRITING 3, 3/0

Prerequisites: COM 610, COM 621. Advanced practice in writing for various public relations settings for students with prior public relations writing experience or undergraduate public relations writing coursework; focus on writing for news media and organizational media, including social media, with emphasis on mastery of grammar and punctuation rules.

COM 635 INTERNSHIP IN PUBLIC RELATIONS 3, 0/0

Prerequisites: COM 610, COM 621 and COM 631. Supervised field experience in a professional setting for students who have completed extensive academic preparation in the discipline. Offered every semester.

COM 641 RESEARCH METHODS IN PUBLIC RELATIONS 3, 3/0

Prerequisites: COM 610 and COM 621. Overview of applied research methodologies for public relations campaigns including both qualitative and quantitative approaches. Attention to computer literature searches, research design, questionnaire construction, sampling, measurement techniques, and data analysis.

COM 650 PUBLIC RELATIONS MANAGEMENT 3, 3/0

Prerequisites: COM 631 and COM 641. Management of public relations in various specialized situations, using a case study approach, culminating in the creation of a team communication campaign plan for an actual public relations client.

COM 660 GLOBAL PUBLIC RELATIONS 3, 3/0

Prerequisites: COM 610; graduate status. Dimensions of public relations practice in international settings; overview of factors that influence communication across cultures and borders and an examination of the effect that those factors have on public relations practice in specific regions of the world. Offered annually.

COM 690 MASTER'S PROJECT 3, 0/0

Prerequisites: COM 610 and COM 650; prerequisite or corequisite: COM 641. Practical application of knowledge acquired in COM 610, COM 641, and COM 650 through the development of a strategic public relations campaign or project.

COM 695 MASTER'S THESIS 3, 0/0

COM 721 THESIS/PROJECT CONTINUATION 0, 0/0

COM 722 THESIS/PROJECT EXTENDED 0, 0/0

Computer Information Systems (CIS)

CIS 500 MICROCOMPUTER SYSTEMS 3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CIS 512 INTRODUCTION TO DATA SCIENCE AND ANALYTICS 3, 3/0

Prerequisites: Graduate standing. Introduction to Data Science and Analytics; modern analytical techniques; application to academia, industry and business needs. Fundamental concepts and terms; methods, tools, and techniques; identification of "big data" problems; data sources; analytical approaches; algorithm implementations; interpretation and reporting of results. Offered annually in the Fall semester.

CIS 590 INDEPENDENT STUDY 1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CIS 594 GRADUATE WORKSHOP 1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CIS 600 MACHINE LEARNING FOR DATA SCIENCE
3, 3/0

Prerequisites: CIS 512 or equivalent. Introduction to Machine Learning Techniques for Data Science; mathematical methods; algorithms; application to academia, industry and business problems. Fundamental concepts and terms; methods, tools, and techniques. Supervised and unsupervised learning; identification of learning problems; data sources; analytical approaches; algorithm implementation; interpretation and reporting. Offered annually in the Fall semester.

CIS 690 MASTERS PROJECT IN EDUCATIONAL COMPUTING

3, 3/0
See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CIS 695 MASTERS THESIS

3, 6/0
See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CIS 721 THESIS/PROJECT CONTINUATION

0, 0/0

CIS 722 THESIS/PROJECT EXTENDED

0, 0/0

Criminal Justice (CRJ)

CRJ 501 THEORETICAL PERSPECTIVES ON CRIME AND CRIMINAL JUSTICE

3, 3/0
Patterns and trends in crime and victimization in the United States; the complex relationships between theoretical explanations of criminal behavior and criminal justice policies and priorities; theoretical and empirical foundations of criminal behavior and crime control; development of writing and conceptual skills.

CRJ 504 RESEARCH METHODS IN CRIMINAL JUSTICE

3, 3/0
Prerequisite: Graduate status or instructor permission. Graduate level statistics and undergraduate research methods. This course introduces students to the practice, theory, and philosophy of social science research, with a special focus on criminal justice. It not only broadens students' knowledge of the ethical issues associated with research, but also introduces them to a variety of research techniques such as surveys, field research, and experimental designs. Research Methods will lay the foundation for students to become informed "consumers" of research, as well as "producers" of it.

CRJ 505 LAW AND SOCIAL CONTROL

3, 3/0
See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CRJ 506 POLICING IN AMERICA

3, 3/0
See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CRJ 508 HISTORY OF CRIMINAL JUSTICE
3, 3/0

Prerequisite: Graduate status or instructor permission. Societal responses to crime and disorder in the United States from the colonial period through the twentieth century; social forces that influenced the development of criminal law and its institutions of social control; readings in traditional and revisionist scholarship on social disorder, law, crime, police, courts, prisons, and juvenile justice.

CRJ 590 INDEPENDENT STUDY

1-3, 3/0
See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CRJ 601 CORRECTIONAL STRATEGIES

3, 3/0
Prerequisite: Graduate status. Historical, philosophical, theoretical, and legal dimensions of correctional practices in the United States; contemporary correctional strategies and services, including institutional and community-based programs, within the context of contemporary correctional policy.

CRJ 602 ORGANIZATIONAL BEHAVIOR AND THE MANAGEMENT PROCESS IN CRIMINAL JUSTICE

3, 3/0
Prerequisite: Undergraduate advanced administration in criminal justice or equivalent. Managerial environment of criminal justice organizations; analysis and application of administrative science to improving crime control agency management.

CRJ 603 ADMINISTRATION OF JUSTICE

3, 3/0
Prerequisite: Graduate status. Intensive and integrative analysis of the administration of criminal justice. Uses a pluralistic model of public crime control policy making to examine existing and possible future efforts and effects on the American criminal justice and criminal-legal system and its agencies and operations. Extensive exposure to the criminal justice system, supporting social science, and legal literature in the field.

CRJ 604 CRIMINAL COURTS

3, 3/0
Theory of courts and the legal, social, and political processes that significantly affect the operation of the criminal courts, the administration of justice, and judicial decision making; the interrelationship among the social and political forces that influence court decisions and justice.

CRJ 605 LAW AND SOCIAL CONTROL

3, 3/0
Prerequisite: Graduate status or instructor permission. Nature of social control as it is vested in the objectives, procedures, and authority of law and social institutions; social and legal implications of social control, and the limits of criminal law as a means of social control.

CRJ 606 LAW ENFORCEMENT ISSUES

3, 3/0
Prerequisite: Graduate status or instructor permission. Selected issues relating to the role and operations of law enforcement in a time of complex social change. Topics vary as developing issues and problems affect the police.

CRJ 608 SPECIAL TOPICS IN CRIMINAL JUSTICE

3, 3/0

Prerequisite: Graduate status. Intensive analysis of a special topic(s) not covered in the existing curriculum, to be determined by relevancy and currency of the topic(s), student interests, and the availability of resources and expertise to teach the specific subject matter. May be taken three times (up to 9 credits).

CRJ 609 STATISTICS IN CRIMINAL JUSTICE

3, 3/0

Prerequisite: Graduate status or instructor permission. Introduction and overview of statistical principles and methods in criminological research. Examination of descriptive, inferential, and multivariate statistics through parametric and nonparametric measures. Emphasis on the interpretation and application of statistical results from software analysis, such as SPSS, and journal articles.

CRJ 612 PROFESSIONAL RESPONSIBILITY

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CRJ 617 INSTRUCTIONAL METHODOLOGY AND CURRICULUM PROBLEMS IN CRIMINAL JUSTICE

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CRJ 620 WHITE-COLLAR CRIME

3, 3/0

Prerequisite: Graduate status. Theoretical and empirical literature on upper-world crime and its impact on society; the relationship between and effectiveness of criminal, civil, and regulatory processes; characteristics of offenders.

CRJ 622 JUVENILE JUSTICE

3, 3/0

Prerequisite: Graduate status. Historical, philosophical, theoretical, and legal foundations of juvenile justice systems in states across the country; the relationship between juvenile delinquency and youth crime; various state juvenile justice strategies; empirical studies of interventions to combat drug behavior; gangs and criminal violence; the effectiveness of the complex decisions made by the juvenile justice system in addressing delinquency and youth crime.

CRJ 624 COMPUTER APPLICATION

3, 3/0

Prerequisite: Graduate status or instructor permission. Various computer applications of basic statistical methods as they apply to criminal justice; a combination of lectures on both descriptive and inferential statistics and hands-on experience in the computer lab, designed to increase analytical ability through quantitative training exercises.

CRJ 625 RACE AND ETHNICITY IN CRIMINAL JUSTICE

3, 3/0

Prerequisite: CRJ 501. Manifestations of racial and ethnic stratification in American society and their effects on crime and the administration of criminal justice in the United States; history of racial stratification in the United States; effects of racial stratification on the criminality of minority groups; differential enforcement of the law against members of minority groups at different phases of the criminal justice process.

CRJ 626 GENDER ISSUES IN CRIMINAL JUSTICE

3, 3/0

Prerequisite: CRJ 501. Gender differences and their effects on criminal behavior, law, and the criminal justice process; crimes of which women are disproportionately victims; the extent, types, distinguishing characteristics, and theories of female criminality; criminal justice policies and practices that result in the differential treatment of female victims, offenders, and practitioners.

CRJ 628 ORGANIZED CRIME

3, 3/0

Prerequisite: Graduate status. History, structure, operation, and theories of organized crime, and the problems of control that law enforcement faces; interaction among criminals, victims, community, law enforcement, and the laws within the pluralistic political context.

CRJ 630 CONSTITUTIONAL ISSUES IN CRIMINAL JUSTICE

3, 3/0

Prerequisite: Admission to the criminal justice master's degree program or instructor permission. Legal reasoning, writing briefs, and legal research; identifying and analyzing selected Supreme Court cases, with an emphasis on the First, Fourth, and Fifth Amendments of the U.S. Constitution; examining former ideologies for comparison with current trends, issues, and ideologies, emphasizing the comprehension of legal thought and how it changes. Uses the casebook method of study.

CRJ 635 CRIMINAL JUSTICE ETHICS

3, 3/0

Prerequisite: Graduate status. Ethics as a component of criminal justice: overview of basic ethical concepts and theories; macro-level ethical issues and problems in the criminal justice process; specific ethical problems of the various components of the criminal justice process.

CRJ 690 MASTER'S PROJECT

3, 0/0

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

CRJ 695 MASTERS THESIS

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CRJ 710 RESEARCH PROJECT

3, 3/0

Prerequisites: Graduate status, instructor permission, and department approval. Participation in an ongoing research project by invitation of a criminal justice faculty member. May be taken only once.

CRJ 721 THESIS/PROJECT CONTINUATION

0, 0/0

CRJ 722 THESIS/PROJECT EXTENDED

0, 0/0

Ctr. For Studies in Creative S (CRS)

CRS 509 INTRODUCTION TO THE GIFTED, TALENTED AND CREATIVE LEARNER

3, 3/0

Introduction to giftedness, talent development, and creativity in students, examining both the historical foundations and the current state of the field. Examines characteristics and identification of academically gifted, creative, and talented students from diverse backgrounds and areas of ability who learn at a pace and level that are significantly different than classmates.

Equivalent Course: EDU 509

CRS 530 CREATIVE TEACHING AND LEARNING IN FORMAL AND INFORMAL SETTINGS

3, 3/0

Current best practices to facilitate creative teaching and learning in formal education settings and informal education initiatives in organizations such as museums and clubs. Strategies to enhance creativity education, engage in creative learning and utilize technology to support students' creative activities. Design creativity curriculum and align with appropriate assessment procedures.

Equivalent Courses: EDL 530, EDU 530

CRS 559 PRINCIPLES IN CREATIVE PROBLEM SOLVING

3, 3/0

Theory and application of the Creative Problem Solving (CPS) process; practice in both individual and group uses for either personal or professional contexts; group work and active participation are expected.

CRS 560 FOUNDATIONS OF CREATIVE LEARNING

3, 3/0

Theory and research that form the foundation of the discipline of creativity studies; development of awareness and understanding of basic principles, select definitions, models, and theories and practice in applying them in a variety of contexts. Group interaction, discussion, and project work are expected.

CRS 570 CREATIVE PROBLEM-SOLVING EXPERIENCES

1, 3/0

Current issues, procedures, and principles of creative thinking and problem solving. Students make observations and discuss and evaluate individual experiences.

CRS 580 CREATIVITY ASSESSMENT: METHODS AND RESOURCES

3, 3/0

Practical information on methods and resources for creativity assessment; review of basic measurement principles and a critique of specific tools used to assess creativity in both education and business. Students receive personal feedback on a number of measures and develop a profile of their own creative strengths.

Equivalent Course: CRS 620

CRS 585 LEARNING STYLE METHODS/RESOURCES FOR CREATIVE AND TALENT DEVELOPMENT

3, 3/0

Applying learning style processes to guide planning for creative and talent development; information and hands-on experience on documenting students' learning style strengths.

CRS 590 INDEPENDENT STUDY

1-3, 0/0

CRS 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CRS 596 CONFERENCE

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CRS 598 MICRO COURSE

1, 1/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CRS 610 FACILITATION OF GROUP PROBLEM SOLVING

3, 3/0

Prerequisites: CRS/EAD/ELF 559. Advanced strategies for leading small groups through the Creative Problem Solving (CPS) process; mastery of facilitation techniques and skills. Students receive expert feedback on their facilitation skills as they apply creative strategies to real issues. Examines conceptual relationships between facilitation and change leadership; develops basic change leadership skills.

CRS 614 ADVANCED COGNITIVE TOOLS FOR CREATIVE PROBLEM SOLVING

3, 3/0

Prerequisite: CRS 559. A focus on developing students' skills in applying and facilitating advanced creative problem-solving tools that involve diagnostic, visionary, strategic, ideational, evaluative, contextual, and tactical thinking. The cognitive tools are drawn from various fields, such as quality improvement and strategic management, and include decision making and various problem-solving models.

CRS 615 MASTER'S SEMINAR

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CRS 619 ORGANIZATIONAL CREATIVITY AND INNOVATION

3, 3/0

Prerequisite: CRS 559. Current research and practice related to organizational creativity and innovation. Developing skill in leading innovation and change initiatives in organizations from an applied perspective.

CRS 620 CREATIVITY ASSESSMENT: METHODS AND RESOURCES

3, 3/0

Practical information on methods and resources for creativity assessment; review of basic measurement principles and a critique of specific tools used to assess creativity in both education and business. Students receive personal feedback on a number of measures and develop a profile of their own creative strengths.

Equivalent Course: CRS 580

CRS 621 CURRICULUM DEVELOPMENT IN GIFTED, TALENTED AND CREATIVE EDUCATION

3, 3/0

Prerequisite: EDU or EXE 509. Appropriate curriculum, materials, instructional methods, and evaluation strategies for the development of creativity and the education of individuals who demonstrate gifted behavior and talents. Examines instructional and curricular models, differentiated teaching/learning and creative/critical thinking strategies, and collaboration with the school community.

Equivalent Course: EDU 621

CRS 625 CURRENT ISSUES IN CREATIVE STUDIES

3, 3/0

Prerequisite: CRS 559 or CRS 560. In-depth survey of current issues on the nature or nurture of creativity; skill development in research and scholarship to increase critical thinking skills and general content literacy of creativity practitioners in any discipline; review, analysis, and interpretation of findings from empirical and nonempirical sources, with some emphasis on the background and development of research at the International Center for Studies in Creativity.

CRS 626 CURRICULUM AND PROGRAM DEVELOPMENT FOR GIFTED INDIVIDUALS

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CRS 635 CREATIVITY AND CHANGE LEADERSHIP

3, 3/0

Prerequisites: CRS/EAD/ELF 560 and CRS 625. Culminating activities that cap the Foundations of Creativity strand of the curriculum; understanding and applying the characteristics of change leadership in the context of creativity and Creative Problem Solving (CPS); theoretical and practical launching point for students to examine their future contributions to the field, domain, and discipline by articulating their personal philosophy and definition of creativity; relation of the CPS process and other change methods to the challenge of making lasting change in other disciplines, such as business, education, psychology, sociology, history, philosophy, or the arts or sciences.

Equivalent Course: CRS 615

CRS 670 FOUNDATIONS IN TEACHING AND TRAINING CREATIVITY

3, 3/0

Prerequisites: CRS 559 and CRS 610 OR AED/ELF 683. Practical experience in using principles of creative learning, Creative Problem Solving (CPS), and leadership to facilitate groups; guided practice and independent work in realistic teaching/training situations to develop independent learners and reflective practitioners; use of CPS facilitation skills to develop instructional designs and examine ways to modify teaching and leading with CPS in various groups or situations.

CRS 680 DESIGNING AND DELIVERING CREATIVITY EDUCATION

3, 3/0

Prerequisites: CRS 559 and CRS 560 OR EAD/ELF 560 Team-teaching experience in creative studies undergraduate courses under direct supervision of the faculty. With permission of instructor, under special circumstances, team teaching may be done in a school, in industry, or in a special creative problem-solving program.

CRS 690 MASTER'S PROJECT

3-6, 0/0

Prerequisites: CRS 559 and CRS 610 OR EAD/ELF 683 Development and implementation of an applied project requiring Creative Problem Solving (CPS), change leadership, and facilitation skills; definition and implementation of change initiatives that have a direct impact either on the community or for the field of creativity in general; development of analytical skills in the formation and evaluation of the success of the projects.

CRS 695 THESIS

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

CRS 721 THESIS/PROJECT CONTINUATION

0, 0/0

CRS 722 THESIS/PROJECT EXTENDED

0, 0/0

CRS 795 MASTER'S THESIS

3-6, 0/0

Prerequisites: CRS 559, CRS 560, and CRS 580. Design and implementation of empirical research (qualitative or quantitative) designed to make new and useful contributions to the field of creativity. Students work closely with faculty and, in many cases, join ongoing programs of research within the department

Dance (DAN)

DAN 590 INDEPENDENT STUDY

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

DAN 690 MASTERS PROJECT

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

DAN 695 THESIS

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

DAN 721 THESIS/PROJECT CONTINUATION

0, 0/0

DAN 722 THESIS/PROJECT EXTENDED

0, 0/0

Design (DES)

DES 590 INDEPENDENT STUDY

1-6, 0/6

DES 592 INDEPENDENT STUDIO IN DESIGN

3-9, 1/5

Prerequisites: DES 220 OR DES 230 OR DES 249 OR DES 250. Independent studio experience with consultation, advice, and supervision from an instructor in a related area of study. Involves studio experiments and experiences not available in regular course offerings. May be taken up to three times.

DES 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

DES 640 GRADUATE STUDIO IN DESIGN

3-9, 1/5

Organization of space with a variety of materials; the designed form in theoretical, abstract, and functional applications. Tutorial relationship with instructor. Extra class assignments, including minimum studio hours equal to class hours. May be taken up to three times.

DES 641 GRADUATE STUDIO IN PRODUCT DESIGN

3, 0/6

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

DES 642 GRADUATE STUDIO IN FURNITURE DESIGN

3-9, 1/5

Prerequisites: DES 250 and DES 351 or equivalent. Designer-craftsperson approach to advanced projects in wood; hand, power, and machine tool practice; aesthetic and functional considerations in design; finishing methods; care of equipment. May be taken up to three times.

DES 643 GRADUATE STUDIO IN FIBER DESIGN

3-9, 1/5

Prerequisite: DES 242 or equivalent or instructor permission. Advanced work in textile design, techniques, and processes: floor loom weaving, fabric printing, related techniques of fiber embellishment and construction; individual studies and projects exploring traditional and experimental concepts in fiber arts. Tutorial relationship with instructor when appropriate. May be taken up to three times.

DES 646 GRADUATE STUDIO IN JEWELRY

3-9, 1/5

Prerequisite: DES 230 or equivalent. 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, including minimum studio hours equal to class hours. May be taken up to three times.

DES 647 CASTING TECHNIQUES IN JEWELRY

3-9, 1/5

Preparing wax models and molds, burning out, and lost-wax casting of jewelry in silver and gold; using the centrifugal casting machine; related steam casting, cuttlefish casting, open-mold casting, and associated techniques. Extra class assignments, including minimum studio hours equal to class hours. May be taken up to three times.

DES 649 GRADUATE STUDIO IN CERAMICS

3-9, 1/5

Prerequisites: DES 320 or equivalent and DES 592. Advanced study on an individual basis: practice in throwing or hand building; study of form and texture for functional or sculptural applications; color and glaze. Extra class assignments, including minimum studio hours equal to class hours. May be taken up to three times.

DES 690 MASTER'S PROJECT

3, 1/5

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 exhibition of materials collected or prepared, including a major exhibition of design related to study, with theories and findings reported.

DES 695 MASTER'S THESIS

3, 1/5

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

DES 721 THESIS/PROJECT CONTINUATION

0, 0/0

DES 722 THESIS/PROJECT EXTENDED

0, 0/0

Dietetics and Nutrition (NFS)

NFS 500 MACRONUTRIENTS

3, 2/0

Prerequisites: Undergraduate coursework in nutrition, biochemistry, and physiology or instructor permission. Proteins, carbohydrates, and lipids, with an emphasis on metabolism and interrelationships with other nutrients.

NFS 501 MICRONUTRIENTS

3, 0/0

Prerequisites: Undergraduate coursework in nutrition, biochemistry, and physiology or instructor permission. Vitamins and minerals with emphasis on functional roles in metabolism, interrelations, and nutritional significance.

NFS 503 NUTRITIONAL INTERVENTION IN DISEASE STATES

3, 0/0

Multisystemic view of the physiologic and biochemical alterations in disease states requiring dietary modifications; current theories of dietary treatment in light of epidemiologic data, current scientific research, and factors affecting an individual's ability to carry out the necessary modifications; altered regulatory mechanisms, including interrelations of medications and other treatments with nutritional status and dietary intake.

NFS 510 NUTRITION EDUCATION

2, 2/0

Prerequisite: Instructor permission. History, important issues, and basic principles of nutrition education: instructional and evaluation methods; current research literature.

NFS 590 INDEPENDENT STUDY

1-3, 0/0

NFS 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

NFS 598 MICRO-COURSE

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

NFS 604 ADVANCES IN FOOD RESEARCH

2, 2/0

Prerequisite: Undergraduate coursework in food, food preparation, or food science or instructor permission. Current methods of foods preservation, processing, packaging, and storage; new food products; processing trends in the food industry.

NFS 605 RECENT ADVANCES IN NUTRITION

3, 3/0

Principles of nutrition: current trends and research in nutrition; application of nutrition information to specific problems of individuals and society.

NFS 615 NUTRITION EDUCATION PRACTICUM

1, 0/3

Prerequisites: NFS 510 and instructor permission. Application of the principles of nutrition education learned in NFS 510 by designing, presenting, and evaluating a nutrition education project.

NFS 620 SEMINAR IN NUTRITION

1, 1/0

Prerequisites: 6 credit hours of graduate-level coursework. In-depth exploration of topics of interest to students. Each student presents one seminar on a topic agreed upon by the instructor and the student.

NFS 634 NUTRITION AND GERONTOLOGY

2, 2/0

Nutritional aspects of aging and individuals in later maturity.

NFS 689 METHODS OF NUTRITIONAL INQUIRY

0, 1/0

Integration and application of research methods to complete projects. Students develop and present to the advisory committee proposals for their individual research projects.

NFS 690 MASTER'S PROJECT

3, 0/0

Prerequisite: Instructor permission. A project undertaken by one or more individuals on a problem of special interest, planned and carried out with consultation and guidance from the instructor.

NFS 695 MASTER'S THESIS

1-3, 0/0

Individual investigation of an original problem submitted in acceptable form according to directions given by the Graduate School.

NFS 721 THESIS/PROJECT CONTINUATION

0, 0/0

NFS 722 THESIS/PROJECT EXTENDED

0, 0/0

Distributive Education (DED)

DED 590 INDEPENDENT STUDY

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

DED 600 CURRICULUM CLUSTERS IN DISTRIBUTIVE AND BUSINESS EDUCATION

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

DED 601 FOUNDATIONS OF BUSINESS AND DISTRIBUTIVE EDUCATION

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

DED 603 IMPROVEMENT OF INSTRUCTION IN BASIC BUSINESS AND DISTRIBUTIVE EDUCATION SUBJECTS

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

DED 604 IMPROVEMENT OF INSTRUCTION IN BUSINESS SKILLS SUBJECTS

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

DED 605 SEMINAR IN BUSINESS EDUCATION AND DISTRIBUTIVE EDUCATION

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

DED 690 MASTER'S PROJECT

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

DED 695 MASTER'S THESIS

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

DED 721 THESIS/PROJECT EXTENDED

0, 0/0

DED 722 THESIS/PROJECT EXTENDED

0, 0/0

Economics (ECO)

ECO 502 WORKSHOP IN ECONOMIC EDUCATION 3, 3/0

Prerequisite: Graduate Standing. New trends in economic education; various models of participatory and active learning; examination of an economics curriculum; hands-on practice in applying computer-based and participatory pedagogical techniques in economics. Designed to aid teachers in developing pedagogical tools for enhancing education, especially at the secondary level.

ECO 505 HISTORY OF ECONOMIC THOUGHT 3, 3/0

Prerequisite: Graduate Standing. The attempts of key economic thinkers from Aristotle to the present to analyze economic phenomena and to provide guidance for economic policy; history of methodology and methodological controversies in economics and their impact on the development of economic theory; study of the writings of the major economic theorists in their original published form.

ECO 507 APPLIED MICROECONOMIC THEORY 3, 3/0

Prerequisite: Graduate Standing. Microeconomic theories and their application to specific areas of economic analysis; regulatory and environmental policy; financial decision making; firms' response to uncertainty; consumer demand; microeconomic modeling; theories of the consumer and the firm; capital and labor markets; international trade; social welfare theory. Employs numerous analytical techniques in identifying the nature and scope of microeconomic problems and policy analysis. Students use the models developed in this course to understand real-world examples and learn how to apply economic theory in practice.

ECO 508 APPLIED MACROECONOMIC THEORY 3, 3/0

Prerequisite: Graduate Standing. Macroeconomic theories and their application to specific areas of economic analysis; financial forecasting and policy analysis in the public and private spheres; macroeconomic modeling; international and open-border macroeconomics; monetary and fiscal policy; labor market institutions; determination of wages and prices; interest, inflation, and exchange rates; income and output. Employs numerous analytical techniques in identifying the nature and scope of macroeconomic problems and in the analysis of macroeconomic policy. Students use the models developed in this course to understand real-world examples and apply economic theory in practice.

ECO 510 ECONOMICS OF EDUCATION 3, 3/0

Prerequisite: Graduate Standing. Economic dimensions of education and the role of the education system in the economy; sources of school finance; education as an investment in human capital; economic implication of different education reform proposals; the school system as an influence on unemployment/employment patterns in the United States.

ECO 524 APPLIED ECONOMETRICS 3, 3/0

Prerequisite: Graduate Standing. Statistical methods used in economic analysis by practitioners in government, business, finance, and the nonprofit sector; analysis and display of data using statistical and computer packages. Students will be able to employ statistics to solve practical problems and present data in a business or government setting.

ECO 587 TOPICS IN ECONOMICS 1-4, 1/0

Prerequisite: Graduate Standing. In-depth examination of rapidly and significantly changing disciplinary issues, topics, or practices; offered occasionally.

ECO 590 INDEPENDENT STUDY 1-3, 0/0

ECO 600 LABOR ECONOMICS 3, 3/0

Prerequisite: One core course required for M.A. program or instructor permission. Labor market theory, process, outcomes, and U.S. labor market policies; U.S. labor relations systems (labor unions, labor law and collective bargaining) compared with systems in other industrialized nations.

ECO 601 ENGINEERING ECONOMY 3, 3/0

Prerequisite: Graduate Standing. Alternatives in processing, equipment selection, operation, and output compared with the various methods of production available currently or in the future.

ECO 604 DEVELOPMENT ECONOMICS 3, 3/0

Prerequisites: ECO 507 and ECO 508. Examination of issues related to economic development; theories of development with regard to historical experiences of advanced economies, developing economies, and less-developed countries. Economic growth, poverty, unequal development, development policy, international aid, the role of international organizations.

ECO 610 ECONOMICS OF EDUCATION 3, 3/0

Prerequisite: Graduate Standing. Economic dimensions of education and the role of the education system in the economy; sources of school finance; education as an investment in human capital; economic implication of different education reform proposals; the school system as an influence on unemployment/employment patterns in the United States.

Equivalent Course: ECO 510

ECO 612 URBAN ECONOMIC ANALYSIS 3, 3/0

Prerequisites: ECO 507 or ECO 508 or instructor permission. Political economy of urban and community problems and policy: housing, poverty, environment; local government finance; strategies for the development of urban economies. Employs numerous analytical techniques in identifying the nature and scope of urban economic problems and analyzing urban policy.

ECO 650 PUBLIC FINANCE

3, 3/0

Prerequisites: ECO 507 or ECO 508 or instructor permission. Mechanics and economic costs and benefits of different modalities of federal, state, and local government finance; evaluating government programs; incidence and burden of taxes and their growth and distributional effects.

ECO 660 COST-BENEFIT ANALYSIS

3, 3/0

Prerequisites: ECO 507 or ECO 508 or instructor permission. Methods of estimating and comparing benefits and costs for the purpose of policy analysis and project evaluation in the public, private, and not-for-profit spheres. Topics include present-value calculations and estimating monetary values of nonmarket transaction, qualitative benefits and costs, such as health, education, environmental impact, recreation, and quality of life.

ECO 688 INTERNSHIP

1-3, 0/0

Applied institutional or corporate experience in economics. Offered after student's prior consultation with graduate faculty.

ECO 690 MASTER'S PROJECT

1-6, 0/0

ECO 691 SEMINAR ECONOMIC POLICY

3, 3/0

Prerequisites: ECO 507 and ECO 508, or instructor permission. Intensive examination of fiscal policy, monetary policy, industrial policy, labor policy, trade policy, foreign exchange policy, development policy, and social policy. Theoretical approaches and empirical techniques; case studies; analysis and evaluation of the impacts of economic policy on economy and society.

ECO 693 SEMINAR IN HETERODOX ECONOMICS

3, 3/0

Prerequisites: ECO 507 and ECO 508. In-depth as well as up-to-date analysis of topics in microeconomics, macroeconomics and policy from various perspectives outside the conventional theories of mainstream-neoclassical economics including, but not limited to: Post Keynesian, Institutionalist, Marxian, and social economics. Topics examined are 1) historical and theoretical analysis of economic instability and crisis, 2) control of markets and the economic system, and 3) social welfare and economic policy for the public purpose.

ECO 695 MASTER'S THESIS

1-6, 0/0

ECO 721 THESIS/PROJECT CONTINUATION

0, 0/0

ECO 722 THESIS/PROJECT EXTENDED

0, 0/0

Educational Leadership (EDL)

EDL 500 MULTICULTURAL EDUCATION

3, 3/0

Cultural foundations of education; application of relevant findings of the social sciences to problems and issues of education in culturally plural (multiethnic) settings.

EDL 530 CREATIVE TEACHING AND LEARNING IN FORMAL AND INFORMAL SETTINGS

3, 3/0

Current best practices to facilitate creative teaching and learning in formal education settings and informal education initiatives in organizations such as museums and clubs. Strategies to enhance creativity education, engage in creative learning and utilize technology to support students' creative activities. Design creativity curriculum and align with appropriate assessment procedures.

Equivalent Courses: CRS 530, EDU 530

EDL 534 THE HOLISTIC CURRICULUM: TEACHING TO BOTH SIDES OF THE BRAIN

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

EDL 544 MIDDLE SCHOOL CURRICULUM

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

EDL 552 PUBLIC SCHOOL LAW

3, 3/0

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.

EDL 559 PRINCIPLES IN CREATIVE PROBLEM SOLVING

3, 3/0

Theory and application of the Creative Problem Solving (CPS) process; practice in both individual and group uses for either personal or professional contexts; group work and active participation are expected.

Equivalent Course: CRS 559

EDL 560 METHODS, THEORIES, AND MODELS OF CREATIVE LEARNING

3, 3/0

Theory and research on the discipline of creative studies: developing awareness and understanding of basic principles and select definitions, models, and theories; practical application in a variety of contexts. Group interaction, discussion, and project work.

EDL 585 LEARNING STYLE METHODS/RESOURCES FOR CREATIVE & TALENT DEVELOPMENT

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

EDL 590 INDEPENDENT STUDY

1-3, 0/0

EDL 597 SPECIAL TOPICS

3-6, 0/0

EDL 602 ADMINISTRATION OF SPECIAL EDUCATION PROGRAMS

3, 3/0

Aspects of educational leadership necessary to formulate, organize, implement, and evaluate high-quality public school programs and services for students with special needs.

EDL 606 SCHOOL-COMMUNITY RELATIONS

3, 3/0

Educational relevance of involving the greater community (parents, neighborhoods, businesses, etc.) to enhance and support student achievement; organizational relationships between schools within and outside school districts; power; multicultural awareness; major opinion leaders; vision and mission articulation; interpersonal skills. Students construct a databased school-community relations plan.

EDL 607 SITE-BASED LEADERSHIP

3, 3/0

Principles of school administration and leadership; the changing role of site leadership as it relates to the dominant themes of leadership, change, shared decision making, school characteristics, standards-based education, and student achievement.

EDL 608 ADMINISTRATION OF PROGRAMS FOR THE YOUNG CHILD

3, 3/0

Role of the administrator in developing an educational environment for young children: organization, management, equipment, parent involvement, and curriculum appropriate to the developmental needs of the young and his or her family.

EDL 610 METHODS OF ADULT EDUCATION

3, 3/0

Principles, practices, evaluation, and practical application of adult learning across the full spectrum of settings in which adult education is conducted.

Equivalent Course: ADE 610

EDL 612 SCHOOL BUSINESS MANAGEMENT AND FINANCE

3, 3/0

School district business management functions and financing: 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; auxiliary services.

EDL 630 CURRICULUM LEADERSHIP

3, 3/0

Educational leader's role in the design, implementation, and evaluation of curriculum, focusing on the principles of curriculum leadership; needs assessment, school improvement, curriculum alignment, and evaluation; leadership roles in curricular decision making are examined in relationship to current research.

EDL 631 SUPERVISION OF TEACHING

3, 3/0

Principles of supervision: classroom observation; evaluating teaching; effect of teachers' purposes and research on choice of subject matter and teaching procedures; teacher-pupil relationships; group and individual conferences; induction of new teachers; intervisitation; demonstration teaching; teachers' meetings; bulletins; workshops; evaluation of programs.

EDL 640 CONFLICT RESOLUTION AND PEACEABLE SCHOOLS

3, 3/0

Conflict resolution in the public school context; foundations of peacemaking; emotional intelligence; teaching tolerance; cooperative learning. Presents a model for incorporating peaceable schools curricula into existing school programs.

EDL 652 SPECIAL EDUCATION LAW

3, 3/0

Laws, regulations, policy, and court cases influencing special education; due process and equal protection guarantees; Individualized Education Plan (IEP) development; Individuals with Disabilities Education Act (IDEA); Section 504 of the Rehabilitation Act of 1973.

EDL 672 THE MICROCOMPUTER IN THE INSTRUCTIONAL PROGRAM

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

EDL 683 FACILITATION OF GROUP PROBLEM SOLVING

3, 3/0

Prerequisite: EDL/CRS 559. Advanced strategies for leading small groups through the Creative Problem Solving (CPS) process; mastery of facilitation techniques and skills. Students receive expert feedback on their facilitation skills as they apply creative strategies to real issues. Examines conceptual relationships between facilitation and change leadership; develops basic change leadership skills.

Equivalent Course: CRS 610

EDL 684 PLANNING FOR EDUCATION CHANGE

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

EDL 686 SEMINAR IN INNER-CITY EDUCATION

3, 3/0

Nature and scope of education in the inner city: social research informing public policy on education of minorities; culture of minority children and the inner-city school; roles of the teacher and the administrator; curriculum development and the needs of inner-city students; quest for educational equity; community/parent involvement.

EDL 702 EDUCATIONAL LEADERSHIP FIELD EXPERIENCES

1, 0/0

A sequence of three 1-credit courses (upon entry into the EDL program, students are required to register for EDL 702 for three terms) designed to engage students in field experiences from the time they enter the EDL/C.A.S. program. Common core field experiences, Saturday sessions, student teacher supervision, and special involvement days. Students receive a grade upon completion of each field experience.

EDL 703 EDUCATIONAL LEADERSHIP INTERNSHIP
3, 3/0

An ongoing experience in three different pre-K-12 or community education locations and with three different field supervisors. Internship/field experiences commonly begin in the student's school/district and include two summer experiences: one in a central office, the other in a school when students are in session (e.g., summer school). Students are encouraged to complete one internship in an urban school district and at least one internship in a nonurban setting. Fall or spring terms do not have stated hour requirements. The entire internship, field experiences (EDL 702), and common core experiences should total 1,300 hours. Students enroll in EDL 703 at the end of their program, preferably after 24 credit hours have been completed. Students are encouraged to begin field and internship experiences upon admission to the program. Confer with the program adviser for details.

EDL 704 SEMINAR IN EDUCATIONAL CHANGE
3, 3/0

Issues in pre-K-12 educational leadership, change, and policy; functions of theories, practices, and philosophies in problem solving, decision making, group collaboration, and facilitation. Site-based action research project required.

EDL 705 SCHOOL DISTRICT INTERNSHIP
2, 0/0

Prerequisite: EDL 703 or Instructor Permission. An ongoing experience in a school district level (Central Office) location with a field supervisor. Candidates are encouraged to complete experiences in an urban school district as well as a nonurban setting. All activities are logged and matched to standards for school district leaders. The entire school district internship should total 500 hours.

EDL 706 PROBLEMS IN LEADERSHIP
3, 0/0

Problems and solutions in educational leadership, organizational change, human resource development, and school-community relations.

EDL 707 COMPUTER APPLICATIONS IN EDUCATION ADMINISTRATION
3, 3/0

Recent advances in cybernetic systems as effective tools to improve instruction, organization, and administration of education. Laboratory experiences emphasize effective use of data-processing systems rather than technical aspects of programming.

EDL 708 EDUCATIONAL FACILITIES PLANNING
3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

EDL 714 PERSONNEL ADMINISTRATION IN SCHOOLS
3, 3/0

Concepts of human resource administration and problems related to personnel programs, policies, and procedures; related goals of organization and management to goals and welfare of staff members.

EDL 715 SCHOOL ADMINISTRATION AND RESEARCH
3, 3/0

A study of research as applied to school administration; major sources and review of research; individual project and administrative problem solving; proposal writing and administration.

Educational Technology (EDT)

EDT 500 FUNDAMENTALS OF TECHNOLOGY LITERACY

3, 3/0

Basic hardware components of a computer system; operating systems software; hands-on experience using common communications, word processing, spreadsheet and database software applications.

Equivalent Course: CIS 500

EDT 590 INDEPENDENT STUDY

1-3, 0/0

EDT 594 GRADUATE WORKSHOP

3-12, 0/0

EDT 600 MULTIMEDIA FOR EDUCATORS

3, 3/0

THERE IS NO COURSE DESCRIPTION????

EDT 601 INSTRUCTIONAL TECHNOLOGIES

3, 3/0

Instructional uses of multimedia and the Internet; discussion of the hardware and software necessary for multimedia and Internet productions; integration of multimedia components into classroom instruction using presentation software and Web site development.

EDT 603 INSTRUCTIONAL DESIGN AND PROBLEM SOLVING WITH TECHNOLOGY

3, 3/0

The nature of instructional problems and various approaches to solving instructional problems, including the use of technology. The systematic design and development of instruction, including the use of technology, to create effective instructional design plans, materials, and modules.

EDT 604 AUTHORING FOR EDUCATORS

3, 3/0

Prerequisite: EDT 601 or equivalent. Authoring software; hardware and software necessary for multimedia productions; creating computer-aided instruction materials for use in classroom instruction; using an authoring package to create lessons utilizing this technology; creating Web sites.

EDT 606 INTERNET FOR EDUCATORS

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

Equivalent Course: EDC 606

EDT 607 NETWORKING FOR EDUCATORS

3, 3/0

Planning, design, and installation of educational technology networks, particularly computer-based data networks, such as those found in K-12 and college educational environments. Networking concepts and issues, such as network topologies, network media, network protocols, network components, communication services, network cable installation tools and materials, and network software.

EDT 608 DISTANCE EDUCATION METHODS AND TOOLS

3, 3/0

Prerequisite: EDT 500 or instructor permission. Skills and tools for online teaching. Includes instructional design and delivery with technology; knowledge of online resources; use of application technologies; managing the variety of learners; special needs accommodation; and online assessment methods. Practice in facilitating and evaluating lessons for collaborative learning, motivation, and engagement.

EDT 610 CREATING AND INTEGRATING DIGITAL VIDEO IN THE CLASSROOM

3, 3/0

The roles and applications of digital video technologies in the teaching-learning process, and their integration into curriculum subject areas. Includes activities that require hands-on skills and critical thinking, such as using a camera, transferring moving images from a camera to a computer, and editing footage.

EDT 611 TELEVISION FOR EDUCATION AND TRAINING

3, 3/0

Design, production, and delivery of educational television programs, including: (a) instructional design principles and practices relevant to educational television production; and (b) theoretical and technical aspects of television production, such as: camera basics, lenses, camera operation, lighting, audio, character-generated (CG) graphics, video recording, scriptwriting, storyboarding, production switching, direction, and software.

EDT 612 EDUCATIONAL MODELS, SIMULATIONS, AND GAMES

3, 3/0

Design and development of educational models, simulations, and games across the curriculum, using a variety of methods, media, and tools, such as system modeling software, agent-based simulation software, and various approaches to educational game design and development. Emphasis on various thinking approaches, such as systems thinking, mathematical thinking, and creative thinking.

EDT 614 EDUCATIONAL GRAPHICS AND ANIMATION

3, 3/0

Educational media related to visual intelligence and visual literacy. Students apply a range of methods, tools, media, and resources in the planning, design, and development of educational graphics, graphic novels, and computer-based animation products to help meet classroom needs.

EDT 615 EDUCATIONAL HARDWARE METHODS AND TOOLS

3, 3/0

The theory, development, implementation, use, troubleshooting, and maintenance of current and emerging educational hardware (and associated software), including the personal computer, commonly-used peripheral equipment, and non-computer based hardware are examined. Students will become proficient in understanding, investigating, building, implementing, using, troubleshooting, and maintaining hardware for their own educational environments (both formal and informal), using a range of methods and tools.

EDT 617 EDUCATIONAL TECHNOLOGY FOR INFORMAL LEARNING ENVIRONMENTS

3, 3/0

Theories, methods, tools and issues relevant to effective educational exhibit design and development for informal learning environments, such as museums, art galleries, cultural centers, heritage sites, parks arboretums, science centers, etc. Students will gain knowledge and experience in the planning, design, development, implementation, and evaluation of developmentally appropriate, interactive products, exhibits, and programs for diverse audiences in these environments.

EDT 672 CREATING AND INTEGRATING TECHNOLOGY IN THE CLASSROOM

3, 3/0

Increasing the effectiveness of instructional programs through the use of microcomputers: selecting microcomputer software; fulfilling the specific curricular needs of learners, and aiding the management of the instructional program.

Equivalent Course: EDU 672

EDT 689 RESEARCH METHODS FOR MASTER'S PROJECTS AND THESES

3, 3/0

Prerequisites: Permission of the instructor required. The fundamentals of educational research methods and writing are introduced. The course is specifically designed for Educational Technology program students doing their master's projects. Topics include basic research methods, sources of information, interpretation of research studies, components of a research paper, and developing and writing a research paper and a literature review for a master's project. The emphasis throughout the course is on understanding and using the components and methods of research studies in education, and educational technology, in particular.

EDT 690 MASTER'S PROJECT

3, 3/0

EDT 707 COMPUTER APPLICATIONS IN EDUCATION ADMINISTRATION

3, 3/0

Use of computer technology to make everyday administrative tasks in the school classroom and office more effective and efficient.

EDT 721 THESIS/PROJECT CONTINUATION

0, 0/0

EDT 722 THESIS/PROJECT EXTENDED

0, 0/0

Elementary Education (EDU)

EDU 500 PRACTICUM IN EDUCATION

3-6, 0/0

Supervised teaching experience five full days a week for 40-80 days accompanied by weekly one-hour seminars and other seminars as scheduled. Effective demonstration of content knowledge, pedagogical preparation, instructional delivery, classroom management, knowledge of student development, collaboration with school professionals, and reflectivity of practice required.

EDU 501 SEMINAR FOR THE REFLECTIVE TEACHER
3, 3/0

Critical reading and interpretation of educational research literature; synthesis and assessment of educational research literature as related to the enhancement of teaching and learning processes and experiences of elementary teachers. Participants reflect on ways to investigate and improve their own practice.

EDU 509 INTRODUCTION TO THE GIFTED, TALENTED AND CREATIVE LEARNER

3, 3/0

Introduction to giftedness, talent development, and creativity in students, examining both the historical foundations and the current state of the field. Examines characteristics and identification of academically gifted, creative, and talented students from diverse backgrounds and areas of ability who learn at a pace and level that are significantly different than classmates.

Equivalent Course: CRS 509

EDU 510 PRACTICUM IN CHILDHOOD TEACHING

6, 0/0

Supervised teaching experience five full days a week for approximately seven consecutive weeks accompanied by weekly one-hour seminars and other seminars as scheduled. Effective demonstration of content knowledge, pedagogical preparation, instructional delivery, classroom management, knowledge of student development, collaboration with school professionals, and reflectivity of practice required.

EDU 511 METHODS OF TEACHING ENGLISH LANGUAGE ARTS

6, 6/0

Building methodological practice from the theoretical scaffold of literacy knowledge and teaching. Students participate in classroom practice for at least 40 hours while exploring in-depth curricular, theoretical, and practical educational frameworks. Participants learn and practice the pedagogy required for teaching language arts across the curriculum; plan, implement, and evaluate lessons incorporating the New York State standards for English language arts; practice and evaluate assessment tools and processes; become reflective practitioners; and demonstrate effective techniques for instructional organization.

EDU 513 THEORY, RESEARCH AND PRACTICE IN LITERACY INSTRUCTION

3, 3/0

Prerequisite: Graduate standing. Review of the research and literature pertaining to the basic concepts underlying literacy methods, materials, and assessment devices; the reading process from readiness to mature readers. Provides graduate candidates with research, instruction, and experience in the various aspects of the English Language Arts curriculum as framed by the National Council for Teachers of English (NCTE) and International Reading Association (IRA), including: listening, speaking, reading, writing, media and technology, viewing and visually representing.

EDU 527 THEORY, RESEARCH AND PRACTICE OF PLAY

3, 3/0

Prerequisite: Graduate Standing. Play's definition and its tenets as they parallel the New York State Common Core Standards for Early Childhood. Understanding the essence of play from a socio-cultural perspective through research. Research of play's categories, social stages, and types of development. Deep analysis of the educator's role in play.

EDU 528 FAMILIES AND EARLY CHILDHOOD PROGRAMS

3, 3/0

Emphasis on building partnerships with families in the changing context of society. Examination of model family involvement programs; working with families in poverty; integrating an antibias curriculum; active strategies for implementing formal and informal communication in the school setting.

EDU 530 CREATIVE TEACHING AND LEARNING IN FORMAL AND INFORMAL SETTINGS

3, 3/0

Current best practices to facilitate creative teaching and learning in formal education settings and informal education initiatives in organizations such as museums and clubs. Strategies to enhance creativity education, engage in creative learning and utilize technology to support students' creative activities. Design creativity curriculum and align with appropriate assessment procedures.

Equivalent Courses: CRS 530, EDL 530

EDU 534 THE HOLISTIC CURRICULUM: TEACHING TO BOTH SIDES OF THE BRAIN

3, 3/0

Paradigm of teaching and learning based on current neuroscience research in brain function: learning styles, memory, discipline, student motivation, attention, retention of new material. An eclectic instructional approach that encourages direct involvement and models many of the brain-compatible techniques promulgated in the theory.

EDU 535 TEACHING WRITING: B-12

3, 3/0

Student-centered process approach to teaching writing based on the premise that students need to write and, in appropriate settings, like to write. Focus on instructional strategies for the classroom, the writing process, the relationship between reading and writing, conferencing, classroom management, evaluation, writing across all areas of the school curriculum.

EDU 543 CURRICULUM FOR THE YOUNG CHILD

3, 3/0

Introduction to the profession of early childhood education. Identification and examination of appropriate curriculum, environments, materials, teaching strategies, and assessments for working with young children birth through second grade.

EDU 546 THEORY, RESEARCH, AND PRACTICE IN ENGLISH LANGUAGE ARTS INSTRUCTION

3, 3/0

Review of theory and research pertaining to the concepts underlying ELA curriculum, texts and assessment for the P-6 learner. Research investigating the connections between ELA theory and practice.

EDU 574 THE ELEMENTARY SCHOOL CURRICULUM
3, 3/0

Review of learning processes and purposes of the elementary school; curriculum development; types of curriculum organization; instructional strategies; materials; community resources; individual differences.

EDU 577 TEACHING INDIVIDUALS WITH EXCEPTIONALITIES IN THE REGULAR CLASSROOM
3, 3/0

Human behavior and development during infancy and early childhood periods; educational implications for early childhood educators and childhood development specialists.

EDU 584 LITERACY SKILLS AND THE ADULT LEARNER
3, 3/0

Prerequisite: Graduate status. Theories, practice, curricula, and content of instruction appropriate for adult learners; the theories of Paulo Freire, Ira Shor, and Henry Giroux; collaboratively participate in the design and implementation of an action research project focusing on adult literacy.
Equivalent Course: ADE 584

EDU 590 INDEPENDENT STUDY
1-3, 0/0

Consult the Independent Study section of this graduate catalog for a description of how independent study can be initiated by a student, and for the requirements and regulations.

EDU 594 GRADUATE WORKSHOP
1-3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

EDU 596 CONFERENCE
1-3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

EDU 598 MICROCOURSE
3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

EDU 604 INSTRUCTIONAL STRATEGIES FOR MORE EFFECTIVE TEACHING
3, 3/0

Prerequisite: One curriculum course. Strategies for improving instruction through informed decision making, with particular emphasis on the essential elements of instruction developed by Madeline Hunter; the theoretical framework on which the Hunter model was based and its practical application in the classroom setting.

EDU 606 LITERACY INSTRUCTION FOR LINGUISTICALLY DIVERSE STUDENTS
3, 3/0

Prerequisite: EDU 513 or equivalent. Supporting literacy instruction for linguistically diverse learners: literacy learning and culture; dialects and second-language development; a model for effective instruction based on best-practices research for application in mainstream classrooms.

EDU 609 LITERACY INSTRUCTION IN THE UPPER GRADES

3, 3/0

Prerequisites: Graduate standing. Practical strategies to help middle and secondary-level students successfully use reading in their content area studies; the reading process; student motivation; developing vocabulary, comprehension, study, and writing skills; evaluation and assessment. Emphasizes using the topics of the disciplines as the departure point for designing instructional strategies, and materials.

EDU 611 TEACHING LITERACY IN PRIMARY GRADES
3, 3/0

Implications of research in early literacy; factors influencing early success in reading and writing; process vs. product instruction; emergent literacy instruction; building a support system; focusing on print; building vocabulary; developing decoding and comprehension strategies; appreciating effects of special needs and individualizing instruction for such needs; planning, organizing, and managing a program; assessing growth and needs.

EDU 612 DEVELOPING LITERACY THROUGH LITERATURE

3, 0/0

Prerequisites: Graduate standing. Research and practice in the integration of literature in literacy instruction choosing appropriate methodology; familiarity with genre and instructional elements; multiple-word identification, comprehension, and writing strategies; integrating literature across the curriculum; organizing and managing a literacy program; assessing students' literacy growth and needs including socio-emotional, cognitive and socio-cultural concerns.

EDU 613 ASSESSMENT OF THE ELA FOR THE CLASSROOM TEACHER

3, 3/0

Prerequisites: EDU 513 or equivalent. This course focuses on methods of literacy (reading, writing, listening, speaking) assessment for classroom teachers. Topics include strategies for assessing the literacy abilities of students within the classroom and subsequently using the assessment results to differentiate literacy instruction within the classroom.

EDU 619 PRACTICUM IN GIFTED, TALENTED, AND CREATIVE EDUCATION

3, 2/0

Prerequisite: CRS 509 AND CRS 626 AND CRS/ELF 559. Seminar experience and supervised practice of a minimum of 50 hours in gifted, talented, and creative education in a gifted-education setting with guidance from a gifted specialist. Students implement appropriate learning opportunities, collaborate with other professionals, and examine how the gifted education complements the total school program.

EDU 620 TEACHING AND LEARNING IN DIVERSE ELEMENTARY SCHOOL CLASSROOMS

3, 3/0

Culturally sensitive pedagogy and research relative to effective teaching and learning for diverse student populations: collaborating with parents; developing a community of learners; consideration of culture, power, and clan; cooperative learning in culturally diverse classrooms; contextual teaching and learning.

EDU 621 CURRICULUM DEVELOPMENT IN GIFTED, TALENTED, AND CREATIVE EDUCATION

3, 3/0

Appropriate curriculum, materials, instructional methods, and evaluation strategies for the development of creativity and the education of individuals who demonstrate gifted behavior and talents. Examines instructional and curricular models, differentiated teaching/learning and creative/critical thinking strategies, and collaboration with the school community. Equivalent Course: CRS 621

EDU 626 INTEGRATING THE CONTENT AREAS IN THE TEACHING OF YOUNG CHILDREN

3-6, 0/0

Appropriate content in the teaching of science, mathematics, social studies, and the creative arts. Theory and practice of inquiry-based instruction, emphasizing the project approach. Focus on teaching young children pre-K through third grade. Fieldwork required in a pre-K, kindergarten, first grade or second grade classroom.

EDU 640 CONFLICT RESOLUTION

3, 3/0

Conflict resolution in the public school context; foundations of peacemaking; emotional intelligence; teaching tolerance; cooperative learning. Presents a model for incorporating peaceable schools curricula into existing school programs. Equivalent Course: EDL 640

EDU 642 READING ASSESSMENT AND EVALUATION

3, 3/0

Prerequisites: Graduate standing, EDU 513 and one other graduate literacy course. This course focuses on the administration and interpretation of a variety of assessments to determine the strengths and needs of Birth-Grade 12 students in literacy in order to make instructional recommendations for increased literacy learning and achievement.

EDU 643 TEACHING STRATEGIES FOR STUDENTS WITH READING DIFFICULTIES

3, 3/0

Prerequisite: EDU 642. Planning and implementing instructional programs for students with reading difficulties; principles of remedial reading; methods and materials for remedial instruction; working with parents of children with reading problems; effective report writing. Under clinical supervision, students apply appropriate teaching techniques with student referred to the Literacy Center and write a summary report for the students' school and parents.

EDU 646 LITERACY LEADERSHIP

3, 3/0

Prerequisite: EDU 642. Corequisite: EDU 643. Instruction and experience in the various facets of being a literacy leader, including literacy coaching, program evaluation, professional development, and data compilation and analysis for the purpose of providing appropriate literacy instruction for students from birth to grade 12.

EDU 647 PRACTICUM IN READING

3-6, 3/0

Prerequisites: EDU 643. Integration of theoretical and practical aspects of the reading program in a supervised clinical setting. Students function as members of the Literacy Center staff and are required to develop, implement, and evaluate diagnostic and remedial reading programs for children referred to the Literacy Center. Written reports are prepared for the parents and schools of the children serviced in the Literacy Center. Summer only.

EDU 649 ADVANCED PRACTICUM IN READING

3, 3/0

Prerequisites: EDU 647 and instructor permission. Further integration of theoretical and practical aspects of the reading/writing program in a supervised clinical setting. Students extend their clinical experience to pupils at a different age level, younger or older, than those in EDU 647. Students develop, implement, and evaluate diagnostic and remedial reading/writing programs for pupils referred to the Literacy Center.

EDU 650 LITERACY THEORY AND RESEARCH

3, 3/0

Corequisites: EDU 647 and EDU 655. Overview of literacy-related theories and models and their impact on practice and research. Discussion of recent research and seminal pieces in the field of literacy. Introduction to research designs and methods related to literacy education. Prepares literacy specialist candidates to analyze, evaluate, and critique research.

EDU 651 THEORY, RESEARCH, AND PRACTICE IN MATHEMATICS INSTRUCTION

3, 3/0

Modes of instruction; development of diagnostic skills; needs of slow and rapid learners; selection and use of appropriate teaching materials in elementary school mathematics programs.

EDU 654 THEORY RESEARCH AND PRACTICE IN SOCIAL STUDIES INSTRUCTION

3, 3/0

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 655 TEACHING OF READING: GRADUATE SEMINAR

3, 3/0

Prerequisite: EDU 647. Literacy specialist majors identify important aspects in the field that they feel need further critical review and deliberative discussion. Students and instructor jointly identify course topics, review current research and literature, conduct action research and exchange findings through a variety of formal and informal presentations. Fall only.

EDU 670 PRINCIPLES OF CURRICULUM DESIGN

3, 3/0

Basic principles of curriculum design; sources of curricula and factors that influence curricular decisions; curricular thinking of experts in the field; multiple dimensions in curriculum decision making.

EDU 671 THEORY, RESEARCH, AND PRACTICE IN SCIENCE INSTRUCTION

3, 3/0

Construction of science ideas in informal and formal social settings; demonstration and evaluation of exemplary science teaching methods; research focusing on elementary students' formal and naive science understanding.

EDU 672 ADVANCED EDUCATIONAL TECHNOLOGY FOR K-6 CLASSROOMS

3, 3/0

Application and integration of microcomputers in the instructional program; proficiency in the educational uses of microcomputers; tool-based software use; software evaluation; curricular integration; educational skill; process enhancement through microcomputers; communication tools; professional development; the Internet and electronic mail; issues and ethics surrounding technology in schools; lesson and unit design incorporating computer applications; technology for students with disabilities.

EDU 682 TEACHING MATH AND SCIENCE IN THE ELEMENTARY SCHOOL

6, 5/0

Pre-requisites: EDU 501 and either EDU 546 or EDU 513. Mathematics curriculum course for elementary teachers. Students participate in elementary classroom practice, exploring in-depth curricular, theoretical, and practical educational frameworks. Students plan, implement, and evaluate mathematics lessons incorporating the state and national standards for mathematics; explore science and technology; practice and evaluate assessment tools and processes; become reflective practitioners; demonstrate effective techniques for instructional organization in an elementary school. Students will complete an action research project on a selected topic in elementary mathematics. Offered every spring.

EDU 690 MASTER'S PROJECT

1-3, 3/0

Prerequisites: EDU 501, minimum 24 hours of graduate-level coursework, and SPF 689. Production of a curriculum or research-based project in a topic of special interest to the student; project must be approved by the instructor prior to execution. The final product must follow APA guidelines in its written form. Oral presentation required.

EDU 695 THESIS

1-3, 0/0

Thesis.

EDU 721 THESIS/PROJECT CONTINUATION

0, 0/0

EDU 722 THESIS/PROJECT EXTENDED

0, 0/0

Engineering Technology (ENT)

ENT 581 RENEWABLE DISTRIBUTED GENERATION AND STORAGE

3, 2/1

Prerequisites: ENT 331 Electric Circuits or equivalent, and ENT 671 Power Systems Analysis I or equivalent, or instructor's permission. This course introduces renewable and efficient electric power systems. It encourages self-teaching by providing numerous practical examples requiring quantitative analysis. Topics include historical, regulatory, and utility industry perspectives of the electric system as well as most of the electricity, thermodynamics, and engineering economics background needed to understand new power technologies.

ENT 582 SMART GRID FROM SYSTEMS PERSPECTIVE

3, 2/1

Prerequisites: ENT 331 Electric Circuits or equivalent, and ENT 671 Power Systems Analysis or equivalent, or instructor's permission. A comprehensive understanding of smart grid is needed for stakeholders to enable them to develop systems prospective of Smart Grid and its technologies, increase modeling of Smart Grid from multiple perspectives, to increase economic understanding and decision making around current and future technologies, to integrate the role of policy and politics in the advancement of Smart Grid over time, to understand how to educate others in Smart Grid, and to analyze basic subsystems of the Smart Grid.

ENT 590 INDEPENDENT STUDY

1-3, 0/0

ENT 591 OPERATIONS AND MANAGEMENT OF MODERN GRID

3, 3/0

Prerequisites: Instructor's permission. This course introduces and explains operations of electric utilities including generation, transmission, distribution, and consumption of electric power, defines system operations and their drivers; discusses impact of deregulation and impact of smart grid technologies on systems operations; introduces concepts of business of system operations, and discusses various management systems used by modern utilities.

ENT 671 POWER SYSTEMS ANALYSIS I

3, 2/3

Prerequisites: Undergraduate degree in engineering, engineering technology, or related field. Basic elements of power systems. Energy sources. Balanced three-phase circuits. Power factor correction. Voltage regulation. Transmission line modeling. Per-unit system. Balanced fault analysis. Load flow analysis using numerical methods. Electric power distribution economics.

ENT 672 POWER SYSTEMS ANALYSIS II

3, 2/3

Prerequisites: ENT 671 Power Systems Analysis I. Calculate electric demand of a power system. Solve line faults using symmetrical components. Use equal area criterion to solve simple stability problems. System protection. Electromechanical and numeric relays and their applications. Voltage quality and reliability. Design of a power distribution system for industrial facility.

English (ENG)

ENG 520 IRISH LITERATURE

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Gaelic poetry and prose in translation; Irish contributions to literature in English.

ENG 540 REGIONAL AMERICAN LITERATURE

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Literature of certain geographical and cultural areas of the United States; local color and use of regional materials, particularly in fiction.

ENG 545 EMERSON AND THOREAU

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Writings of Emerson and Thoreau against the background of European and American transcendentalism.

ENG 569 LITERATURE FOR THE SECONDARY SCHOOL

3, 3/0

Readings in prose and poetry appropriate to the secondary school; examination of the function of literature for young adults in the secondary English program.

ENG 587 SPECIAL TOPICS

3, 3/0

Prerequisite: Instructor permission. Special topics in advanced graduate study, to be determined by the instructor. Offered occasionally.

ENG 590 INDEPENDENT STUDY

1-3, 0/0

ENG 594 GRADUATE WORKSHOP

1-3, 0/0

Graduate Workshop.

ENG 600 STRUCTURALISM AND LITERATURE

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

ENG 601 RESEARCH IN LITERATURE AND LANGUAGE

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Theory and practice in methods of research essential to the historical and critical analysis of literature. Should be taken in the student's first or second semester. Offered fall only.

ENG 610 MEDIEVAL BRITISH LITERATURE

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Selected writers, forms, movements, and theoretical approaches.

ENG 614 EIGHTEENTH-CENTURY BRITISH LITERATURE

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Selected writers, forms, movements, and theoretical approaches.

ENG 615 NINETEENTH-CENTURY BRITISH LITERATURE

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Selected writers, forms, movements, and theoretical approaches.

ENG 617 MILTON'S POETRY AND PROSE

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Selected poetry and prose of John Milton.

ENG 618 STUDIES IN MODERN ENGLISH POETRY

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Significant trends and writers in English poetry since 1900; close study of two or three writers.

ENG 619 TWENTIETH-CENTURY BRITISH LITERATURE

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Selected writers, forms, movements, and theoretical approaches.

ENG 621 AMERICAN LITERATURE

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Selected periods, writers, forms, movements, and theoretical approaches.

ENG 623 LITERATURE OF CONTINENTAL EUROPE

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Selected periods, writers, forms, movements, and theoretical approaches.

ENG 630 CHAUCER

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Selections from the major and minor works.

ENG 631 SHAKESPEARE

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. One aspect of Shakespeare's work (e.g., the tragedies or the sonnets).

ENG 638 STUDIES IN INDIVIDUAL WRITERS

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. In-depth study of one writer, or a limited combination of writers, from English, American, or other literature.

ENG 640 STUDIES IN AMERICAN LITERATURE

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Selected aspect of literary culture in the United States from the colonial period through the twentieth century; literary movements and periods, intercultural relationships, and the influence of religious and philosophic ideas upon literature; focus upon selected areas and key figures.

ENG 641 STUDIES IN THE NOVEL

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Major writers or movements or other topics in the form.

ENG 642 STUDIES IN POETRY

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Important writers or schools.

ENG 643 STUDIES IN DRAMA

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Dramatists or schools of drama (e.g., Renaissance, modern European).

ENG 644 IDEOLOGY AND LITERATURE

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. The study of literature from a major modern perspective. Topics in the ideological analysis of literature (e.g., the Emersonian influence, individualism, colonialism, and postcolonialism).

ENG 645 LITERATURE AND SOCIAL JUSTICE

3, 3/0

Prerequisite: Graduate status; English or English education major or appropriate premajor. The study of the intersection between literature and social justice movements throughout the world; examination of modes of literary presentation for social justice discourse.

ENG 648 STUDIES IN MODERN AMERICAN POETRY

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Significant trends and figures in American poetry since 1912; close study of two or three writers.

ENG 652 LITERARY CRITICISM

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Modern theoretical approaches to literature and its social, political, and ideological contexts.

ENG 660 CHILDREN'S LITERATURE

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Selected topic (e.g., a survey of types and resources, classic children's literature, fantasy, realism).

ENG 670 ADVANCED LINGUISTICS

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Selected topic (e.g., applied linguistics, social or regional dialectology, English as a second language, grammar, aspects of the history of the English language, languages of the world).

ENG 690 MASTER'S PROJECT

3, 3/0

Prerequisite: Graduate status; English or English education major or appropriate premajor. Student's accumulated skills brought to focus in individual study with faculty member's approval and guidance. Investigation of a particular problem related to literature, the teaching of literature, or the English language arts resulting in a written, research-based paper.

ENG 691 ADVANCED STUDY IN THE TEACHING OF ENGLISH

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Advanced course in the teaching of English language arts (middle school through senior high) that includes methods and materials for teaching literature, language, and writing, with emphasis on the integration of the language arts; explores current theory and research in the content, methods, materials and evaluation of English.

ENG 692 THE TEACHING OF WRITING

3, 3/0

Prerequisite: Graduate status; English or English education major or appropriate premajor. 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; introduction to research in the teaching of writing.

ENG 693 RESEARCH IN THE TEACHING OF ENGLISH

3, 3/0

Prerequisite: Admittance to the M.S. program in secondary English. Introduction to research and research methodology. Students write a project or thesis proposal as part of class activities.

ENG 694 TEACHING LITERATURE

3, 3/0

Prerequisites: Graduate status; English or English education major or appropriate premajor. Intensive study of the theoretical and pragmatic concerns of developing a response-based, student-centered literature classroom. Students explore different types of literature and critical perspectives, and apply this knowledge in the creation of lessons and in teaching sessions.

ENG 695 MASTER'S THESIS

3-6, 0/0

Prerequisite: Graduate status; English or English education major or appropriate premajor. An original inquiry into a literary question (writer, theme, ideology, etc.), or a linguistic or critical question resulting in an essay of at least 40-60 pages.

ENG 721 THESIS/PROJECT CONTINUATION

0, 0/0

ENG 722 THESIS/PROJECT EXTENDED

0, 0/0

English Second Language (ESL)

ESL 503 FOUNDATIONS OF FOREIGN AND SECOND LANGUAGE EDUCATION

3, 3/0

Prerequisites: Graduate standing or instructor permission. Survey of the historical, psychological and social foundations of foreign and second language instruction.

Equivalent Course: FLE 503

ESL 515 EXPLORING ENGLISH AS A SECOND LANGUAGE GRAMMAR

3, 3/0

Prerequisites: Graduate status or instructor permission. Exploration of second language grammar instruction and English grammar points known to challenge non-native speakers of English.

Equivalent Course: FLE 515

ESL 516 LITERACY FOR TEACHING ENGLISH AS A SECOND LANGUAGE

3, 3/3

Prerequisites: Graduate status or instructor permission. Teaching of English literacy to students with non-English language backgrounds. Students will develop instructional practices and materials that reflect the latest research and standards.

Equivalent Course: FLE 516

ESL 539 LINGUISTICS FOR TEACHERS

3, 3/0

Prerequisites: Graduate Standing; instructor permission. Introduction to language as a system, with particular focus on how linguistic understanding contributes to teaching effectiveness in foreign language courses.

Equivalent Course: FLE 539

ESL 540 SECOND-LANGUAGE ACQUISITION

3, 3/0

Prerequisite: Must be admitted into master of science K-12 foreign language Teaching program, or instructor permission. Important trends in second-language acquisition research and their implications for foreign language teaching.

Equivalent Course: FLE 540

ESL 594 TOPICS COURSE

1-3, 1/0

In-depth examination of rapidly and significantly changing disciplinary issues, topics, or practices; offered occasionally.

ESL 600 ENGLISH AS A SECOND LANGUAGE METHODS

3, 3/0

This course provides in-service and pre-service teachers with the knowledge and skills to teach Limited English Proficiency (LEP) students.

ESL 601 ENGLISH AS A SECOND LANGUAGE LINGUISTICS

3, 3/0

Prerequisites: FLE240 or equivalent and graduate status or instructor permission. The knowledge and skills required to analyze the linguistic structures of the English language and the appropriate means to teach these structures to Limited English Proficient (LEP) students. Focus on syntactic, morphological, phonological, semantic, and discourse features of the English language.

Equivalent Course: FLE 601

ESL 602 ASSESSMENT IN FOREIGN AND SECOND LANGUAGE EDUCATION

3, 3/0

Prerequisites: Graduate status or instructor permission. Exploration of assessment protocols employed in foreign language and ESL education.

Equivalent Course: FLE 602

ESL 613 CONTENT AREA ENGLISH AS A SECOND LANGUAGE INSTRUCTION

3, 3/0

An introduction to methods and materials used to teach core subject areas in English to limited proficiency students and English language learners (ELLs).

ESL 615 MULTICULTURAL EDUCATION IN THE FOREIGN LANGUAGE CLASSROOM

3, 3/0

Prerequisites: Graduate status or instructor permission. Focus will be placed on the conceptualization multicultural education and the means by which future teachers can ensure that diverse cultures are respected and taught in the foreign language classroom.

Equivalent Course: FLE 615

Exceptional Education (EXE)

EXE 500 INDIVIDUALS WITH SPECIAL NEEDS

3, 3/0

Traditional and evolving concepts of exceptionalities; characteristics of individuals with exceptionalities; implications for schools and society.

EXE 501 EDUCATIONAL ASSESSMENT TECHNIQUES FOR SPECIAL EDUCATION

3, 3/0

Prerequisite: EXE 500 or equivalent. This course provides an overview of educational assessment used with individuals with disabilities. Purposes, models, practices, and issues are included. Students will be required to design tests and collect and interpret data regarding particular educational decisions.

EXE 502 CONTINGENCY MANAGEMENT

3, 3/0

Prerequisite: EXE 500 or EXE 100, Graduate Standing or completion of the requirements for provisional/initial certification as a childhood teacher. Procedures and strategies for managing the behavior of students with special needs in educational settings; prevention of undesirable classroom behavior; assessment and remediation of behavior problems; effective delivery of instruction.

EXE 503 INSTRUCTIONAL STRATEGIES FOR INDIVIDUALS WITH MILD DISABILITIES

3, 3/0

Prerequisite or Corequisite of EXE 500 or completed EXE 100 or completion of the requirements for provisional/initial certification as a childhood teacher. Basic curricular concepts and teaching practices related to the development and implementation of effective instructional programs for students with mild disabilities.

EXE 504 GRADUATE PRACTICUM IN SPECIAL EDUCATION

6, 0/6

Prerequisite: EXE 500 or EXE 100 or equivalent; EXE 501 or equivalent; EXE 502 or EXE 362 or equivalent; EXE 503 or EXE 367 or equivalent; minimum cumulative GPA of 3.0 in prerequisite coursework; program coordinator permission. A 10-week graduate student teaching experience (unpaid) with individuals needing special education services, completed in public school classrooms, private agency classrooms, or classrooms in residential settings. Required for graduate students seeking certification as a teacher of special education.

EXE 510 COGNITION AND EMERGENT LITERACY IN YOUNG CHILDREN WITH DISABILITIES

3, 3/0

Prerequisite: EXE 500 or EXE 100 or completion of the requirements for provisional/initial certification as an early childhood teacher. Cognitive and active learning, problem-solving skills, and academic readiness in young children with disabilities; encouraging development of literacy in young children with disabilities.

EXE 519 FOUNDATIONS OF EFFECTIVE ASSESSMENT AND INSTRUCTION IN SPECIAL EDUCATION

3, 3/0

Prerequisites: Graduate standing. Foundational knowledge in effective assessment and instructional practices for students with disabilities. Understanding of different types of assessment and how to interpret assessment information to form goals and objectives related to individualized instruction. Understanding of essential principles of effective instruction for students with disabilities.

EXE 520 TEACHING OF INDIVIDUALS WITH SEVERE/MULTIPLE DISABILITIES AND AUTISM SPECTRUM DISORDERS

3, 3/0

Prerequisite: Graduate status. This course offers an overview of etiologies, theories, and teaching applications for students with severe/multiple disabilities and autism spectrum disorders (ASD). Topics include development of appropriate learning goals, teaching approaches, and environmental arrangements. Inclusion in schools and successful transition within communities, selection and use of adaptive equipment and assistive technologies, and alternate assessment are also discussed. This course is offered every semester.

EXE 521 READING ASSESSMENT AND INSTRUCTION FOR STUDENTS AND HIGH INCIDENCE

3, 3/0

Prerequisites: EXE 500 or equivalent course. Preparing special education teacher candidates to apply and interpret assessment information to plan instruction for students with disabilities who demonstrate significant difficulties with the reading process.

EXE 522 ASSESSMENT AND INSTRUCTION OF BEHAVIOR

3, 3/0

Prerequisites: Graduate standing. Preliminary information regarding student behavior and classroom management. Develop awareness of and expertise about tools and strategies related to the assessment and instruction of student behavior.

EXE 530 PARENT AND FAMILY INVOLVEMENT IN SPECIAL EDUCATION PROGRAMS

3, 3/0

Prerequisite: EXE 500 or EXE 100 or equivalent or provisional/initial certification in early childhood teacher. Research on parent and family reactions and needs in regard to the family member with a disability; communication skills for collaborative work with parents.

EXE 534 UNDERSTANDING STUDENTS WITH BEHAVIOR PROBLEMS IN THE CLASSROOM

3, 3/0

Prerequisite: EXE 500 or EXE 100. Personal, social, and emotional factors related to individuals with behavioral and emotional disorders in an educational setting; methods of identification, assessment, and instructional planning.

EXE 544 MODELS OF CLASSROOM DISCIPLINE FOR STUDENTS WITH DISABILITIES

3, 3/0

Prerequisite: EXE 500 or EXE 100 or equivalent. Comprehensive coverage of a variety of models of discipline; building systems and conceptual models of total discipline that match the needs and personalities of students and are compatible with instructors' needs; discipline through activities that promote pupil motivation and classroom management.

EXE 590 INDEPENDENT STUDY

1-4, 1/0

Individualized study. Instructor permission required.

EXE 594 GRADUATE WORKSHOP

1-3, 1/0

Course offered occasionally.

EXE 612 MANAGING THE BEHAVIOR OF YOUNG CHILDREN WITH DISABILITIES

3, 3/0

Prerequisite: EXE 502 or EXE 362. A framework for guiding social-emotional development and responsible behavior in young children: matching the child's current social, emotional, and behavioral status with specific goals and objectives; behavior management strategies; curriculum materials, activities, and evaluation procedures.

EXE 617 COLLABORATIVE TEAM-BASED APPROACHES IN SPECIAL EDUCATION

3, 3/0

Prerequisites: Graduate standing. Models and methods for working within team contexts to meet the needs of students with and at risk for disabilities. Strategies and skills for co-teaching, consultation, communication, collaboration, and working with families/caregivers.

EXE 620 ADVANCED TEACHING OF INDIVIDUALS WITH SEVERE/MULTIPLE DISABILITIES AND AUTISM SPECTRUM DISORDERS

3, 3/0

Prerequisite: EXE 520 or equivalent. Advanced and rigorous coursework designed to deepen educators' skills and knowledge base when working with students who have severe/multiple disabilities and autism spectrum disorders (ASD) and their families. This course focuses on the disciplined inquiry, informed practice, and comprehensive methods required to teach and support individuals and families within this population of students. Offered every spring.

EXE 623 ASSESSMENT AND INSTRUCTION IN MATH FOR STUDENTS WITH HIGH INCIDENCE DISABILITIES

3, 3/0

Prerequisites: EXE 501, EXE 503. Identifying the learning characteristics of students with disabilities in math; assessing and planning evidenced-based math instruction to address skill deficits and conceptual understanding in standards-based mathematics. Offered every semester.

EXE 627 TRANSITION FROM SCHOOL TO ADULT COMMUNITY LIFE

3, 3/0

Prerequisite: EXE 500 or EXE 100 or equivalent. Strategies for planning and implementing career education curricula in secondary and postsecondary programs; transitioning students with disabilities from school programs to satisfying adult lives in the community, including supported and nonsupported competitive employment.

EXE 628 COLLABORATION AND CONSULTATIVE PRACTICES IN INCLUSIVE SETTINGS

3, 3/0

Prerequisite: EXE 500 or EXE 100 or equivalent or provisional/initial certification in an adolescence (content area grades 7-12), elementary, or special education. Skills needed to collaborate as consultants: role and responsibilities of the consultant teacher; development of strategies for enhancing effectiveness of collaborative efforts on behalf of students with special needs, their families, and their general education teachers.

EXE 631 ADAPTING LANGUAGE ARTS AND READING INSTRUCTION FOR STUDENTS WITH MILD DISABILITIES

3, 3/0

Prerequisites: Provisional/initial certification in special education or EXE 501; EXE 503 or EXE 367. Designed to help special education teachers teach language arts and reading to students with special needs at the elementary and middle school levels: effective collaboration with elementary teachers, remedial teachers, and parents to promote the establishment of literate environments at home and school for students with special needs; effective use of technology as a tool of literacy learning and instruction.

EXE 632 DIRECT INSTRUCTION INTERVENTION MODELS FOR STUDENTS WITH SPECIAL NEEDS

3, 3/0

Prerequisites: Provisional/initial certification in elementary or special education and EXE 503 or EXE 367. Designing and implementing effective instruction for students who need more intensive instructional support in order to master the academic standards and obtain functional skills is essential. The course will focus specifically on general principles of effective instruction and explicit teaching procedures. It also includes a current range of instructional and adaptive technologies; factors relating to curricular integration of technology within the general and special education classroom; hands-on experience with the use of instructional software, Web sites, and adaptive/assertive technology.

EXE 633 ADAPTING CONTENT AREA INSTRUCTION FOR CHILDREN AND ADOLESCENTS WITH DISABILITIES

3, 3/0

Prerequisite: EXE 503 or EXE 367 and Provisional/initial certification in elementary or special education. Content area adaptations for children and adolescents with disabilities; instructional planning, delivery, and assessment.

EXE 634 APPLIED BEHAVIOR ANALYSIS

3, 3/0

Prerequisites: EXE 502 or EXE 362 or EXE 522 and graduate student status. Applied behavior analysis in the education of students: principles and procedures for reinforcing existing behaviors, teaching new behaviors; progress monitoring through use of student performance data; contingency management procedures for including in regular education settings. Offered each fall and spring semester.

EXE 636 PROMOTING EFFECTIVE SOCIAL INTERACTIONS IN THE SCHOOLS

3, 3/0

Prerequisite: EXE 500 or EXE 100 or equivalent or certification in elementary or special education. Skills needed to enhance the quantity and quality of interactions enjoyed by students with disabilities: curricular and instructional approaches that may be used to teach social skills, including those related to sexuality issues, so that students with disabilities can exhibit self-enhancing behaviors in response to societal attitudes and actions as represented by educational and community settings. Addresses ways in which participants can increase the effectiveness of their own interactions with members of the educational community.

EXE 644 ADVANCED BEHAVIOR ANALYSIS FOR CHALLENGING BEHAVIORS

3, 3/0

Prerequisites: EXE 634. Specific strategies and techniques for the analysis, treatment, and evaluation of serious behavior problems in individuals with disabilities; facilitation of generalization of student performance; appropriate research designs in applied behavior analysis.

EXE 650 ASSESSMENT OF YOUNG CHILDREN WITH DISABILITIES

3, 3/0

Prerequisite: Provisional/initial certification in early childhood special education or EXE 501 or equivalent infancy course approved by advisor. Research-based, theoretical, and practical applications of educational assessment of infants and preschoolers with disabilities or with conditions that place them at risk for becoming disabled; procedures and utility of norm-referenced, criterion-referenced, and multidimensional behavioral assessment strategies empirically validated with young children with disabilities.

EXE 652 INTERVENTION IN EARLY CHILDHOOD SPECIAL EDUCATION

3, 3/0

Prerequisite: Provisional/ initial certification in early childhood special education or instructor permission. Empirically validated and practical educational interventions with infants and preschoolers with disabilities or with conditions that place them at risk for becoming disabled; best-practice intervention methods across relevant curricular domains; organizational strategies for use in center- and home-based programs for infants/preschoolers with special needs.

EXE 682 INSTRUCTIONAL FIELD EXPERIENCE IN SPECIAL EDUCATION

3-9, 0/3

Prerequisites: EXE 504 or equivalent, minimum cumulative GPA of 3.0, and program coordinator permission. Application of theories and principles to practice in special education and related settings. Students are assigned to fieldwork settings in which program competencies will be assessed. With the approval of their advisers, students may choose to pursue experiences based on their professional goals, past experiences, and specific courses of study.

EXE 684 GRADUATE SEMINAR IN EXCEPTIONAL EDUCATION

3, 3/0

Prerequisites: Completion of all core courses except the research requirement and a minimum of 9 hours of coursework from the specialized program. This course focuses on special education issues and problems. Students review, analyze, and critique empirical articles and other materials, findings and opinions, research efforts, and approaches. Each student organizes and leads at least one discussion. Students write a formal review of the literature on a problem or issue of their choice and outline a feasible study of a related research problem.

EXE 690 MASTER'S PROJECT

3, 0/3

Study undertaken by one or more individuals on a problem of special interest submitted in acceptable form according to directions given by the Exceptional Education Department.

EXE 695 MASTER'S THESIS

6, 6/0

Prerequisites: Completion of all courses except the research requirement; program coordinator permission. Individual investigation of an original problem submitted in acceptable form according to directions given by the Graduate School.

EXE 721 THESIS/PROJECT CONTINUATION

0, 0/0

EXE 722 THESIS/PROJECT EXTENDED

0, 0/0

Fashion & Textile Technology (FTT)

FTT 590 INDEPENDENT STUDY

1-3, 0/0

Finance (FIN)

FIN 587 TOPICS IN FINANCE

1-4, 1/0

In-depth examination of rapidly and significantly changing disciplinary issues, topics, or practices; offered occasionally.

FIN 588 TOPICS COURSE

3, 3/0

FIN 619 RISK MANAGEMENT

3, 3/0

Prerequisite: Graduate Standing. Prepares students to take the Financial Risk Manager (FRM) exam. Risk management: measurement of risk for financial securities, portfolios, managers, and firms; various measurements of risk as mandated by the International Basel Accord on Bank Capital Requirement and the U.S. Securities and Exchange Commission.

FIN 622 CAPITAL MARKETS

3, 3/0

Prerequisite: Graduate Standing. Fundamental characteristics of capital market securities: bonds, swaps, futures, options, and their combinations. Emphasizes the understanding, creation, and combination of basic securities to create new securities (circus swaps, primes, scores), new products (portfolio insurance), and new strategies (money spreads, hedges).

FIN 630 INTERNATIONAL FINANCE

3, 3/0

Prerequisite: Graduate Standing. Applied analysis of international financial institutions, capital markets, exchange rate determination, and techniques for managing foreign exchange rate risk. Evaluate exchange rate risk management from both the institutional investor and the multinational corporate management perspectives.

FIN 645 ESTATE PLANNING AND TAXATION

3, 3/0

Prerequisite: Graduate Standing. Techniques and tax attributes of lifetime financial planning for the use, conservation, and efficient transfer of individual wealth; traditional planning techniques and major advanced methods, including various living trusts, irrevocable trusts, charitable remainder trusts, and family limited partnership.

FIN 688 INTERNSHIP

1-3, 0/0

Applied institutional or corporate experience in finance. Offered after student's prior consultation with graduate faculty.

Fine Arts (FAR)

FAR 590 INDEPENDENT STUDY

1-6, 3/0

Independent pursuit of the development of a particular project in the discipline of fine arts. Student, adviser, and instructor develop contractual arrangements for project completion.

FAR 594 WORKSHOP: PAPERMAKING

3-12, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

FAR 600 GRADUATE STUDIO IN DRAWING

1-3, 0/6

Individual concentration in drawing for advanced students; emphasizes growing facility of expression, application to painting and graphic arts; tutorial relationship with instructor; related study and gallery visits; extra class assignments, including minimum studio hours equal to class hours. May be taken up to three times.

FAR 610 GRADUATE STUDIO IN PAINTING

1-6, 0/6

Individual activities in painting for advanced students; emphasizes personal growth and mastery of chosen media; tutorial relationship with instructor; studio and outdoor problems; use of models; related study and gallery visits; extra class assignments, including minimum studio hours equal to class hours. May be taken up to three times.

FAR 620 GRADUATE STUDIO IN PHOTOGRAPHY

1-3, 0/6

Advanced black-and-white and color photography (including digital format) as a form of expression, as illustration, as event recording, as a teaching aid, and as used in publications; tutorial relationship with instructor; extra class assignments, including minimum studio hours equal to class hours. May be taken up to three times.

FAR 630 GRADUATE STUDIO IN PRINTMAKING

3-9, 0/6

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. May be taken up to three times.

FAR 640 GRADUATE STUDIO IN SCULPTURE

3-9, 0/6

General studio in advanced sculpture, using 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. May be taken up to three times.

FAR 690 MASTER'S PROJECT

3, 3/0

A study undertaken by one or more individuals on a problem of special interest, aimed at making a special contribution to fine arts; may be presented, in part, as an exhibition of materials collected or prepared-including a major exhibition of artwork related to study-with theories and findings reported in an acceptable form according to directions given by the Fine Arts Department.

FAR 695 MASTER'S THESIS

3, 0/0

FAR 721 THESIS/PROJECT CONTINUATION

0, 0/0

FAR 722 THESIS/PROJECT EXTENDED

0, 0/0

Foreign Language Education (FLE)

FLE 500 TEACHING A SECOND LANGUAGE IN MIDDLE AND HIGH SCHOOLS

3, 3/0

Prerequisite: Must be admitted into master of science K-12 foreign language teaching program, or instructor permission. Study of advanced pedagogical approaches, methodologies, and techniques that apply the findings of current research to teaching practices in order to incorporate present standards for second-language learning into the classroom; emphasis on practical application and focus on the learner.

FLE 501 REFLECTING ON CLASSROOM PRACTICES IN NEW LANGUAGE EDUCATION

5, 4/0

Prerequisite: SPA 401, 410, 500 or 516, FRE 500 or 516. In-class and field-based exploration of new language pedagogy in middle and high school settings. Conducted by school and college staff. Offered once annually in the fall semester.

FLE 503 FOUNDATIONS OF FOREIGN AND SECOND LANGUAGE EDUCATION

3, 3/0

Prerequisites: Graduate standing or instructor permission. Survey of the historical, psychological and social foundations of foreign and second language instruction. Equivalent Course: ESL 503

FLE 515 EXPLORING ENGLISH AS A SECOND LANGUAGE GRAMMAR

3, 3/0

Prerequisites: Graduate status or instructor permission. Exploration of second language grammar instruction and English grammar points known to challenge non-native speakers of English. Equivalent Course: ESL 515

FLE 516 LITERACY FOR TEACHING ENGLISH AS A SECOND LANGUAGE

3, 3/3

Prerequisites: Graduate status or instructor permission. Teaching of English literacy to students with non-English language backgrounds. Students will develop instructional practices and materials that reflect the latest research and standards.

Equivalent Course: ESL 516

FLE 520 TEACHING A SECOND LANGUAGE AT THE ELEMENTARY LEVEL

3, 3/0

Prerequisite: Bachelor's or master's degree in foreign language education, or state certification in a language other than English grades 7-12, or instructor permission. Middle school, high school, or prospective teachers of a second language extend their skills and adapt necessary teaching aids to the K-6 level.

FLE 539 LINGUISTICS FOR TEACHERS

3, 3/0

Prerequisites: Graduate Standing; instructor permission. Introduction to language as a system, with particular focus on how linguistic understanding contributes to teaching effectiveness in foreign language courses.

Equivalent Course: ESL 539

FLE 540 SECOND-LANGUAGE ACQUISITION

3, 3/0

Prerequisite: Must be admitted into master of science K-12 foreign language Teaching program, or instructor permission. Important trends in second-language acquisition research and their implications for foreign language teaching.

Equivalent Course: ESL 540

FLE 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

FLE 600 INTEGRATING TECHNOLOGY INTO THE SECOND-LANGUAGE CLASSROOM

3, 3/0

Prerequisite: Must be admitted into master of science K-12 foreign language Teaching program, or instructor permission. Survey of innovations in computer-assisted foreign language learning. Students gain the knowledge and skills of accomplished foreign language teachers to integrate technology into the classroom and to manage educational innovation in general.

FLE 601 ENGLISH AS A SECOND LANGUAGE
LINGUISTICS

3, 3/0

Prerequisites: FLE240 or equivalent and graduate status or instructor permission. The knowledge and skills required to analyze the linguistic structures of the English language and the appropriate means to teach these structures to Limited English Proficient (LEP) students. Focus on syntactic, morphological, phonological, semantic, and discourse features of the English language.

Equivalent Course: ESL 601

FLE 602 ASSESSMENT IN FOREIGN AND SECOND
LANGUAGE EDUCATION

3, 3/0

Prerequisites: Graduate status or instructor permission. Exploration of assessment protocols employed in foreign language and ESL education.

Equivalent Course: ESL 602

FLE 607 MIDDLE SCHOOL PRACTICUM IN FOREIGN
LANGUAGES

6, 0/0

Prerequisites: Completion of all program requirements; completion of Oral Proficiency Interview; instructor permission. Supervised foreign language teaching in a middle school five days per week for seven weeks with additional participation in school programming required.

FLE 608 HIGH SCHOOL PRACTICUM IN FOREIGN
LANGUAGE TEACHING

6, 0/0

Prerequisites: Completion of all program requirements; completion of Oral Proficiency Interview; instructor permission. Supervised foreign language teaching in a high school five days per week for seven weeks with additional participation in school programming required.

FLE 615 MULTICULTURAL EDUCATION IN THE
FOREIGN LANGUAGE CLASSROOM

3, 3/0

Prerequisites: Graduate status or instructor permission. Focus will be placed on the conceptualization multicultural education and the means by which future teachers can ensure that diverse cultures are respected and taught in the foreign language classroom.

Equivalent Course: ESL 615

FLE 680 SEMINAR: SPECIAL TOPICS IN RESEARCH ON
FOREIGN LANGUAGE LEARNING

3, 3/0

Prerequisite: Must be admitted into master of science K-12 foreign language teaching program, or instructor permission. Survey of current research on foreign language learning. Students gain the knowledge and skills of accomplished foreign language teachers to accommodate language learners.

FLE 689 RESEARCH METHODS IN FOREIGN
LANGUAGE EDUCATION

3, 3/0

Prerequisites: Graduate status or instructor permission. This course focuses on interpreting research in the field of foreign language education as well as acquiring the skills needed to engage in practical and ethical research in secondary educational settings.

FLE 690 MASTER'S PROJECT

1-3, 0/0

FLE 721 THESIS/PROJECT CONTINUATION
0, 0/0

FLE 722 THESIS/PROJECT EXTENDED
0, 0/0

Forensic Science (FOR)

FOR 588 TOPICS COURSE

3, 3/0

FOR 598 GRADUATE MICROCOURSE

1-3, 0/0

Examination of significant disciplinary issues, topics, or practices

Equivalent Course: CHE 598

FOR 612 PRINCIPLES OF FORENSIC SCIENCE

3, 3/0

Prerequisite: CHE 301 or equivalent. Overview of forensic laboratory procedures and practices. Includes field testing, laboratory screen tests, instrumental analyses, microscopy, molecular identification, blood-alcohol analyses, identification of physical evidence, pattern evidence, crime-scene processing, evidentiary value of chemical analysis, auditing, peer-review procedures, and quality issues. Sampling techniques, data quality, error rates, blind proficiency testing, and their relevance to legal decisions.

FOR 614 FORENSIC APPLICATIONS OF
INSTRUMENTAL ANALYSIS

4, 2/6

Prerequisites: CHE 403 or CHE 680 and FOR 612 or CHE 312 or equivalents. Introduction to forensic chemical analysis using representative instrumental techniques, including spectroscopy and chromatography; emphasis on laboratory-based studies for applications of these instruments to provide extensive experience in solving various analytical issues present in forensic laboratories.

FOR 616 MICROSCOPY IN FORENSIC SCIENCE

2, 1/2

Prerequisites: FOR 612 or CHE 312 or equivalents. Introduction to microscopic investigations for forensic pattern evidence and trace analysis; fundamental theory, principles of operation, varieties, and capabilities of optical microscopy and applications in forensics; fundamentals and applications of transmission and scanning electron microscopy for forensic imaging at atomic-scale resolution and chemical analysis; laboratory sections for pattern analysis and trace analysis.

FOR 618 DRUG CHEMISTRY AND TOXICOLOGY

3, 3/0

Prerequisites: CHE 202 and CHE 612 or CHE 312 and CHE 680 or CHE 403 or equivalents. Overview of misused and illegal pharmaceuticals, toxicology, poisons, forensic drug analysis, and illicit drug manufacture. Types, classes, and structures of illicit pharmaceuticals and the laws governing these substances; mechanism of biological activity and toxicological issues of each class; immunoassay technologies for drugs-of-abuse testing analysis; methods of forensic analysis of commonly encountered illegal drugs; and methods of surreptitious manufacture and law enforcement concerns with clandestine laboratories.

FOR 690 MASTERS PROJECT

3, 3/0

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

FOR 721 THESIS/PROJECT CONTINUATION

0, 0/0

FOR 722 THESIS/PROJECT EXTENDED

0, 0/0

FOR 795 RESEARCH THESIS IN FORENSIC SCIENCE

1-12, 0/0

Individual investigation of an original problem in Forensic Science submitted in acceptable form according to directions given by the Chemistry Department and the Graduate School.

French (FRE)

FRE 501 STRUCTURES OF MODERN FRENCH

3, 3/0

Provides in-and pre-service teachers the knowledge and skills required to analyze the linguistics structures of the French language and the appropriate means to teach these structures to foreign language students; focus on syntactic, morphological, phonological, semantic and discourse features of French; taught in French.

FRE 516 LITERACY FOR FRENCH TEACHERS

3, 3/0

Prerequisites: Graduate status or instructor permission. Development of literacy in French and proficiency in literacy-centered language teaching practices. Taught in French.

FRE 590 INDEPENDENT STUDY

1-3, 0/0

FRE 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

FRE 600 HISTORY OF THE FRENCH LANGUAGE

3, 3/0

Prerequisites: Graduate standing or instructor permission. History of the origins of modern French. Specific emphasis given to French's evolution from Vulgar Latin, social and political influences on language change, and standardization movements in the 17th century.

FRE 610 THE AGE OF ENLIGHTENMENT

3, 3/0

Prerequisites: Must be admitted into master of science K-12 foreign language teaching program (French) and have completed an appropriate undergraduate course in French literature, or instructor permission. Detailed text-based study of works by Montesquieu, Voltaire, Diderot, and Rousseau that characterized and shaped the Enlightenment.

FRE 620 GEORGE SAND SEMINAR

3, 3/0

Prerequisites: Must be admitted into master of science K-12 foreign language teaching program (French) and have completed an appropriate undergraduate course in French literature, or instructor permission. Detailed study of a selection of George Sand's romantic, feminist, pastoral, and socialist novels; excerpts from Sand's autobiography and correspondence; major critics of her works.

FRE 630 FRENCH AND FRANCOPHONE POPULAR NOVELS SINCE THE NINETEENTH CENTURY

3, 3/0

Prerequisites: Must be admitted into master of science K-12 foreign language teaching program (French) and have completed an appropriate undergraduate course in French literature, or instructor permission. Extensive reading of selected French and/or Francophone popular novels; in-depth study of how each reflects its society, epoch, and author.

FRE 640 EXPERIMENTAL LITERATURE OF THE TWENTIETH CENTURY

3, 3/0

Prerequisites: Must be admitted into master of science K-12 foreign language teaching program (French) and have completed an appropriate undergraduate course in French literature, or instructor permission. Detailed study of experimental literature of the twentieth century, especially surrealism, the theater of the absurd, and the nouveau roman.

FRE 650 MOLIÈRE AND THE SUN KING

3, 3/0

Prerequisite: must be admitted into master of science K-12 foreign language teaching program, or instructor permission. Taught in French. Analysis of the life and works of Molière, the milieu for which he wrote, the conventions of 17th-century French drama, the influence of his times on his work, his legacy.

FRE 660 HAITIAN LITERATURE IN SOCIO-CULTURAL CONTEXT

3, 3/0

Prerequisites: Graduate standing or instructor permission. Taught in French. The novel as vehicle for social activism and venue for exploring the syncretic nature of Haitian identity. Exploration of the ideology, objectives, rhetoric, and literary symbolism of key Haitian activist authors.

Geography (GEG)

GEG 503 STUDIES IN RESOURCE CONSERVATION

3, 3/0

Offered by contract only. Principles of natural resource conservation; selected problems in resource conservation: soil erosion; water pollution; destruction of forests, grasslands, and wildlife; flood control; depletion of minerals. Emphasizes conservation in the United States and New York State.

GEG 505 THE ERIE CANAL: A GEOGRAPHICAL FIELD STUDY

3, 3/0

Offered by contract only. Historical geography of the building and growth of the Erie Canal and Buffalo: growth and change of the canal system; related urban, commercial, industrial, and recent recreational development. Field trips; fees for trips. Summer only.

GEG 507 MAP READING AND ANALYSIS

3, 3/0

Offered by contract only. 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

3, 3/0

Offered by contract only. Physical landscape; cultural geography and settlement; primary economic activities; urban systems and environments; planning and future development of the state.

GEG 516 WATERSHED POLLUTION

3, 3/0

Prerequisite: CHE 101 or CHE 201 or equivalent. Important pollutants and toxic chemicals generated by anthropogenic activities. Transport, transformation, and fate of these pollutants in watersheds. Impacts of these pollutants on soil, forest, and aquatic ecosystems using specific case studies.

GEG 518 REMOTE SENSING

3, 3/0

Prerequisites: CIS 151 or equivalent, or instructor permission. Concepts of remote sensing and its applications. Principles and methods of electromagnetic radiation, aerial and space remote sensing. Basics of digital image processing, spatial or geographic data capture and interpretations from remote sensors.

GEG 521 WATERSHED ANALYSIS

3, 3/0

Prerequisite: Instructor permission. Introduction to the systematic analysis of stream dynamics of watersheds and the impact of humans on these dynamics. Physical, chemical, and biological processes in watershed management. Class discussion and class project focus on a practical watershed assessment problem.

GEG 523 BIOGEOGRAPHY

3, 3/0

Prerequisite: Graduate-level standing. Global patterns of species distributions and the historic, environmental, and biological processes underlying these patterns. Spatial patterns of nature's geographic variation at multiple levels, from individuals to ecosystems to biomes. Impacts of humans and climate change on biogeography.

GEG 525 FUNDAMENTALS OF GIS

3, 3/0

Prerequisite: Instructor permission. Geographic information systems (GIS) and computer cartography. Principles and methods of spatial data automation, models and structures of spatial databases, spatial analysis, and map display in a computerized environment. Computer mapping principles, including scales, map projections, symbolization, coloring strategy, and thematic mapping.

GEG 528 ENVIRONMENTAL ASSESSMENT AND PLANNING APPLICATIONS IN GIS

3, 3/0

Prerequisite: Instructor permission. Advanced concepts of GIS with a focus on spatial analytical applications for environmental assessment and planning. GIS theories and software implementation through hands-on practice to solve real-world environmental and planning problems.

GEG 529 ADVANCED TOPICS IN GIS

3, 3/0

Prerequisites: GEG 425 or GEG 525 or instructor permission. Builds on topics covered in GEG 525, focusing more on digital representation of the human and physical environment, including location referencing from a human perspective, database design, data quality issues (how to identify and document errors), spatial statistical analysis using GIS, the fourth dimension (time) in GIS, and understanding spatial analysis algorithms and models. Introduces programming in a GIS environment.

GEG 565 SOIL SCIENCE AND MANAGEMENT

3, 3/0

Prerequisite: Instructor permission. Introduction to soil properties and their influence on physical, chemical, and biological processes. The role of soils in the transportation and fate of water and chemicals. The importance of soils for watershed management and protection of aquatic ecosystems.

GEG 575 PRINCIPLES OF HYDROLOGY

3, 3/0

Prerequisite: Instructor permission. Principles of hydrology and the relationship to water resources management and watershed processes. Quantifying the processes governing surface, subsurface, and atmospheric movement of water. Methods to collect and analyze hydrologic data.

GEG 583 ADVANCED GEOGRAPHIC INFORMATION INTERPOLATION METHODS

3, 3/0

Prerequisites: GEG 525 or equivalent. Geographic information interpolation methods to predict continuously distributed large datasets of geographic features using sampled data. Two approaches are identified in practice: deterministic interpolation and geo-statistical interpolation. Concepts and theories of geographic information interpolation models and their application, in particular for multi-variable analysis, will be studied.

GEG 584 GEOSPATIAL PROGRAMMING

3, 3/0

Prerequisites: Instructor permission; it is recommended that students have basic knowledge about spatial databases. Introduction to Python programming focusing on the development of Python scripts and custom tools for processing and analysis of geospatial data. Automating geoprocessing workflows, creating custom analysis tool, and customizing user interfaces.

GEG 585 INTERACTIVE AND WEB-BASED MAPPING

3, 3/0

Prerequisite: GEG 425, GEG 525, or equivalent introductory GIS course. Introduction to interactive and Web-based mapping. Different approaches to communicating with maps on the Internet; how to create Web-based mapping applications.

GEG 587 TOPICS IN GEOGRAPHY

1-4, 1/0

In-depth examination of rapidly and significantly changing disciplinary issues, topics, or practices; offered occasionally.

GEG 588 TOPICS COURSE

3, 3/0

GEG 590 INDEPENDENT STUDY

1-3, 0/0

GEG 594 GRADUATE WORKSHOP

1-4, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

GEG 610 SEMINAR

3, 3/0

Prerequisite: 12 hours of geography coursework or instructor permission. Investigation, examination, and discussion of topics of current interest to geographers. Topics to be announced. May be taken more than once.

GEG 616 ATMOSPHERIC DEPOSITION MONITORING AND MODELING

3, 3/0

Offered by contract only. Atmospheric transport and deposition of pollutants. Data interpretation, sampling protocols, monitoring and modeling techniques. Case studies.

GEG 617 HYDROLOGIC MODELING

3, 3/0

Prerequisite: GEG 375 or equivalent. Mathematical models that can be used to quantify hydrologic processes. Understanding the mechanistic concepts, assumptions behind the models, and the advantages and limitations associated with using the models. Value of observed data in calibrating the models and the uncertainty associated with model predictions.

GEG 619 WETLAND HYDROLOGY AND ECOLOGY

3, 3/0

Instructor Permission; BIO 315 or equivalent; GEG 375/575 or equivalent. Introduction to physical, chemical, and ecological processes in wetlands. Impact of wetlands on watershed hydrology and nutrient cycling. Management approaches for wetlands and key regulations that protect wetlands.

GEG 690 MASTER'S PROJECT

3, 0/0

Research or investigation of a particular problem, planned and carried out by the student with consultation and guidance from the instructor, submitted in acceptable form according to the directions given by the Department of Geography and Planning.

GEG 721 THESIS/PROJECT CONTINUATION

0, 0/0

GEG 722 THESIS/PROJECT EXTENDED

0, 0/0

Geosciences (GES)

GES 502 THE RESTLESS EARTH

3, 3/0

Prerequisite: GES 101 or GES 201 or equivalent. Dynamic history of the Earth, movement of the continents, opening and closing of oceans, and the effect of such events on ancient climates; the evolution of life and the inter-relatedness of earth and life processes.

GES 503 MINERALOGY AND PETROLOGY FOR EARTH SCIENCE TEACHERS

3, 3/0

Origin and identification of crystals, minerals, and rocks.

GES 504 FIELD INVESTIGATIONS FOR EARTH SCIENCE TEACHERS

3, 2/2

Measuring surface changes: techniques necessary to construct base maps and topographic maps, collect stream gauging data, and measure slopes; applications to secondary earth science classrooms. Field trips.

GES 506 GEOLOGY OF NEW YORK STATE

3, 3/0

Prerequisites: GES 101 and GES 102 or GES 502 or equivalent. Physiography, stratigraphy, paleontology, glacial and economic geology of New York State; geological history of New York region; geology of selected recreational sites. Field trips.

GES 508 FIELD GEOLOGY OF WESTERN NEW YORK

3, 2/2

Prerequisites: GES 101 and GES 102 or GES 502 or equivalent. A study of the evolution, stratigraphy, and surficial geology of Western New York through observation of selected field sites.

GES 513 ADVANCED FORENSIC GEOSCIENCE

3, 2/2

Prerequisites: GES 101 and; GES 103 or GES 201, GES 303 or equivalents. Application of the principles of earth science to the law. Hands-on approach includes details from actual criminal cases. Forensic application of a variety of geological subjects, such as rock and mineral types, geological and topographical maps, fossils, sand, and soil.

GES 521 ADVANCED ENVIRONMENTAL GEOCHEMISTRY

3, 3/0

Prerequisites: GES 101, GES 103, CHE 112, or equivalents. The chemical nature of the earth. Emphasis on how natural systems work and the fundamental geochemical processes that affect the fate and transport of inorganic and organic pollutants in the environment.

GES 525 ADVANCED HYDROGEOLOGY

3, 2/2

Prerequisites: GES 101 or GEG 101, at least one 300-level GES course, and college algebra. The interaction of groundwater and geologic material. Occurrence and movement of groundwater, assessment of aquifer properties, and chemical interactions between groundwater and rock. Includes groundwater protection and remediation strategies, as well as mathematical principles of groundwater flow.

GES 529 ADVANCED ENVIRONMENTAL FIELD METHODS AND ANALYSIS

3, 2/2

Prerequisites: GES 101 or GEG 101, at least one 300-level GES course, and college algebra. Environmental detection of contaminants. Applied study of contaminant distribution and movement. Emphasis on environmental law and regulations, hazardous chemicals, and remediation approaches used by environmental professionals.

GES 535 ASTRONOMY FOR EARTH SCIENCE TEACHERS

3, 3/0

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

GES 541 METEOROLOGY FOR EARTH SCIENCE
TEACHERS

3, 3/0

Prerequisite: Prior experience or assignment to teach secondary science. Weather as a response to the unequal distribution of energy from the sun; data-collecting techniques; interpretation and predictions appropriate for secondary science education classes.

GES 588 TOPICS COURSE

3, 3/0

GES 590 INDEPENDENT STUDY

1-6, 0/0

GES 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

GES 598 MICRO COURSE

1-3, 1/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

GES 605 PALEONTOLOGY

3, 3/0

Prerequisite: GES 101 or equivalent; prerequisite or corequisite: GES 102 or GES 502. Basic principles of the nature and interpretation of the fossil record, with an overview of the types of organisms commonly preserved as fossils. Emphasizes practical applications of paleontology and the dynamic nature of science.

GES 606 ADVANCED INVERTEBRATE
PALEONTOLOGY

3, 3/0

Prerequisite: GES 302 or GES 605 or equivalent. Methods and techniques used in the identification and classification of selected fossil invertebrate groups.

GES 607 REGIONAL GEOMORPHOLOGY OF THE
UNITED STATES

3, 3/0

Prerequisite: GES 307 or equivalent. Factors and forces that led to the development of the surface features of selected areas of the United States.

GES 639 TOPICS IN MODERN ASTRONOMY

3, 3/0

Prerequisite: GES 131, GES 535, or equivalent. The expanding universe, primeval fireball, quasars, missing mass in the universe, black holes, pulsars, neutron stars, origin of the elements, current research.

GES 690 MASTER'S PROJECT

3, 0/0

Research or investigation of a particular problem, planned and carried out by the student with consultation and guidance from the instructor, submitted in acceptable form according to directions given by the Earth Sciences and Science Education Department.

GES 695 MASTER'S THESIS

3, 0/0

GES 721 THESIS/PROJECT CONTINUATION

0, 0/0

GES 722 THESIS/PROJECT EXTENDED

0, 0/0

GES 795 RESEARCH THESIS IN GEOSCIENCES

1-3, 0/0

Individual investigation of an original problem submitted in acceptable form according to directions given by the Graduate School.

Great Lakes Environmental Sci (GLC)

GLC 535 GREAT LAKES ECOSYSTEMS

3, 3/0

Prerequisite: One semester of undergraduate or graduate-level courses in ecology or organismal biology or permission from instructor. North American Great Lakes ecosystems: evolution, physical and chemical features, biological structure, ecological interactions, ecosystem metabolism, and human dimensions.

GLC 590 INDEPENDENT STUDY

1-3, 0/0

Independent investigation into a specific area of Great Lakes environmental science; topic selected by the student in consultation with a faculty member.

GLC 600 GREAT LAKES CENTER SEMINAR

1, 1/0

Prerequisite: Enrollment in Great Lakes Environmental Science Masters program. Research seminar on Great Lakes environmental science topics, including physical, biological, chemical, socio-economic, and management issues in the Great Lakes basin. Invited speakers representing various groups within the Great Lakes basin, including government agencies, academia, industry, and public interest groups, will give presentations on Great Lakes environmental science and management topics. Students present thesis proposals and research results.

GLC 688 INTERNSHIP

3, 0/0

Prerequisite: Enrollment in the Great Lakes Ecosystem Science Master's program; PSM 601 or PSM 602; and instructor permission. Guided, supervised field experiences that complement the academic program. Requires approval by the student's advisor and internship coordinator, minimum cumulative GPA of 3.0, and background of courses or experiences within the area of interest.

GLC 695 MASTER'S THESIS

3-6, 3/0

Research or investigation of a particular problem, planned and carried out by the student in consultation and guidance from the instructor, submitted in acceptable form according to the directions given by the Graduate School.

GLC 721 THESIS/PROJECT CONTINUATION

0, 0/0

GLC 722 THESIS/PROJECT EXTENDED

0, 0/0

Health and Wellness (HEW)

HEW 520 DRUGS, SOCIETY, AND HEALTH

3, 3/0

Drug addiction: problems related to alcohol, tobacco, and other drugs of abuse affecting the individual, as well as society; drug education curricula within the public schools.

HEW 530 PHYSICAL EDUCATION AND RECREATION FOR THE DISABLED CHILD

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

Equivalent Course: HPR 530

HEW 540 PROGRAMMING PHYSICAL ACTIVITY FOR LATER LIFE

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

HEW 580 PARENTING/SEXUALITY EDUCATION PRACTICES IN HEALTH

3, 3/0

Prerequisite: Undergraduate coursework in health or human sexuality. Parenting/sexuality curricula and the utilization of technology in teaching health education; theories and practices in sexuality education in American school systems; appropriate course content specific to different grade levels and cultural settings.

Equivalent Course: ADE 580

HEW 588 TOPICS COURSE

3, 3/0

Topics course.

HEW 590 INDEPENDENT STUDY

1-6, 0/0

Equivalent Course: HPR 590

HEW 594 WORKSHOP

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

HEW 605 EPIDEMIOLOGY

3, 3/0

Principles and practices in the cause, prevention, and control of diseases in various community settings: epidemiological terminology; measurement of morbidity, mortality, and fertility; descriptive and analytic epidemiology; screening; infectious disease; occupational epidemiology.

HEW 615 SEMINAR IN HEALTH EDUCATION

3, 3/0

Theories of health behavior and behavior change as they relate to current health education issues: the Health Belief Model and the Health Behavior Change Model; foundations of health education; strategies to promote lifestyle change in health education settings.

HEW 620 HEALTH EDUCATION/PROMOTION STRATEGIES

3, 3/0

Overview and application of specific health promotion/education techniques; risk assessment; individual educational plans; small-group techniques; mass media, lectures, and community organization campaigns.

HEW 690 MASTER'S PROJECT

3, 0/0

A well-planned project undertaken by one or more students, with consultation and guidance from the health and wellness faculty, concerning a health problem or issues of special interest.

Equivalent Course: HPR 690

HEW 695 MASTER'S THESIS

3, 0/0

HEW 721 THESIS/PROJECT CONTINUATION

0, 0/0

HEW 722 THESIS/PROJECT EXTENDED

0, 0/0

Higher Ed & Stud Affairs Admin (HEA)

HEA 504 COMMUNITY COLLEGE ADMINISTRATION

3, 3/0

Prerequisite: Graduate status. Purposes, functions, and characteristics of the community/two-year college: profile of student populations; historical and philosophical evolution; organization and leadership; finance, governance, and management of academic and support services; and relationship to the surrounding community.

HEA 588 TOPICS IN HIGHER EDUCATION

3, 3/0

HEA 590 INDEPENDENT STUDY

1-6, 0/0

Prerequisites: Graduate status and SPA program faculty member approval. Involvement in scholarly and special project/program development.

HEA 591 WOMEN IN HIGHER EDUCATION

3, 3/0

Prerequisites: Graduate student. This course provides an applied approach to examining the presence of women in higher education within the larger constructs of race, ethnicity and gender. Analysis of the socialization of women in higher education at the student, faculty and administrator level will expand understanding of the barriers and opportunities for success of women in the academia.

HEA 594 WORKSHOP

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

HEA 616 AMERICAN HIGHER EDUCATION

3, 3/0

Prerequisite: Graduate status. Evolution of American higher education: its history and philosophy; faculty and students; curriculum; governance; and the impact of race, gender, class, ability, and sexual orientation.

HEA 617 STUDENT DEVELOPMENT AND LEARNING
3, 3/0

Prerequisite: Graduate status. Assessing and meeting the needs of diverse student populations; theories of college student development and learning; college student characteristics, attributes, values, and learning styles; impact of the college experience on students; designing educational and programming interventions to directly enhance the student learning environment.

HEA 618 STUDENT AFFAIRS ADMINISTRATION
3, 3/0

Prerequisite: Graduate status. Philosophy, organization, management, and emergence of student services; evolution of specialized student affairs programs and their impact on institutional culture and campus ecology; "model" student affairs programs in four-year and two-year, public and private, religious and secular, large and small colleges and universities.

HEA 619 MANAGEMENT SYSTEMS AND LEADERSHIP IN HIGHER EDUCATION

3, 3/0

Prerequisites: Graduate status. HEA 618 recommended. Management systems theory and practice in higher education and academic and student affairs; partnerships; organizational culture; motivation and evaluation; authority and leadership. Students apply course concepts to institutional situations and problems faced in the day-to-day administration of services, programs, facilities, and staff.

HEA 620 PLANNING AND FINANCE IN HIGHER EDUCATION

3, 3/0

Prerequisites: Graduate status and HEA 618 recommended. Fundamentals of college and university finance and economics; underlying decision support systems; institutional research in the policy-making and planning processes in higher education; strategic budgeting; resource allocation; assessment; research; new trends in grant development; alternative financing; external relations.

HEA 622 TECHNIQUES OF COUNSELING

3, 3/0

Prerequisites: Graduate Standing. This course focuses on theories of counseling, developing basic and intermediate helping skills, intentional interviewing, conflict resolution, and self-assessment for the helping professions. Theories of counseling, developing skills and strategies for effective listening, assertion, individual and group facilitation, supervising, interviewing, self-assessment, and individual problem solving are examined.

HEA 623 TECHNIQUES OF COUNSELING FOR DIVERSE GROUPS AND CULTURES

3, 3/0

Prerequisites: Graduate Standing. This course is designed to provide the application and integration of basic counseling skills appropriate for diverse groups and cultures. Factors such as ethnicity, race, gender, sexual orientation, family structures, religion/spirituality, disability, class, competency development, self-assessment, intervention strategies and future trends are examined.

HEA 624 INTERNSHIP/PRACTICUM I

3, 3/0

Prerequisite: Graduate status. Administrative-based internship or supervised counseling practicum; seminar in contemporary issues/trends in college student personnel administration. All HEA majors are required to complete both internship/practicum courses with a total of 300 internship/practicum hours in their fieldwork.

Equivalent Course: ADE 624

HEA 625 INTERNSHIP/PRACTICUM II

3, 3/0

Prerequisite: HEA 624. Administrative-based internship or supervised counseling practicum; seminar in contemporary issues/trends in college student personnel administration; critical issues in society and higher education today, utilizing the case study method of instruction. All HEA majors are required to complete both internship/practicum courses with a total of 300 internship/practicum hours in their fieldwork.

HEA 630 GROUP COUNSELING

3, 3/0

Prerequisite: Graduate status. Group counseling theory, research, and practice; group dynamics; psychological processes operating in groups; leadership styles; therapeutic interventions and techniques as applied in various staff, team, and group settings; applications of theories and methods for effective group functioning and counseling leadership.

HEA 632 VOCATIONAL DEVELOPMENT AND CAREER COUNSELING

3, 3/0

Prerequisite: Graduate status. Theories of career development and occupational decision making through the life span; career patterns and school-to-work transitions; administration of career information resources and specialized client services; computers and career-related assessment instruments for career counseling in educational and community settings.

HEA 650 STUDENT ASSESSMENT: TESTS AND MEASUREMENT

3, 3/0

Prerequisite: Graduate status. Basic appraisal techniques, including qualitative and quantitative methods, ethical principles, rating scales, survey instruments, and educational testing; descriptive statistical principles of student evaluation; uses of computers and tests in outcomes assessment, and research.

HEA 651 THE LAW AND HIGHER EDUCATION

3, 3/0

Prerequisite: Graduate status. College students and the law; academic freedom and First Amendment issues; trends in contemporary litigation; risk management; legislative, regulatory, and compliance issues; affirmative action, equal education and employment opportunity; real and simulated administrative situations; legal potentialities and implications for liability; ethical practice in serving student and institutional interests.

**HEA 670 THE COLLEGE STUDENT MOVEMENT
1955-1975**

3, 3/0

Overview of the history and linkages among the American college student, civil, and human rights movements of the 1960s and 1970s. This pedagogical perspective can be applied to American history, educational history, rhetorical studies, American higher education, women's studies, African American and Latino studies, and other areas concerned with the social sciences and the humanities.

**HEA 689 METHODS AND TECHNIQUES OF
EDUCATIONAL RESEARCH**

3, 3/0

Prerequisites: HEA program major; HEA 650. 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. Research techniques and methods emphasize higher education and student personnel administration application.

HEA 690 MASTER'S PROJECT

3, 0/0

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

HEA 694 CURRENT ISSUES IN HIGHER EDUCATION

3, 3/0

Prerequisites: Graduate Standing. This course focuses on current issues in higher education and student affairs administration. Through this course, students will develop an understanding of the ever changing landscape of higher education and the skills necessary to meet current challenges in higher education administration.

HEA 695 MASTER'S THESIS

3, 0/0

Individual investigation of an original problem, submitted in acceptable form according to directions given by the Graduate School.

**HEA 703 PROFESSIONAL DEVELOPMENT AND
COMMUNITIES OF PRACTICE IN HIGHER EDUCATION**

3, 3/0

Prerequisite: graduate standing. Communication skills in diverse settings for professionals in higher education; Discourse facilitation and conflict resolution; examination of the intersection of social justice education and professional practice based on current social justice and social agency issues; and the integration of action theories and reflective practice in daily professional life.

HEA 721 THESIS/PROJECT CONTINUATION

0, 0/0

HEA 722 THESIS/PROJECT EXTENDED

0, 0/0

**HEA 725 FUNDAMENTALS OF DATA MANAGEMENT
AND DECISION SUPPORT IN HIGHER EDUCATION**

3, 3/0

Prerequisites: Graduate Student Status, HEA650, HEA689. The course provides an overview of institutional research practices and processes, as well as approaches to data management and decision support. It focuses on the relationships of institutional researchers and assessment professionals to various internal and external organizational functions and to the emerging field of knowledge management. Offered each semester.

HEA 750 STUDENT AFFAIRS ASSESSMENT CAPSTONE

3, 3/0

An applied assessment course involving a supervised assessment project; students will develop and implement an applied assessment project, analyze and interpret data, and report findings.

**HEA 789 ADVANCED DATA ANALYSIS TECHNIQUES
IN HIGHER EDUCATION**

3, 3/0

Prerequisites: Graduate Student Status, HEA 689 or equivalent. Advanced knowledge of research design and skill development in statistical analysis applied to the generation of new knowledge, as well as the interpretation of existing higher education research. Topics include analysis of variance, correlations, linear and logistic regression, analysis of categorical data, factor analysis, and other data analysis techniques commonly used in higher education research. Offered annually each semester.

History (HIS)

HIS 500 STUDIES IN AMERICAN HISTORY

3, 3/0

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 EUROPEAN HISTORY

3, 3/0

Prerequisite: Graduate status. Cultural, political, and economic perspectives on European history.

HIS 536 THE AMERICAN ENTERPRISE SYSTEM

3, 3/0

Problems and issues relating to the free enterprise system functioning within a modern industrial society; analysis of the interrelationships of basic business concepts with the decision-making processes of corporate management; historical trends and their futuristic implications.

Equivalent Course: BUS 536

HIS 588 TOPICS COURSE

3, 3/0

HIS 590 INDEPENDENT STUDY

1-3, 0/0

Prerequisite: Instructor permission. Independent inquiry into a specific topical area of U.S., European, or third-world history. Equivalent Course: MST 590

HIS 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

HIS 598 MICRO COURSE

1, 1/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

HIS 602 CONTEMPORARY MIDDLE EAST

3, 3/0

Characteristic cultural features of the Middle Eastern countries, with emphasis on Islam; interaction with the Western world; cultural and social changes under way; fundamentalism; problems typical of the underdeveloped nations of the world today.

Equivalent Course: PSC 612

HIS 603 SOCIAL AND INTELLECTUAL HISTORY OF THE UNITED STATES

3, 3/0

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

HIS 604 HISTORY OF THE AMERICAN FRONTIER

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

HIS 605 STUDIES IN AMERICAN COLONIAL HISTORY

3, 3/0

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 606 PROBLEMS IN BRITISH HISTORY

3, 3/0

Major constitutional, political, social, and intellectual factors that shaped Britain during one of the following periods: medieval England; Tudor Stuart; the eighteenth century; Victorian; the twentieth century.

HIS 607 THE UNITED STATES IN CONTEMPORARY WORLD AFFAIRS

3, 3/0

U.S. foreign policy; United States and the United Nations; Atlantic and Pacific commitments; internal problems (defense, production, inflation, taxation).

HIS 608 REFORM AND REFORMERS IN AMERICAN CIVILIZATION

3, 3/0

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 609 HISTORY OF RUSSIAN DIPLOMACY

3, 3/0

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

HIS 610 BLACK AMERICAN HISTORY

3, 3/0

Slavery, Northern free blacks, and 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; twentieth-century black thought; American segregationist thought.

HIS 612 AMERICAN FOREIGN POLICY IN THE FAR EAST

3, 3/0

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; events leading 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 613 LATIN AMERICA IN THE TWENTIETH CENTURY

3, 3/0

Social and political conditions in Latin American in the early twentieth 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 614 PROBLEMS IN CLASSICAL AND MEDIEVAL HISTORY

3, 3/0

Particular cultural, intellectual, social, economic, and historiographical problems. Consult with instructor prior to registration for information on specific topics.

HIS 615 MODERN EUROPEAN POLITICAL MOVEMENTS

3, 3/0

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

HIS 616 PROBLEMS IN MODERN EUROPEAN HISTORY

3, 3/0

Prerequisite: Graduate status. Major trends, movements, and ideas that determined the course of European history from 1500 to the present.

HIS 617 MODERN EUROPEAN IMPERIALISM AND COLONIALISM

3, 3/0

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

HIS 618 STRANGERS IN THE LAND: TWENTIETH-CENTURY IMMIGRANTS IN THE UNITED STATES

3, 3/0

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

**HIS 620 EXCEPTIONAL HISPANIC INDIVIDUALS:
HISTORICAL AND CULTURAL CONCERNS**

3, 3/0

A panorama of Hispanic history and culture as it pertains to the major Hispanic populations of the United States, with a concentration on the Puerto Rican and Mexican American populations. Emphasizes the relationship of language and culture, the ultimate implications for bilingual special education, and the Hispanic exceptional child.

**HIS 622 NORTH AND SOUTH AMERICAN FRONTIERS
AND BORDERLANDS**

3, 3/0

Prerequisite: Graduate status. Examination of frontiers in the Western Hemisphere from the beginning of European encounter and conquest in 1492 to the twentieth century. The conceptualization of the borderlands and frontiers in historical scholarship. Altering notions of gender, race and class on the frontier.

HIS 623 PROBLEMS IN U.S. HISTORY

3, 3/0

Prerequisite: Graduate status. Critical and in-depth examination of specific topics or periods in U.S. history within the context of larger interpretations of American historical development. The student may use the course to explore subjects for an eventual master's project. May be taken more than once but not with the same professor; it must be taken with another professor in a different historical specialization. Check with individual professors for topics covered in any given semester.

HIS 630 TOPICS IN ASIAN HISTORY

3, 3/0

Origins, historical development, cultural achievements, and interrelationships of the major civilizations of East Asia, Southeast Asia, and India.

HIS 640 TOPICS IN THIRD WORLD HISTORY

3, 3/0

Prerequisite: Graduate status. Social, economic, and political conditions of Africa, Asia, and Latin America under Western colonialism; reform and revolution in the non-Western world; challenge of nation-building in the third world; relations between the developed nations and the third world; cold war and the third world; the United States and the third world.

HIS 645 GENDER, SEXUALITY AND IMPERIALISM

3, 3/0

Prerequisite: Graduate status. Comparative examination of the role and impact of western and indigenous women in colonial societies; "Destructive Female" and "Black Peril" myths; miscegenation; constructions of gender and sexuality and their effect on traditional as well as colonial culture and society; women as agents of political, social and cultural reform and reaction; women in anti-colonial resistance movements.

HIS 646 TOPICS IN CANADIAN HISTORY

3, 3/0

Selected themes in Canadian history from the precontact period to the present: settlement; emergence as an independent state; nature of Canadian federalism; role in the modern world.

HIS 688 INTERNSHIP

1-12, 0/0

Prerequisites: Graduate status; minimum cumulative GPA of 3.0; background of courses or experience within the area of interest; permission of adviser and department chair. Guided and supervised field experiences to complement the student's academic program.

Equivalent Course: MST 688

HIS 690 MASTER'S PROJECT

3, 3/0

Research or investigation of a particular historical topic or issue, planned and carried out by the student in consultation with the instructor.

Equivalent Course: MST 690

HIS 695 MASTER'S THESIS

1-6, 0/0

Individual investigation of an original problem submitted in acceptable form according to directions given by the Graduate School.

**HIS 700 SEMINAR IN THE BIBLIOGRAPHY OF
AMERICAN HISTORY**

3, 3/0

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 701 SEMINAR IN THE BIBLIOGRAPHY OF
EUROPEAN HISTORY**

3, 3/0

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 702 SEMINAR IN MODERN RUSSIAN AND
EASTERN EUROPEAN HISTORY**

3, 3/0

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

HIS 703 READING SEMINAR IN HISTORY

3, 3/0

Prerequisite: Graduate status. Readings on topics and historical periods in American, European, and third world history. Topics vary each session.

HIS 704 RESEARCH SEMINAR IN HISTORY

3, 3/0

Prerequisite: Graduate status. Preparation of individual research papers on some undeveloped aspect of American, European, or third world history; guidance in the location and use of source materials, bibliographical tools, and writing technique. Topics vary each session. May be taken up to three times.

**HIS 709 LOCAL HISTORY: RESEARCH METHODS AND
TECHNIQUES**

3, 3/0

Preparation of individual research papers on some undeveloped aspect of local history; guidance in historical research and writing techniques. Topics vary each session. May be taken up to three times.

HIS 711 SEMINAR IN AMERICAN HISTORY

3, 3/0

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. Topics vary each session. May be taken up to three times.

HIS 721 THESIS/PROJECT CONTINUATION

0, 0/0

HIS 722 THESIS/PROJECT EXTENDED

0, 0/0

HIS 795 MASTER'S THESIS

1-6, 0/0

Individual investigation of an original problem submitted in acceptable form according to directions given by the Graduate School.

Equivalent Course: MST 795

Industrial Technology (INT)

INT 590 INDEPENDENT STUDY

1-3, 0/0

INT 594 TECHNICAL LABORATORY MANAGEMENT AND OPERATION

1-3, 2/2

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

INT 601 ENGINEERING ECONOMY

3, 3/0

Prerequisite: Graduate status. Alternatives in processing, equipment selection, operation, and output in comparison to the various methods of production available currently or in the future.

INT 602 OPERATIONS MANAGEMENT (ADVANCED SYSTEMS ANALYSIS)

3, 3/0

Prerequisite: Graduate status. Concepts and analytical techniques of comprehensive systems for operations management; quantitative methods in practical situations; modeling, computer interactive analysis, and nonsteady state situations; data streams; sthing; forecasting; cyclic components; feedback.

INT 610 MANAGERIAL MARKETING

3, 3/0

Prerequisite: Graduate status. Corporate and marketing strategy in a firm; the effect of product, distribution, pricing, and promotion strategy on corporate success; performance evaluation of a plan, including information gathering, analysis, and action.

INT 611 NETWORK THEORY

3, 3/0

Prerequisite: Graduate status. Network-based management systems; management training in network planning; timely and cost-effective supervision of tasks and activities; exposure to a variety of project configurations. Term project required.

INT 612 QUALITY CONTROL MANAGEMENT

3, 3/0

Prerequisite: TEC 313 or equivalent. Process control; parametric and nonparametric techniques; sampling program development; establishing quality policy; selling quality in the organization; design of experiments; developing vendor relations; quality planning.

INT 630 WORK MEASUREMENT

3, 3/0

Prerequisites: Graduate status and TEC 405 or equivalent. Methods of work-measurement systems; development and application of time standards and incentive programs.

INT 651 COMPUTERIZED INDUSTRIAL SYSTEMS

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

INT 652 INTEGRATED INDUSTRIAL SYSTEMS

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

INT 659 INTEGRATED INDUSTRIAL SYSTEMS

3, 2/3

Prerequisite: Appropriate business systems and technical-level coursework necessary for acceptance to an industrial technology master's program. Application, justification, and implementation of integrated industrial systems: establishment of database systems; specific computerized industrial systems; integrated industrial systems; flexible manufacturing.

INT 660 ENERGY SYSTEMS

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

INT 661 MANUFACTURING PROPERTIES OF MATERIALS

3, 3/0

Prerequisites: TEC 201, TEC 311, or equivalent. Selection and classification of materials and methods of manufacturing; choosing an economical fabrication procedure based on the physical properties of the material.

INT 662 MANUFACTURING CASE STUDY

3, 3/0

Prerequisite: Graduate status. Case studies of contemporary industrial manufacturing operations: comprehensive analysis of facilities; production planning; process; production; quality control; human/machine scheduling; managed activities.

INT 670 PRODUCTION AND INVENTORY MANAGEMENT

3, 2/3

Prerequisite: Graduate status. Principles and techniques of production and inventory management; typical problems; applications.

INT 675 JUST-IN-TIME MANUFACTURING

3, 3/0

Prerequisite: Graduate status. Principles and techniques of small lot production; techniques that make small lot production economical.

INT 685 RESERACH DESIGN AND METHODOLOGY
1, 1/1

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

INT 689 RESEARCH DESIGN AND METHODOLOGY
3, 3/0

Prerequisite: Completion of 9 credit hours of graduate study in industrial technology. Research methodology; technical proposal and project/thesis development; data collection and analysis in an industrial facility; technical presentation; skill enhancement.

INT 690 MASTER'S PROJECT
1-3, 3/0

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

INT 695 MASTER'S THESIS
1-6, 0/0

Individual investigation of an original problem submitted in acceptable form according to directions given by the Graduate School. Problem and procedure must be approved by the student's graduate adviser, the MSIT advisory committee, and the department chair before the investigation is begun.

INT 721 THESIS/PROJECT CONTINUATION
0, 0/0

INT 722 THESIS/PROJECT EXTENDED
0, 0/0

International Education (INE)

INE 590 INDEPENDENT STUDY
1-15, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

INE 591 STUDY ABROAD
1-18, 0/0

Mathematics (MAT)

MAT 501 MATH FOR TEACHERS: ALGEBRA
3, 3/0

Prerequisite: 24 credit hours of undergraduate mathematics. Operational systems, number systems, groups, rings, fields, ordered fields, functions over fields, algebraic properties of the trigonometric functions.

MAT 521 MATH FOR TEACHERS: GEOMETRY
3, 3/0

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

MAT 552 MATHEMATICS FOR TEACHERS: NUMBER THEORY
3, 3/0

Prerequisites: MAT 121 and MAT 122. Structure of the integers; divisibility; primes; congruence classes; linear congruences; Diophantine equations; Fibonacci numbers; selected topics.

**MAT 581 MATHEMATICS FOR TEACHERS:
PROBABILITY AND STATISTICS**
3, 3/0

Prerequisites: Two semesters of calculus, MAT 325, MAT 311 or equivalent. Probability, probability distributions, sampling, design of experiments, hypothesis testing, regression, analysis of variance, nonparametric statistics.

MAT 587 TOPICS IN MATHEMATICS
3, 3/0

In-depth examination of rapidly and significantly changing disciplinary issues, topics, or practices; offered occasionally.

MAT 588 TOPICS COURSE
3, 3/0

MAT 590 INDEPENDENT STUDY
1-3, 0/0

MAT 593 MATHEMATICS FOR TEACHERS: DISCRETE MATHEMATICS
3, 3/0

Prerequisites: MAT 121 and MAT 122. Partitions; permutations; probability measure; conditional probability; vectors; matrices; operations and properties; linear programming applications.

MAT 598 MICROCOURSE
1-3, 1/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

MAT 601 TOPICS IN MODERN ALGEBRA
3, 3/0

Prerequisite: Acceptance to the mathematics master's degree program. Groups, semigroups, and monoids; homomorphisms; subgroups and cosets; Abelian groups; the symmetric group; actions and the Sylow theorems; rings, subrings, and ideals; ring homomorphisms; integral domains, division rings, and fields; ring and field extensions; Galois theory.

MAT 611 TOPICS IN REAL ANALYSIS
3, 3/0

Prerequisites: Three semesters of an undergraduate calculus sequence. Real numbers; basic topology; continuous functions; differentiation; the Riemann-Stieltjes integral; sequence and series of functions; some special functions; the Lebesgue theory.

**MAT 616 ELEMENTS OF MATHEMATICS,
PROGRAMMING AND COMPUTER SCIENCE FOR
DATA SCIENCE**
3, 3/0

Prerequisite: Instructor permission. Introductory topics in calculus, optimization, linear algebra and discrete mathematics useful for data scientists. Networking concepts relevant to data analytics approached from a mathematical point of view. Mathematical programming to implement a variety of numerical methods. Offered every fall semester.

MAT 620 MODERN GEOMETRY:SELECTED TOPICS
1-3, 1/0

Prerequisite: MAT 322. Foundations; axiomatic projective geometry; real projective geometry; linear projective geometry; finite geometries; non-Euclidean geometries.

MAT 631 FOUNDATIONS OF MATHEMATICS

3, 3/0

Prerequisite: 12 credit hours of mathematics coursework beyond calculus. 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.

MAT 646 INTRODUCTION TO STATISTICS FOR DATA SCIENCE

3, 3/0

Prerequisite: Instructor permission. Descriptive statistics, probability concepts, discrete and continuous probability distributions, sampling distributions, interval estimation and hypothesis testing of one and two population means, proportions and variances, non-parametric tests, simple linear regression and correlation, one-way analysis of variance. Offered every fall semester.

MAT 651 THEORY OF NUMBERS

3, 3/0

Prerequisite: 12 credit hours of mathematics coursework beyond calculus. 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.

MAT 670 DISCRETE MATHEMATICS AND FOUNDATIONS OF COMPUTER SCIENCE

3, 3/0

Prerequisite: Acceptance to the mathematics master's degree program. Problems, theorems, and discrete structures commonly used in mathematics and computer science; mathematical analysis of algorithmic/computer solutions to problems in mathematics; mathematical problems that are not solvable by computer.

MAT 681 INTERMEDIATE PROBABILITY

3, 3/0

Prerequisite: MAT 381. Advanced probability theory; combinatorial analysis; the laws of large numbers; theory of stochastic processes.

MAT 683 STATISTICAL THEORY

3, 3/0

Prerequisite: MAT 381. Probability; estimation; confidence sets; tests of hypotheses; decision theory; Bayesian methods; linear models; nonparametric methods.

MAT 690 MASTER'S PROJECT

3, 3/0

Prerequisite: Written approval of the faculty member and the department chair. Research study or investigation of a mathematical problem or topic, conducted under the guidance of a graduate faculty member of the Mathematics Department.

MAT 695 MASTER'S THESIS

3, 0/0

MAT 696 HISTORY OF MATHEMATICS

3, 3/0

Prerequisite: 12 credit hours of mathematics coursework beyond calculus. Chronological study of the development of mathematics; contributions of nations, ages, or periods; selected biographies, appraisals, and critiques; problem studies.

MAT 699 SELECTED ADVANCED TOPICS

3, 3/0

Prerequisite: Instructor permission. Seminar considering an advanced branch of contemporary mathematics such as combinatorics, game theory, automata theory, or intensive study of an advanced topic in mathematical research.

MAT 701 MODERN ALGEBRA I

3, 3/0

Prerequisite: MAT 301. 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.

MAT 721 THESIS/PROJECT CONTINUATION

0, 0/0

MAT 722 THESIS/PROJECT EXTENDED

0, 0/0

MAT 795 MASTER'S THESIS

3, 3/0

Individual investigation into an area of mathematics, under the guidance of a faculty member.

Mathematics Education (MED)

MED 500 PRACTICUM I: GRADUATE FIELD EXPERIENCE IN SECONDARY MATHEMATICS EDUCATION

3, 1/4

Current school mathematics practices; related mathematics teaching periodicals and policy documents; affective and societal issues surrounding teaching; reflective observation of teaching and learning and the classroom, school, and community contexts in which they occur.

MED 501 PRACTICUM II: PRACTICE TEACHING MATHEMATICS IN THE MIDDLE SCHOOL

3, 0/6

Prerequisites: Admission to the postbaccalaureate certification program; successful completion of all coursework in the postbaccalaureate certification program; recommendation from a member of the mathematics education graduate faculty committee. Introduction to the practice of classroom teaching for the prospective middle/junior high school mathematics teacher. Field experience with classroom discipline, instructional planning, curricular issues, assessment and testing, field observation and participation, peer presentations, construction and critique of lesson plans, use of media, and research and use of teaching strategies.

MED 502 PRACTICUM III: PRACTICE TEACHING MATHEMATICS IN THE HIGH SCHOOL

3, 0/6

Introduction to the practice of classroom teaching for prospective high school mathematics teachers. Field experience with classroom discipline, instructional planning, curricular issues, assessment and testing, field observation and participation, peer presentations, construction and critique of lesson plans, use of media, and research and use of teaching strategies.

MED 524 MATHEMATICS INSTRUCTION AT THE SECONDARY LEVEL

1, 1/0

Prerequisite: Education major or mathematics education postbaccalaureate certification program major. Content, teaching methods, activities, and evaluation procedures typically used in mathematics instruction at the secondary level.

MED 588 TOPICS COURSE

3, 3/0

MED 590 INDEPENDENT STUDY

1-3, 0/0

MED 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

MED 595 RESEARCH METHODS AND TECHNIQUES IN MATHEMATICS EDUCATION

3, 3/0

Prerequisite: 9 credit hours of graduate-level coursework in mathematics. Nature of educational research; problem analysis; descriptive and inferential statistics; experimental design; strategy of historical, descriptive, and experimental studies.

MED 598 MICRO COURSE

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

MED 600 CONTEMPORARY MATHEMATICS CURRICULUM DEVELOPMENT

3, 3/0

Contemporary mathematics curricular developments in the United States and other countries, and the forces that shape these developments; historical background influencing current curricular developments; mathematics curricula and their relation to school and society.

MED 601 SEMINAR IN THE TEACHING OF MATHEMATICS

3, 3/0

Techniques and topics for teaching mathematics in grades 7 through 12.

MED 602 MATHEMATICS FOR THE SECONDARY SCHOOL TEACHER: SELECTED TOPICS

3, 3/0

Prerequisite: Instructor permission. Selected topics in mathematics related to the secondary mathematics curriculum.

MED 604 TEACHING OF GEOMETRIC CONCEPTS

3, 3/0

Prerequisite: Acceptance to the mathematics master's degree program. Traditional Euclidean approach; transformational, computer-based, and integrated approaches to the teaching and learning of geometric concepts in high school; learning theory, pedagogy, mathematical models, and new developments specific to the teaching of geometric concepts in the high school curriculum.

MED 605 TEACHING OF ALGEBRAIC CONCEPTS

3, 3/0

Prerequisite: Acceptance to the mathematics master's degree program. Structuralist, intuitive, historical, and applied approaches to the teaching of concepts of algebra; learning theory, pedagogy, mathematical models, and new developments specific to the teaching of algebraic concepts in the high school curriculum.

MED 606 LOGO AND MATHEMATICS LEARNING

3, 3/0

History of LOGO language development; use of LOGO in the secondary and elementary schools; turtle graphs and the use of LOGO in problem solving. Appropriate for teachers of math and science, as well as teachers of other subjects.

MED 607 TECHNOLOGY IN MATHEMATICS EDUCATION

3, 3/0

Use and evaluation of equipment and software available for the mathematics classroom: developing classroom lessons using the equipment and software; preparation for adoption of future developments. Students produce projects for use in their classrooms.

MED 683 PROBLEM SOLVING AND PROBLEM POSING

3, 3/0

Prerequisite: Acceptance to the mathematics master's degree program. Techniques of problem solving and problem posing in mathematics: role of teaching problem solving in the high school setting.

MED 690 MASTER'S PROJECT

1-9, 0/0

Study undertaken by one or more individuals, under the supervision of a member of the graduate mathematics faculty, on a problem of special interest submitted in acceptable form according to directions given by the Mathematics Department.

MED 721 THESIS/PROJECT CONTINUATION

0, 0/0

MED 722 THESIS/PROJECT EXTENDED

0, 0/0

MED 795 MASTER'S THESIS IN MATHEMATICS EDUCATION

3, 3/0

Individual investigation of original problem, conducted under the supervision of a member of the graduate mathematics faculty, submitted in acceptable form according to directions given by the Graduate School.

Mechanical Engineering Tech (MET)

MET 590 INDEPENDENT STUDY

1-3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

MET 605 EARLY ENGINEERING INTERNSHIP

3, 1/0

Prerequisite: Instructor permission or MET graduate standing. Mechanical engineering internship; ethical manufacturing and design considerations; development of oral and written communication skills; technical/nontechnical presentation development; multidisciplinary team environment; techniques for developing and analyzing physical and mathematical models of mechanical and electromechanical systems.

MET 611 ADVANCED ENGINEERING MODELING

3, 2/2

Prerequisite: ENT 314 or instructor permission. Three-dimensional (3-D) parts and assembly creation; mathematical modeling of mechanical and electromechanical systems; parametric modeling; 3-D solid modeling; simulation of prototype behavior; introduction to finite element concepts.

MET 615 SUSTAINABILITY IN DESIGN

3, 3/0

Prerequisite: Permission of Instructor and MET Graduate Standing. Sustainable manufacturing and its relationship to larger issues of global warming, energy independence, and social impact; Sustainable manufacturing practices in for-profit enterprises; Continuous improvement using sustainability thinking; Techniques for effective communication about sustainability to internal and external audiences.

MET 620 MANAGING ENGINEERING PROJECTS

3, 3/0

Prerequisite: Permission of Instructor or MET Graduate Standing. Cost and time estimating and controlling techniques for projects. Evaluation of labor, material, equipment, and subcontract resources, scheduling techniques, earned value concepts. Measuring project percent complete. Contractual risk allocation. Project investment analysis techniques.

MET 675 ADVANCED ENGINEERING SYSTEM DESIGN

3, 2/2

Prerequisite: MET 605. Application of design concepts in mechanical engineering; conceptual and detailed design process stages; problem definition; design specifications; categorization of designs; modeling and analysis methods; design optimization; economics; reliability; sustainability; intellectual property; manufacturing considerations in design.

MET 685 PROFESSIONAL EXPERIENCE INTERNSHIP

3, 1/0

Prerequisite: MET 675. Design problem identification and solution development; critical /creative problem solving methods; written/oral presentation and interpersonal communications development; ethical considerations for product design and manufacturing processes; project management strategies.

MET 690 MASTER'S PROJECT

6, 6/0

MET 695 MASTER'S THESIS

6, 0/0

MET 721 THESIS/PROJECT CONTINUATION

0, 0/0

Modern and Classical Languages (MCL)

MCL 590 INDEPENDENT STUDY

1-3, 0/0

MCL 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

MCL 690 MASTER'S PROJECT

3, 0/0

MCL 695 MASTER'S THESIS

3, 0/0

MCL 721 THESIS/PROJECT CONTINUATION

0, 0/0

MCL 722 THESIS/PROJECT EXTENDED

0, 0/0

Multidisciplinary Studies (MUL)

MUL 689 METHODS AND TECHNIQUES OF EDUCATIONAL RESEARCH

3, 3/0

Prerequisites: Graduate status. Background of educational research; selection and development of research problems; sources of information and data; methods, tools, and techniques; collection, treatment, application, and interpretation of research data; organizing and writing a research report.

Equivalent Course: SPF 689

Museum Studies (MST)

MST 587 TOPICS COURSE

1-4, 1/0

A particular topic or issue, planned by the instructor.

MST 588 TOPICS COURSE

3, 3/0

MST 590 INDEPENDENT STUDY

1-3, 0/0

Prerequisite: Instructor permission. Independent inquiry into a specific topical area of U.S., European, or third-world history.

Equivalent Course: HIS 590

MST 601 THEORY AND METHOD IN MUSEUM STUDIES

3, 3/0

Prerequisite: Museum Studies graduate student status or instructor permission. Origin of museums and the discipline of museum studies; theoretical, practical and legal aspects of museum collections. Collections care, responsibilities of museums as public institutions, object meaning, and case studies in collections repatriation. Required for Museum Studies.

MST 621 MUSEUM REGISTRATION METHODS

3, 3/0

Prerequisite: Museum Studies graduate student status or instructor permission. Daily challenges and excitement of working with priceless art, history, and natural history collections. Wide scope of museum registration practices, including policy development, legal aspects, technologies, and how registrars must accommodate the sometimes conflicting museum mandates of collection access and accountability.

MST 622 RESEARCHING AND PRESENTING MUSEUM COLLECTIONS

3, 3/0

Prerequisite: Museum Studies graduate student status or instructor permission. Methodologies utilized in museum acquisitions, collections management, multi-disciplinary interpretation, exhibition design, and textual production. Theoretical and practical methods of exhibiting objects and publishing information about museum collections. Research methodologies, digital database models, conservation and collections care, alternative approaches to interpreting and contextualizing objects, and exhibition techniques. Elective course for Museum Studies collections management and curatorial practice specialization.

MST 623 DIGITAL MUSEUM COLLECTIONS

3, 3/0

Prerequisite: Museum Studies graduate student status or instructor permission. Survey and practice of how museums utilize new technologies to transform internal practices and communication with varied audiences through access to collections, exhibitions, and public programs. Benefits, risks, and case studies of presenting museum collections; what the future holds for the digital museum.

MST 624 MUSEUM ARCHIVES

3, 3/0

Prerequisite: Museum Studies graduate student status or instructor permission. Study and evaluation of record-keeping systems employed by museums and the reasoning behind them. Analysis of the intellectual and physical environments that lead to optimum records management; documentation of individual objects and collections; acquisition, preservation, interpretation, and history of the museum's artifacts, records, collections, and the institution overall.

MST 625 EXHIBIT DESIGN AND INTERPRETATION

3, 3/0

Prerequisites: Museum Studies Graduate Student status or instructor permission. Experiential, hands-on course. Develop exhibitions at a local museum. Prepares students for exhibition-related positions in museums. Guest speakers and field trips to museum service companies. Emphasis on current practices and trends in exhibit design. Repeatable up to 6 credits.

MST 630 VISITOR EXPERIENCE IN MUSEUMS

3, 3/0

Prerequisites: Museum Studies graduate student status or instructor permission. Current trends in visitor experience for museums. Making informed decisions on improving every aspect of visitor contact; fostering customer service; creating memorable exhibits that highlight authenticity, i.e., real environments and artifacts. Theoretical perspectives on free-choice learning and creating third-place environments.

MST 632 TEACHING WITH HISTORIC PLACES

3, 3/0

Prerequisites: Graduate status. Provides a foundation for those seeking to develop and implement educational materials related to historic places. Service-learning at the sites that famous people lived in, where historical events took place, and their teaching potential. Using one historic site as a case study; touring and meeting representatives to find out more about the historic place; determining the educational needs of the facility; creating curricular materials appropriate for the site.

MST 640 MUSEUM ADMINISTRATION

3, 3/0

Prerequisite: Museum Studies graduate student status or instructor permission. Organizational behavior and leadership skills needed for effective management of a not-for-profit institution. Overview for emerging museum professionals; definition of the responsibilities, characteristics, ethical and legal guidelines for the museum administrator, from board and executive director to administrative roles at various levels within the organization.

MST 641 REVENUE GENERATION FOR MUSEUMS

3, 3/0

Prerequisites: Museum Studies graduate student status or instructor permission. Basics of fundraising for a not-for-profit institution; overview of fundraising strategies, board responsibilities, development staff, and volunteers in garnering financial support. Fundraising strategies including prospect development, grant writing, annual fund drives, corporate campaigns, capital campaigns. Diverse methods of fundraising examined through role-playing and other activities.

MST 642 MUSEUM PLANNING

3, 3/0

Prerequisite: Museum Studies graduate student status or instructor permission. Core procedures and principles of strategic planning for museums. Forming a planning committee, information gathering, writing documents, and fulfilling action plans. Role of museum trustees, staff, and community stakeholders. Methods for generating creative ideas for implementation; benchmarking success and rethinking mission. Application of principles to create effective institutional plans.

MST 643 MUSEUM MARKETING AND PUBLIC RELATIONS

3, 3/0

Prerequisite: Museum studies graduate student status or instructor permission. Core components and principles of museum marketing and communication techniques including positioning, branding, and e-marketing. Methods for reaching old and new audiences through new media and creative partnerships. Resourcefulness in changing economies and aligning marketing goals to museums mission; application of principles to create effective marketing plans.

MST 660 MUSEUMS AND SOCIETY

3, 3/0

Prerequisite: Graduate status. Museum theory and practice for history and education students and those in such disciplines as anthropology, art, art history, biology, and home economics. Extensive reading; illustrated lectures; exercises in museum and historical agency-related problems.

MST 688 INTERNSHIP

1-12, 0/0

Prerequisites: Graduate status; minimum cumulative GPA of 3.0; background of courses or experience within the area of interest; permission of adviser and department chair. Guided and supervised field experiences to complement the student's academic program.

Equivalent Course: HIS 688

MST 690 MASTER'S PROJECT

3, 3/0

Research or investigation of a particular historical topic or issue, planned and carried out by the student in consultation with the instructor.

Equivalent Course: HIS 690

MST 695 MASTER'S THESIS

1-6, 0/0

Individual investigation of an original problem submitted in acceptable form according to directions given by the Graduate School.

MST 704 RESEARCH SEMINAR IN HISTORY

3, 3/0

Prerequisite: Graduate status. Preparation of individual research papers on some undeveloped aspect of American, European, or third world history; guidance in the location and use of source materials, bibliographical tools, and writing technique. Topics vary each session. May be taken up to three times.

MST 721 THESIS/PROJECT CONTINUATION

0, 0/0

MST 722 THESIS/PROJECT EXTENDED

0, 0/0

MST 795 MASTER'S THESIS

1-6, 0/0

Individual investigation of an original problem submitted in acceptable form according to directions given by the Graduate School.

Equivalent Course: HIS 795

Music (MUS)

MUS 500 MUSIC IN EDUCATION

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

MUS 588 TOPICS COURSE

3, 3/0

MUS 590 INDEPENDENT STUDY

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

MUS 594 WORKSHOP: ORFF WORKSHOP I

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

MUS 601 FOUNDATIONS OF MUSIC EDUCATION

3, 3/0

Prerequisites: Matriculation in Masters of Music Education Degree Program. An overview of the historical, cultural and philosophical foundations that have shaped and directed music education in the United States. An examination of aesthetic, sociological and psychological foundations of music education.

MUS 602 ADVANCED TOPICS IN MUSIC HISTORY

3, 3/0

Prerequisites: Matriculation in Masters of Music Education Degree Program. Central themes of historical style and compositional structure in Western art music from the Medieval to Modern eras. Investigate essential artistic values through aspects of historical context, musical analysis, and scholarly commentary, and apply those methodologies in a comprehensive research paper.

MUS 620 ADVANCED TOPICS IN MUSIC THEORY

3, 3/0

Prerequisites: Instructor permission. Explores philosophical, pedagogical, and practical approaches to teaching music theory. Develop analytical tools and use critical thinking skills analyze articles, texts, and pedagogical models through the lens of a historically, sociologically and technologically informed perspective. Offered summer only.

MUS 624 SOCIAL COMMENTARY IN MUSICAL THEATRE

3, 3/0

Prerequisites: Matriculation in Masters of Music Education Degree Program. Overview of the history, evolution, and impact of musical stage entertainment as it relates to specific social and political issues and causes; development of prominent stage forms in relation to their intended or unintended social contributions, moral lessons, political purposes, and artistic symbolism.

MUS 625 CURRICULUM AND ASSESSMENT

3, 3/0

Prerequisite: Matriculation in Masters of Music Education Degree Program. Current trends in curriculum and assessment and the effect on music instruction. Introduces a standards- and repertoire-based curriculum model as a framework to facilitate development of pre-K-12 curriculum for ensembles and general music classes.

MUS 630 CONTEMPORARY ISSUES IN MUSIC EDUCATION

3, 3/0

Prerequisites: Matriculation in Masters of Music Education Degree Program. Students will gain an overview of the historical and intellectual foundations of contemporary music education in the United States. Additionally, students will examine curricular trends and areas of concern for music education in the United States.

MUS 640 RESEARCH METHODS IN MUSIC EDUCATION

3, 3/0

Prerequisite: Matriculation in Masters of Music Degree Program. Study of historical, descriptive, qualitative, and experimental research in music education. Students study various research methodologies and analyze example studies in order to facilitate understanding of music education research.

MUS 641 REPERTOIRE AND ENSEMBLE LEADERSHIP
3, 3/0

Prerequisites: Matriculation in Masters of Music Education Degree Program. An in-depth overview of the leadership, conducting, and programming skills required for music educators, with added emphasis on ensemble psychology, rehearsal management, score preparation and concert planning.

MUS 644 SECONDARY GENERAL MUSIC METHODS
3, 3/0

Prerequisites: Admission to the Masters of Music Education Degree or Instructor Permission. An overview of the development and execution of secondary level general music curricula, with a focus on creativity and improvisation in both elective and mandatory general music courses for all types of music learners. Offered every summer.

MUS 665 METHODS OF EARLY CHILDHOOD MUSIC AND MOVEMENT
3, 2/0

Prerequisites: Instructor Permission. Exploring the methods used to guide young children's music and movement development within a wide variety of early childhood music education settings. Field placement activities that support course objectives are required, approximately 12-15 hours. Offered annually.

MUS 690 MASTER'S PROJECT
3,6, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

MUS 695 THESIS
3-6, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

MUS 721 THESIS/PROJECT CONTINUATION
0, 0/0

MUS 722 THESIS/PROJECT EXTENDED
0, 0/0

Occupational Education (OEC)

OEC 590 INDEPENDENT STUDY
1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

OEC 601 RESEARCH SEMINAR: OCCUPATIONAL EDUCATION
3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

OEC 602 CURRICULUM DEVELOPMENT AND PLANNING
3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

OEC 603 EVALUATION IN OCCUPATIONAL EDUCATION
3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

OEC 690 MASTER'S PROJECT
3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

OEC 695 THESIS
3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

OEC 721 THESIS/PROJECT CONTINUATION
0, 0/0

OEC 722 THESIS/PROJECT EXTENDED
0, 0/0

Philosophy (PHI)

PHI 601 ETHICS IN PROFESSIONAL APPLIED SCIENCES
3, 3/0

Ethical theories and professional ethics in the applied sciences. Ethical reasoning and its application to practical problems. Ethical issues in fields such as computer science, engineering, genetics, and ecology.

Physics (PHY)

PHY 500 PHYSICS EDUCATION RESEARCH SEMINAR
3, 3/0

Designed for practicing or future high school physics teachers. Includes reading and discussion of current research in physics education, evaluation and discussion of the application of this research to the New York State physics core curriculum, and the exploration and practice of assessment techniques in high school physics.

PHY 502 INITIAL PHYSICS TEACHING EXPERIENCE FOR ALTERNATIVE CERTIFICATION
3-6, 3/0

Prerequisite: Acceptance to the alternative certification in physics program. Full-time physics teaching with college supervision and school supervision: lesson and unit design, classroom management, designing and implementing student assessment, participation in school community.

PHY 507 ENERGY AND FORCE INTERACTIONS FOR K-8 TEACHERS
3, 1/4

Designed for elementary teachers to better understand physics and the nature of science. Focus on interactions and energy: energy, force, friction, gravity, magnetic fields, light, and electricity. Not appropriate for students with extensive physics background.

**PHY 510 PHYSICS FOR HIGH SCHOOL TEACHERS:
CONTENT & PEDAGOGY**

6, 3/3

Use of inquiry-based teaching techniques to develop concepts central to the New York State physics core curriculum. Use of mathematical analysis, scientific inquiry, and engineering design to pose questions, seek answers, and develop strategies to achieve these goals in the physics classroom with adolescent learners.

PHY 511 COMPUTATIONAL PHYSICS FOR TEACHERS

3, 3/0

Prerequisites: PHY 111, PHY 112 and PHY 213 or instructor permission. Study of problems from various physics content areas using a variety of computational tools (e.g. spreadsheets, computer programming) and techniques (Newton's method, Runge-Kutta). Physical systems including harmonic oscillator with damping, gravitational force (orbits, central force problem), electric and magnetic field and potential calculations, thermal and statistical physics, motion with air friction, wave motion, quantum mechanical tunneling and scattering. Pedagogical issues associated with using computation in the high school classroom.

PHY 512 MECHANICS, ENERGY AND MOTION

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

PHY 515 ELECTRICITY, MAGNETISM, AND APPLICATIONS

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

PHY 518 WAVE PHENOMENA AND OPTICS

3, 3/0

Wave phenomena, including types, motion, interaction, and propagation; diffraction and interference; geometrical optics. Emphasizes research-based profiles of student conceptual difficulties and instructional strategies to remedy them.

PHY 520 MODERN PHYSICS

3, 3/0

Major developments in twentieth and twenty-first century physics and how they changed our understanding of the nature of space and time and the structure of matter. Application of physics education research to teaching relativity and quantum physics in a high school physics course.

PHY 521 EXPERIMENTS IN MODERN PHYSICS

3, 0/6

Prerequisite: PHY 520 or equivalent. Hands-on activities and advanced experiments chosen from the areas of optics, modern physics, nuclear physics, and solid state physics with the goals of learning modern laboratory techniques, data analysis, and lab report writing.

PHY 522 PHYSICS OF ENERGY SOURCES FOR TEACHERS

3, 2/2

Prerequisites: PHY 107 and PHY 108. Different energy sources, their global supply, and physical laws governing their present use in the world. Topical energy sources and physical laws for the hydrogen fuel cell, solar cell and wind turbine; using them in applications and devices.

PHY 525 NUCLEAR AND PARTICLE PHYSICS

3, 3/0

Major developments in nuclear and particle physics in the twentieth and twenty-first century, culminating in the standard model. Discussion of how these developments changed our understanding of the structure of matter.

PHY 588 TOPICS COURSE

3, 3/0

PHY 590 INDEPENDENT STUDY

1-3, 0/0

PHY 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

PHY 596 GRADUATE CONFERENCE

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

PHY 598 MICRO COURSE

1-3, 1/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

PHY 606 ADVANCED QUANTUM THEORY I

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

PHY 616 ADVANCED DYNAMICS

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

PHY 620 POWERFUL IDEAS AND QUANTITATIVE MODELING: FORCE, MOTION, AND ENERGY

6, 3/3

Designed for practicing or future high school physics teachers. Activities and laboratory experiences develop ideas in force, motion, and energy. Exemplary pedagogical techniques are modeled and examined.

PHY 622 POWERFUL IDEAS AND QUANTITATIVE MODELING: ELECTRICITY AND MAGNETISM

6, 3/3

Designed for high school physics teachers. Activities and laboratory experiences develop ideas in electricity and magnetism. Exemplary pedagogical techniques are modeled and examined.

PHY 690 MASTER'S PROJECT

1-3, 0/0

Study of a problem of special interest, preapproved by the physics graduate committee and submitted in acceptable form according to directions given by the Physics Department.

PHY 695 THESIS

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

PHY 721 THESIS/PROJECT CONTINUATION
0, 0/0

PHY 722 THESIS/PROJECT EXTENDED
0, 0/0

PHY 795 RESEARCH THESIS IN PHYSICS
3, 3/0
See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

Planning (PLN)

PLN 560 ENVIRONMENTAL IMPACT ASSESSMENT
3, 3/0
Prerequisite: Instructor permission. Legislation and technical procedures involved with the development of environmental impact statements (EIS) and environmental assessments (EA). Practical experience in conducting an EA and writing an EIS. Includes one field trip.

PLN 588 TOPICS COURSE
3, 3/0

PLN 590 INDEPENDENT STUDY
1-3, 0/0

PLN 610 SEMINAR
3, 3/0
Prerequisite: 12 credit hours of geography or planning coursework or instructor permission. Investigation, examination, and discussion of topics of current interest to geographers and planners. Topics to be announced.

PLN 690 MASTER'S PROJECT
3, 0/0
Research or investigation of a particular problem, planned and carried out by the student in consultation and guidance from the instructor, submitted in acceptable form according to the directions given by the Department of Geography and Planning.

PLN 721 THESIS/PROJECT CONTINUATION
0, 0/0

PLN 722 THESIS/PROJECT EXTENDED
0, 0/0

Political Science (PSC)

PSC 500 PUBLIC ADMINISTRATION AND POLICY
3, 3/0
Public administration and related areas of public policy: personnel comparative and historical aspects; public budgeting; organizational structure; agency management; decision making, evaluation, and policy analysis; ethical issues and administrative law.
Equivalent Course: PAD 500

PSC 588 TOPICS COURSE
3, 3/0

PSC 590 INDEPENDENT STUDY
1-3, 0/0
Equivalent Course: PAD 590

PSC 594 GRADUATE WORKSHOP
1-3, 0/0
See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

PSC 605 POLITICS OF THE THIRD WORLD
3, 3/0
Leading issues and challenges found in the developing world. Examination of development in terms of democratization; religion and politics; cultural pluralism, ethnic and national identity, and nationalism; women and development; agrarian reform; urbanization; revolution; the military; political economy; and globalization. Special focus on development aid, trade, and the UN Millennium Goals.

PSC 606 INTERNATIONAL RELATIONS
3, 3/0
Theories of international relations; statecraft and diplomacy; international organizations and international law; peace and security.

PSC 607 AMERICAN GOVERNMENT AND POLITICS
3, 3/0
Foundations of the American constitutional system; federalism, separation of powers, and role of the states; political parties, pressure groups, and electoral processes; the president, bureaucracy, Congress, and courts.

PSC 612 CONTEMPORARY MIDDLE EAST
3, 3/0
Characteristic cultural features of the Middle Eastern countries, with emphasis on Islam; interaction with the Western world; cultural and social changes under way; fundamentalism; problems typical of the developing countries.
Equivalent Course: HIS 602

PSC 690 MASTER'S PROJECT
3, 0/0
Research or investigation of a particular problem, planned and carried out by student with consultation and guidance from instructor.
Equivalent Course: PAD 690

PSC 695 MASTER'S THESIS
3, 0/0
See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

PSC 721 THESIS/PROJECT CONTINUATION
0, 0/0

PSC 722 THESIS/PROJECT EXTENDED
0, 0/0

Profess Sci Masters Programs (PSM)

PSM 587 TOPICS IN APPLIED AND PROFESSIONAL MATHEMATICS AND SCIENCE
1-3, 1/0
In-depth examination of topics related to the managerial applications of math and science in the real world; offered occasionally.

PSM 601 PROJECT MANAGEMENT FOR MATH AND SCIENCE PROFESSIONALS

3, 3/0

Prerequisites: Graduate standing. Current practices in project management as applied to math and science projects. Hands-on experience with the skills, tools, and techniques required in different phases of a project's life cycle, including project selection, project planning, project staffing and organization, task scheduling, project scope management, budgeting and progress reporting, risk management, quality management, project communications, and use of appropriate project management software tools. Techniques for communicating and motivating teams throughout the project life cycle. Emphasis on team building and practicing project management techniques through the use of science-based cases.

PSM 602 COMMUNICATION STRATEGIES FOR MATH AND SCIENCE PROFESSIONALS

3, 3/0

Prerequisites: Graduate-level standing. Intend to develop strategic thinking about communication of quantitative information and improve writing, presentation, and interpersonal communication skills for mathematicians and scientists in a variety of settings (i.e. industrial, managerial, academic, research). Includes a review of "best practices" or guidelines that have been derived from both research and experience. Students will put those guidelines into practice, using a workshop format that will rely heavily on discussion and in-class exercises.

PSM 603 TOPICS IN PROFESSIONAL MATH AND SCIENCE

3, 3/0

Prerequisites: Graduate standing. Examination of topics in business and management to develop strategic thinking about quantitative information and aid in improving business and leadership skills for mathematicians and scientists within a variety of settings (i.e. industrial, managerial, academic, research).

Psychology (PSY)

PSY 590 INDEPENDENT STUDY

1-3, 0/0

PSY 690 MASTER'S PROJECT

3, 3/0

Research or investigation of a specific psychological topic, planned and carried out by the student with the approval, consultation, and guidance of a graduate faculty member of the Psychology Department.

PSY 715 MANAGEMENT PRACTICES AND TECHNIQUES

3, 3/0

Prerequisites: PSY 101 and instructor permission. Major management theories and factors affecting organizational systems; managing conflict and negotiating agreements; effective interpersonal skills for managers; defining problems and generating creative alternatives; types and sources of information needed by managers; relation of leadership style to staff productivity and development; relating effectively to upper-level management.

PSY 721 THESIS/PROJECT CONTINUATION

0, 0/0

PSY 722 THESIS/PROJECT EXTENDED

0, 0/0

Public Administration (PAD)

PAD 500 PUBLIC ADMINISTRATION AND POLICY

3, 3/0

Prerequisite: Graduate standing or instructor permission. Public administration and related areas of public policy: personnel; comparative and historical aspects; public budgeting; organizational structure; agency management; decision making, evaluation, and policy analysis; ethical issues and administrative law.
Equivalent Course: PSC 500

PAD 501 COMPARATIVE PUBLIC ADMINISTRATION

3, 3/0

Prerequisite: Graduate standing or instructor permission. Cross-cultural, cross-national, and cross-institutional survey of public administration organizations and practices around the world. Examination of administrative systems of northern nation-states and the processes of administrative change in post-Communist and southern nation-states; evolution of administration; structure of administrative systems; personnel; budgeting; ethics and legal frameworks; role of administration in economic development; transfer of administrative skills; regional and international administrative organizations; theoretical approaches and methodological issues in understanding similarities and differences in administrative behavior.

PAD 502 ADMINISTRATIVE LAW

3, 3/0

Prerequisite: 6 credits of PAD graduate courses or instructor permission. Selected topics in administrative law examined and analyzed in depth.

PAD 503 INTRODUCTION TO WRITING FOR PUBLIC AND NONPROFIT ORGANIZATIONS

3, 3/0

Prerequisites: Graduate standing. Focus on the writing standards necessary in the fields of public and non-profit organizations: the processes used for planning, writing, editing, revising and analyzing professional papers, reports and digital documents.

PAD 540 U.S. PUBLIC POLICY

3, 3/0

Prerequisites: Graduate standing. Policymaking and policy analysis in the United States. Topics include the policymaking process, policymaking paradigms, the policy cycle, examination of policymaking actors. A focus on real world applications through case studies and contemporary readings.

PAD 560 THE AGING NETWORK

3, 3/0

Prerequisites: Graduate standing or instructor permission. Comprehensive overview of national and state policies, programs, and services for older adults delivered through the aging network, a collection of non-profit and public sector agencies.

PAD 587 TOPICS COURSE

1-4, 1/0

Prerequisite: Graduate standing or instructor permission. In-depth examination of rapidly and significantly changing disciplinary issues, topics, or practices; offered occasionally.

PAD 588 GRADUATE INTERNSHIP

1-6, 0/0

Field experiences that supplement departmental academic offerings; geared to students' interests. Faculty intern supervisor and department chair permission necessary.

PAD 590 INDEPENDENT STUDY

1-3, 0/0

Equivalent Course: PSC 590

PAD 601 PUBLIC BUDGETING

3, 3/0

Prerequisites: Graduate status. Introduction to the principles and practices used by federal, state, and local governments in budgeting. Examination of revenue sources, borrowing, debt management, regulations, reporting, and strategic budgetary planning.

PAD 602 COMPARATIVE PUBLIC POLICY

3, 3/0

Prerequisites: PAD 500. Public policy in advanced industrialized democracies from a comparative perspective. Topics include theories of policy-making and comparative inquiry, policy processes, policy networks, policy content, policy convergence and disparities, transatlantic policy-making architecture and global governance. Students work in teams with public administration students in Romania and the UK in a simulation of a public policy challenge – outsourcing of publically-supplied services - which governmental decision-makers commonly confront in the advanced industrialized democracies.

PAD 603 NGO MANAGEMENT & INTERNATIONAL DEVELOPMENT

3, 3/0

Prerequisites: Graduate standing or instructor permission. International development and non-governmental organizations (NGO); international development (ID) NGO operation, structure and procedures; IDNGO management; IDNGO relations with government; IDNGO relations with donor agencies; opportunities and challenges of IDNGO; and IDNGO effectiveness, influence, and new challenges

PAD 604 NONPROFIT MANAGEMENT AND GOVERNANCE

3, 3/0

Prerequisites: Graduate Standing and Admission to the MPA Program. Examination of nonprofit (third-sector) organizations and their role in society; management issues including strategic leadership, governance, organizational attributes, accountability, and ethics. Primary emphasis on U.S. organizations, with consideration of this sector's increasingly global nature.

PAD 605 INTERNATIONAL PUBLIC MANAGEMENT AND SERVICE

3, 3/0

This course examines areas of public management, public service, and public-private partnerships as it relates to the US federal government, international government organizations (IGOs), and the global arena

PAD 607 CITY AND COUNTY MANAGEMENT

3, 3/0

Prerequisites: PAD 601 Public Budgeting. City and county management in the United States, with particular focus on New York State. Topics include principal forms of local government in the US and NYS, interactions among officials and citizens, service delivery, economic development, and financial principles and budgeting.

PAD 608 INTERGOVERNMENTAL RELATIONS

3, 3/0

Prerequisites: PAD 500. The federal system of government, intergovernmental relations, and intergovernmental management. Covers the constitutional basis for American federalism; the evolution of American federal relations; policy-making in the American system; fiscal federalism; role of local and state governments; cooperation and conflict in managing the delivery of public services; and contemporary challenges. Offered bi-annually, Spring only.

PAD 640 HUMAN RESOURCE MANAGEMENT IN PUBLIC AND NONPROFIT ORGANIZATIONS

3, 3/0

Prerequisites: PAD 500. Knowledge and skills necessary in Human Resource Management for public and nonprofit organizations. Factors examined include: defining public and nonprofit organizations, human resource management functions and principles, diversity and cultural competence, human resource management applications, current issues and future trends.

PAD 643 SUPERVISION IN THE HUMAN SERVICES

3, 3/0

Prerequisite: Graduate status or instructor permission. Roles and functions of supervisors in a variety of work settings; supervisory role in coordinating agency functions and meeting clients' needs; worker role and responsibilities; leadership, organizational, and systems theory; application of theory to practice situations.

Equivalent Course: SWK 643

PAD 645 PROGRAM PLANNING IN NON-PROFIT ORGANIZATIONS

3, 3/0

Use of data for program planning in non-profit organizations. Students design a study pertinent to non-profit management.

Equivalent Course: SWK 645

PAD 646 STRATEGIC PLANNING FOR PUBLIC AND NONPROFIT ORGANIZATIONS

3, 3/0

Prerequisites: Graduate Standing and Admission to the MPA Program. Theory and practice of strategic planning and management for the public and nonprofit sectors; conceptual framework for developing, managing, and evaluating the strategic planning process; development of strategic management skills supporting decision making and goal achievement.

PAD 647 THE NONPROFIT AND VOLUNTARY SECTOR

3, 3/0

Prerequisites: Graduate Standing and Admission to the MPA Program. History of the voluntary, philanthropic and nonprofit sectors and the role they play in American and International society; history, structure and theoretical (economic, political, philosophical and social) basis for nonprofit and voluntary sectors; interdisciplinary and comparative perspectives of this evolving and complex sector.

PAD 648 NONPROFIT GRANTS MANAGEMENT AND FUND DEVELOPMENT

3, 3/0

Prerequisites: Graduate Standing and Admission to the MPA Program. This course is designed to teach students about topics and challenges in resource development for nonprofit organizations. This course will focus on detailed examination of the grant seeking process and developing an overall fundraising strategy. Students will prepare an actual grant proposal and write a fundraising plan.

PAD 650 INTRODUCTION TO HEALTH POLICY AND MANAGEMENT

3, 3/0

Prerequisites: PAD 500. Examines topics in the study of health and health care delivery in the United States including distribution of health and disease in society; historical developments in public health and health management; quality and accessibility of health care services; organization of the U.S. health care system; stakeholders and behaviors within the health policy network; comparison of the U.S. health care system with other advanced industrialized societies; and the state of play in health care reform.

PAD 680 RESEARCH METHODS IN PUBLIC ADMINISTRATION AND NONPROFIT MANAGEMENT

3, 3/0

Prerequisite: Graduate status or instructor permission. Design, execution, and interpretation of research for public and nonprofit managers. Quantitative and qualitative research methods; constructing and testing hypotheses; data collection and analysis; use of SPSS, ethical consequences of social science research; preparation of a research report.

PAD 681 DATA ANALYSIS AND PRESENTATION

3, 3/0

Prerequisite: PAD 680 or PAD 689 or instructor permission. Preparation for advanced research and data analysis in public administration and nonprofit management. SPSS, descriptive and inferential statistics, advanced EndNote, research design for PAD 690 Master's Project, IRB application for human subjects' protection, poster presentation of MPA project proposal.

PAD 685 PERFORMANCE-BASED MANAGEMENT IN THE PUBLIC SECTOR

3, 3/0

Prerequisites: PAD 680 and three additional PAD graduate credit hours or instructor permission. The rationale behind performance-based management (PBM) in the public sector; practical and theoretical research-methodologies; data description and preparation for hypothesis testing; conceptualizing quantitative models; modeling causal linkages; interpreting findings; developing performance recommendations and implementation; analyzing the gap between performance theory and practice; analysis of case studies using PBM in government. Offered each spring semester.

PAD 688 LEADERSHIP IN PUBLIC AND NONPROFIT ORGANIZATIONS

3, 3/0

Prerequisites: Graduate Status. A comprehensive foundation for understanding the nature of leadership in public and nonprofit organizations. Theoretical and practical knowledge; readings in leadership; historical studies; practical skills in leading public and nonprofit organizations. Improving leadership capabilities and developing leadership styles in public or nonprofit organizations.

PAD 690 MASTER'S PROJECT

3, 0/0

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

Equivalent Course: PSC 690

PAD 700 MIGRATION POLICY

3, 3/0

Prerequisites: Graduate standing and admission to the MPA program. Domestic and international challenges of migration; historical context; dilemmas faced by governments, IGOs, and INGOs in addressing population movement; and regional challenges. Special emphasis on U.S. migration policy.

PAD 701 ADMINISTRATIVE ETHICS

3, 3/0

Prerequisites: PAD 500. Public and nonprofit management and organizational theories, policies and practices; public and nonprofit organizational structures; distinctions and similarities in mission, values, and cultures. Effective management and leadership in public and nonprofit organizations; the political environment, power, and policy affecting public and nonprofit management.

PAD 704 HUMAN RIGHTS AND HUMANITARIAN POLICY

3, 3/0

Prerequisites: Graduate standing and admission to the MPA program. International human rights and humanitarian assistance covering legal aspects and major practical and policy considerations.

PAD 712 MANAGING PROGRAM EVALUATION

3, 3/0

Prerequisite: Graduate standing or instructor permission. Management and technical skills required for program evaluation in the public and private sectors; establishing evaluation standards and criteria; developing evaluation instruments and designs; statistical analysis of evaluation data; computer-based statistical analyses; report preparation and follow-up studies.

Equivalent Courses: BUS 712, SPF 712, SWK 712

PAD 715 SURVEY METHODS AND DESIGN

3, 3/0

Prerequisites: PAD 680. Design, execution, analysis and interpretation of surveys for public and nonprofit managers. Ethics of survey work; constructing and testing hypotheses; questionnaire design; survey administration and data collection; data coding; use of survey software; preparing a survey administration methodology and questionnaire. Offered every other spring.

PAD 721 THESIS/PROJECT CONTINUATION

0, 0/0

PAD 722 THESIS/PROJECT EXTENDED

0, 0/0

PAD 735 PUBLIC ORGANIZATIONS

3, 3/0

Prerequisite: Graduate standing or instructor permission. Public and nonprofit management and organizational theories, policies, and practices. History of public and nonprofit management systems; public and nonprofit organizational structures; distinctions and similarities in mission, values, and cultures; effective management and leadership in public and nonprofit organizations; the political environment, power, and policy affecting public and nonprofit management; organizational goals and effectiveness; planning, strategy, and decision making in the public and nonprofit sectors.

Safety Studies (SAF)

SAF 560 DRIVER AND TRAFFIC SAFETY EDUCATION

6, 6/30

Prerequisites: Acceptable driving record; valid New York State driver's license; minimum of two years' driving experience. Classroom and behind-the-wheel instruction; instructional methods/techniques; setting up approved programs; three-hour pre-licensing course content; theory and maintenance of the automobile; devices and aids for teaching in the classroom and automobile. Successful completion satisfies State Education Department requirements for provisional approval to teach driver and traffic safety education in all secondary schools, colleges, and universities; also qualifies an individual to teach in a commercial driving school.

SAF 565 TRENDS AND PROBLEMS IN DRIVER AND TRAFFIC SAFETY EDUCATION

3, 3/0

Prerequisites: SAF 417 and SAF 425. Teaching, administration, and supervision of driver education and traffic safety; programs, methods, and materials; resource people and agencies; critical analysis of existing procedures; discussion of problems. Lectures and/or field trips for expert information from the field. Required for permanent approval of driver education instructors.

SAF 590 INDEPENDENT STUDY

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

SAF 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

Science (SCI)

SCI 501 HISTORY OF SCIENCE FOR SCIENCE TEACHERS

3, 3/0

Historic development of major scientific discoveries and achievements within a narrow range that directly impacts the teaching of science. Contextual forces that affect science discovery. Contributions from other disciplines such as mathematics, technology, navigation, military actions and engineering.

SCI 502 SECONDARY SCIENCE EDUCATION

TEACHING: THEORY, CONTENT AND PEDAGOGY

3, 2/0

Prerequisites: SCI 545 or EDU 609 or equivalent; may be taken concurrently. Acceptance into the graduate program. Use of inquiry-based teaching techniques in middle and high school science classrooms to develop candidates' science teaching skills. Current directions of research in science education. Teaching, curriculum design and lesson planning strategies and techniques, classroom management, lab safety, science resources, the nature of science, assessment, unit and lesson planning and professional dispositions for teachers.

SCI 521 LABORATORY TECHNIQUES FOR ELEMENTARY SCHOOL TEACHERS

3, 3/0

Appropriate laboratory exercises designed to acquaint the elementary teacher with the subject matter, laboratory equipment, and techniques necessary to effectively teach elementary science.

SCI 527 CURRENT TOPICS IN SCIENCE

3, 3/0

Prerequisites: 6 credit hours each in two science areas. Implications of science research for present and future living; implications of research in science for the secondary school science curriculum.

SCI 540 LOCAL ENVIRONMENTAL PROBLEMS SEMINAR

3, 3/0

In-depth discussions of environmental problems on the Niagara Frontier by local experts, designed to supply in-service science teachers and others concerned with the local environment with current local environmental information.

SCI 545 LITERACY FOR TEACHING SCIENCE

3, 2/2

Prerequisites: Acceptance into a graduate science teacher degree program. Study of literacy related to secondary science. Promotion of literacy; action research project on identifying literacy levels of students; planning literacy activities based on data collection.

SCI 587 TOPICS IN SCIENCE EDUCATION

1-6, 1/0

In-depth examination of important disciplinary issues, topics, or practices in science education; offered occasionally.

SCI 588 TOPICS COURSE

3, 3/0

SCI 590 INDEPENDENT STUDY

1-3, 0/0

SCI 628 SEMINAR IN SECONDARY SCIENCE EDUCATION

3, 3/0

Recent 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; issues identified by students enrolled in class.

**SCI 632 CURRICULAR TRENDS IN SCIENCE
TEACHING IN THE SECONDARY SCHOOL**

3, 3/0

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

SCI 650 CURRICULAR RESEARCH TOPICS IN SCIENCE

3, 3/0

Prerequisites: Acceptance into M.S.ED: Science Education graduate program. Nature of science educational research: problem analysis; descriptive and inferential statistics; experimental design; strategy of historical, descriptive, and experimental studies. Analysis of contemporary educational research.

SCI 664 TEACHING SCIENCE WITH TECHNOLOGY

3, 2/3

Prerequisite: Acceptance to the graduate science education program. Development and integration of a variety of visual and audio technologies for the creative enhancement of visual and auditory communication in the science classroom. Specialized technology needs of science teachers.

**SCI 677 INITIAL MIDDLE SCHOOL SCIENCE
TEACHING EXPERIENCE**

6, 0/0

Prerequisites: EDU 609, EXE 500, SCI 502, SCI 545, SCI 664 and SPF 503. Assignment to a supervised middle school science teaching placement for five full days a week for 8 consecutive weeks. Candidates effectively demonstrate content knowledge; pedagogical preparation, instructional delivery; classroom management; knowledge of student development. They collaborate with school professionals and implement reflective practice.

**SCI 678 INITIAL HIGH SCHOOL SCIENCE TEACHING
EXPERIENCE**

6, 0/0

Prerequisites: EDU 609, EXE 500, SCI 502, SCI 545, SCI 664 and SPF 503. Assignment to a supervised high school science teaching placement for five full days a week for 8 consecutive weeks. Candidates effectively demonstrate content knowledge; pedagogical preparation, instructional delivery; classroom management; knowledge of student development. They collaborate with school professionals and implement reflective practice.

SCI 679 SEMINAR IN SCIENCE EDUCATION

1, 1/0

Prerequisites: Acceptance into M.S. ED: Science Education graduate program. SCI 677 and SCI 678 taken as co-requisites. Taken simultaneously with student teaching. Supplements student teaching courses in areas connecting pedagogical theory with in-class experiences and practice.

SCI 685 EVALUATION IN SCIENCE EDUCATION

3, 3/0

Prerequisite: 6 credit hours of graduate-level coursework. Philosophy of evaluation as applied to science education; models of evaluation; techniques used in the practical application of the models; examples and procedures directly related to science teaching.

SCI 690 MASTER'S PROJECT

3, 3/0

A study undertaken by one or more individuals on a problem of special interest submitted in acceptable form according to directions given by the Earth Sciences and Science Education Department.

**SCI 694 RESEARCH METHODS AND TECHNIQUES IN
SCIENCE EDUCATION**

3, 3/0

Prerequisite: 9 credit hours of graduate-level coursework in science or science education. Nature of educational research: problem analysis; descriptive and inferential statistics; experimental design; strategy of historical, descriptive, and experimental studies. Recommended for students planning educational research projects or theses.

SCI 695 MASTER'S THESIS

3, 0/0

SCI 721 THESIS/PROJECT CONTINUATION

0, 0/0

SCI 722 THESIS/PROJECT EXTENDED

0, 0/0

SCI 795 MASTER'S THESIS

3, 0/0

Individual investigation of an original problem submitted in acceptable form according to directions given by the Graduate School.

Social & Psychol Found of Ed (SPF)

SPF 500 MULTICULTURAL EDUCATION

3, 3/0

Cultural foundations of education; application of relevant findings of the social sciences to problems and issues of education in culturally plural (multiethnic) settings.

SPF 503 EDUCATION PSYCHOLOGY

3, 3/0

Psychological theories and principles of teaching and learning and their application to the classroom; effects of student and classroom characteristics on effective instruction; utilization and interpretation of assessments of learning.

**SPF 520 EDUCATIONAL STATISTICS I (DESCRIPTIVE
AND INFERENTIAL)**

3, 3/0

Basic statistical concepts and their application to inferential statistics. Students develop a statistical frame of reference in dealing with educational and psychological problems.

SPF 525 PHILOSOPHY OF EDUCATION

3, 3/0

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

SPF 528 HUMAN RELATIONS

3, 3/0

Intergroup problems relating to race, sex, religion, national origin, etc.; dividing and integrating factors affecting communications and understanding between individuals and within/between groups.

SPF 529 ADOLESCENT PSYCHOLOGY

3, 3/0

Characteristics and problems of adolescents; relationship of adolescent behavior to earlier development; special provisions of the early secondary school for this age group.

SPF 546 CHILD ABUSE AND NEGLECT: SCHOOL AND COMMUNITY COOPERATION

3, 0/0

Role of the teacher in relation to child abuse and neglect; nature and causation of abuse and neglect; workings of the current child protection system and the specific role of the teacher in that system; broader role of the school in remedying child maltreatment.

SPF 556 GROUP DYNAMICS IN EDUCATION

3, 3/0

Prerequisite: Instructor consultation recommended. Theory and practice of group procedures in the school; development of understandings, skills, and attitudes conducive to successful group leadership and participation; group study and evaluation; experiential groups; the school group in its sociological, psychological, and philosophical setting.

SPF 590 INDEPENDENT STUDY

1-6, 0/0

SPF 594 THEMES AND ISSUES IN URBAN EDUCATION

3, 3/0

The contemporary social contexts of urban education; theory, schooling, and strategies for improved ways of teaching in relation to the community are explored.

SPF 596 GRADUATE CONFERENCE

1-3, 1/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

SPF 598 MICROCOURSE

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

SPF 602 MANAGEMENT: ADMINISTRATIVE BEHAVIOR

3, 3/0

Prerequisite: Graduate status. Basic administrative theories; managerial behavior as expressed through conceptual, human, and technical skills. Observation of field managers.

Equivalent Course: ADE 602

SPF 603 HUMAN RESOURCE MANAGEMENT

3, 3/0

Personnel-related functions and the utilization of resources to support these functions within organizations: design of in-service training programs; supervisory skills for enhancing motivation and productivity; employee benefit packages; grievance and labor relations plans; proposals to obtain funding and training.

Equivalent Courses: ADE 603, BUS 603, SWK 603

SPF 611 EVALUATION IN EDUCATION

3, 3/0

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.

SPF 612 DATA ANALYTICS IN EDUCATION

3, 3/0

Prerequisite: Instructor permission. Developing and conducting school and district data analytics processes. Building a data-driven culture for improving instruction, establishing learning goals, and meeting school, district, and government objectives. Using education data mining and learning analytics strategies for informing goal setting, improving practice, and reporting at all levels of education. Offered annually in the fall.

SPF 615 FOUNDATIONS OF SOCIAL CHANGE

3, 3/0

Prerequisites: Graduate Student Status. An overview of social justice perspectives on social change. Transformations within the global economy have contributed to new structural and cultural expressions of injustice and have inspired interest in alternative policies and frameworks that can address these developments. This course provides students with an in-depth examination of current conceptualizations of social change and practical alternatives to contemporary economic, institutional, and nature-society relations from a social justice perspective. Offered every semester.

SPF 619 PARENT EDUCATION AND COUNSELING

3, 3/0

Parent education counseling approaches for schools and other settings: effective parent relations; fundamentals of effective parenting; parenting skills; program development and counseling procedures for various settings and populations; ways to involve parents in school/agency activities.

SPF 632 METHODS AND TECHNIQUES OF DATA ANALYTICS RESEARCH

3, 3/0

Prerequisite: 9 credits of graduate courses or instructor permission. Research concepts and terms; identifying and addressing issues in industry; sources of information and data; choosing methods, tools, and techniques for professional sciences data analytics; interpretation of findings; organizing, writing, and presenting a professional report. Field experience. Offered annually in the spring.

SPF 641 SOCIAL FOUNDATIONS OF EDUCATION

3, 3/0

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

SPF 646 SEX EDUCATION AND COUNSELING

3, 3/0

Fundamentals of human sexuality throughout the life cycle; sex education methods and materials for various age groups and special populations; sex counseling strategies; parent-community involvement. Designed for teachers and other helping professionals.

SPF 665 INSTRUCTIONAL DESIGN AND ASSESSMENT

3, 3/0

Prerequisite: Graduate Status. Designing instruction to achieve specific learning outcomes; systematic models that facilitate planning, developing, revising, and evaluating instruction; planning instruction that incorporates educational technology.

SPF 686 SEMINAR IN INNER-CITY EDUCATION

3, 3/0

Nature and scope of education in the inner city; social research informing public policy on education of minorities; culture of minority children and the inner-city school; role of the teacher and the administrator; curriculum development and the needs of inner-city students; quest for educational equity; community/parent involvement.

SPF 688 LEADERSHIP IN ORGANIZATIONS

3, 3/0

Prerequisite: BUS/EDF/PSY 715. Theories of leadership; organizational contexts and culture for leadership; the role of the leader in organizations; leadership competencies for organizational effectiveness; the leader's role in mentoring and coaching for effective performance; the leader's role in achievement of organizational mission and goals.

Equivalent Courses: ADE 688, BUS 688

SPF 689 METHODS AND TECHNIQUES OF EDUCATIONAL RESEARCH

3, 3/0

Prerequisites: Graduate status. Background of educational research; selection and development of research problems; sources of information and data; methods, tools, and techniques; collection, treatment, application, and interpretation of research data; organizing and writing a research report.

Equivalent Courses: BME 601, MUL 689

SPF 690 MASTER'S PROJECT

1-3, 3/0

A study undertaken by one or more individuals on a problem of special interest submitted in acceptable form according to directions from the Educational Foundations Department.

SPF 695 MASTER'S THESIS

3, 0/0

An individual investigation of an original problem submitted in acceptable form according to directions given by the Graduate School.

SPF 712 MANAGING PROGRAM EVALUATION

3, 3/0

Management and technical skills required for program evaluation in the public and private sectors; establishing evaluation standards and criteria; developing evaluation instruments and designs; statistical analysis of evaluation data; computer-based statistical analyses; report preparation and follow-up studies.

Equivalent Courses: BUS 712, PAD 712, SWK 712

SPF 715 MANAGEMENT PRACTICES AND TECHNIQUES

3, 3/0

Prerequisites: PSY 101 Grade of C, and instructor permission. Major management theories and factors affecting organizational systems; managing conflict and negotiating agreements; effective interpersonal skills for managers; defining problems and generating creative alternatives; types and sources of information needed by managers; relation of leadership style to staff productivity and development; relating effectively to upper-level management.

Equivalent Course: ADE 715

SPF 721 THESIS/PROJECT CONTINUATION

0, 0/0

SPF 722 THESIS/PROJECT EXTENDED

0, 0/0

Social Studies Education (SSE)

SSE 500 INTRODUCTION TO SOCIAL STUDIES EDUCATION

3, 3/0

Classroom and field experiences designed to help students make better-informed decisions regarding careers in secondary social studies education. The definition and purpose of social studies; current research trends in social studies education.

Required for social studies education majors. Offered annually.

Equivalent Course: SST 500

SSE 502 TEACHING SOCIAL STUDIES

3, 3/0

This course must be taken concurrently with a History content course designated by the department, except for non-majors. Social studies content and methodology; trends in curriculum; evaluation; instructional resources.

SSE 513 SEMINAR IN SECONDARY SOCIAL STUDIES

3, 3/0

Review of the literature and curriculum of the social studies; philosophical, historical, and sociological aspects of the social studies. Introductory course for secondary social studies graduate students. Required for all social studies students.

SSE 524 SECONDARY SOCIAL STUDIES INSTRUCTION

1, 1/0

Prerequisite: Exceptional education or secondary education major. Teaching methods and materials used in secondary social studies education; laboratory sessions with social studies materials; construction of tests and evaluative instruments.

SSE 540 BEGINNING TEACHER MENTORING SEMINAR IN THE SOCIAL STUDIES

3, 3/0

Application of the theory learned in teacher preparation experiences to the practice of classroom teaching; application of educational theory in the first-year classrooms; reflective activities to improve classroom practices in light of a pedagogical theory; utilization of teacher teams to improve classroom practices and develop problem-solving strategies. Review of theory learned in certification programs. Designed to support first-year social studies teachers.

SSE 588 TOPICS COURSE

3, 3/0

SSE 590 INDEPENDENT STUDY

1-3, 0/0

Prerequisite: Instructor permission. Independent inquiry into a specific topic area of social studies education.

SSE 595 RESEARCH METHODS IN SECONDARY SOCIAL STUDIES

3, 3/0

Development of research problems; resources and tools of educational research; research methods and preparation of a research paper; assessment of national social studies curriculum projects.

SSE 603 MIDDLE SCHOOL SOCIAL STUDIES INSTRUCTION

3, 3/0

Prerequisites: Cumulative 3.0 GPA, SSE 500, and SSE 524. The purposes, goals, curricular materials, methodologies, and instructional techniques of middle school social studies education. Developing competency in designing and practicing instructional strategies drawn from methodologies and of the curricular materials of middle school social studies education and the disciplines of history and the social sciences. Offered every semester.

Equivalent Course: SST 603

SSE 605 TOPICS FOR IN-SERVICE EDUCATION

1-6, 0/0

Prerequisite: Provisional/initial certification. Topical seminar to meet in-service needs. Topics may be selected from any area of instructional and curricular concerns appropriate for the secondary school. Lectures, discussions, microteaching, and projects according to the topics selected. 1-6 credit hours, commensurate with the nature of the topic and the extent of the study. Graduate credit for any secondary education program.

SSE 610 THE STUDY OF PEACE AND WAR IN THE SECONDARY SCHOOL

3, 3/0

Possible approaches for achieving peace, strategies for teaching them, and criteria for judging them. Requires the teaching of a unit on peace at a site chosen by the student and instructor.

SSE 632 TEACHING WITH HISTORIC PLACES

3, 3/0

Prerequisites: Graduate status. Provides a foundation for those seeking to develop and implement educational materials related to historic places. Service-learning at the sites that famous people lived in, where historical events took place, and their teaching potential. Using one historic site as a case study; touring and meeting representatives to find out more about the historic place; determining the educational needs of the facility; creating curricular materials appropriate for the site.

Equivalent Course: MST 632

SSE 640 SOCIOHISTORICAL CONTEXT AND ISSUES OF DIVERSITY IN U.S. SCHOOLING

3, 3/0

Issues of diversity, multiculturalism, equity, justice, and participatory democracy in society, schools, and classrooms; historical development of multicultural education; response of society, schools, and teachers to calls for multicultural education; in-depth study and analysis of a multicultural program.

SSE 655 SOCIAL STUDIES LABORATORY

3, 3/0

Prerequisite: Graduate status; SSE 513 recommended. This course must be taken concurrently with a history content course designated by the department, except for non-majors. Interaction with fellow professionals and development of skills to design, implement, and evaluate curriculum materials as required by newer approaches to the social studies.

SSE 670 EXPERIENCES IN SIMULATION AND ROLE PLAYING FOR THE SOCIAL STUDIES TEACHER

1-3, 1/0

Prerequisite or corequisite: SSE 513. Techniques of simulation and role playing: creating models of social situations and translating them into dynamic simulation and role-playing episodes.

SSE 671 TECHNOLOGY IN THE SOCIAL STUDIES CLASSROOM

3, 3/0

Familiarizes students with relevant technology, software, and methodology for their use in the social studies classroom. The course will allow students to be scholar-practitioners in this field focusing on both researched based best practices and practical applications to use in a P-12 setting. Offered fall semester.

SSE 688 INTERNSHIP

1-3, 0/0

Prerequisites: Graduate status; 6 credit hours of graduate coursework in major courses of history and social studies education; minimum cumulative GPA of 3.0; minimum 3.0 GPA in major and background of courses and experience within area of interest. Guided and supervised field experiences to complement the student's academic program. Approval of the placement from student's adviser and department chair.

SSE 689 RESEARCH METHODS AND TECHNIQUES IN SECONDARY SOCIAL STUDIES

3, 3/0

Prerequisites: One social studies elective. Quantitative and qualitative research in the social studies; development of research problems; data collection in the social studies; format of a research paper.

SSE 690 MASTER'S PROJECT

3, 3/0

Prerequisite: Written approval of faculty adviser and department chair. Research or investigation of a particular problem, planned and carried out under the guidance of a qualified member of the graduate faculty, submitted in acceptable form according to directions given by the History and Social Studies Education Department.

SSE 695 MASTER'S THESIS

3, 0/0

SSE 721 THESIS/PROJECT CONTINUATION

0, 0/0

SSE 722 THESIS/PROJECT EXTENDED

0, 0/0

SSE 730 PRACTICUM: INNOVATIONS IN THE SOCIAL STUDIES

3, 3/0

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

SSE 795 MASTER'S THESIS

1-6, 0/0

Individual investigation of an original problem submitted in acceptable form according to directions given by the Graduate School.

Social Work (SWK)

SWK 519 COMMUNICATION FOR LEADERS AND MANAGERS

3, 3/0

Theories of effective communication; face-to-face communication; group problem solving; public speaking; power and leadership in organizational settings; persuasive messages and campaigns that public relations practitioners design for a variety of publics. Designed for graduate students interested in improving their workplace communication skills. Equivalent Courses: BUS 519, COM 519

SWK 546 CHILD ABUSE AND NEGLECT: SCHOOL AND COMMUNITY COOPERATION

3, 3/0

Prerequisites: Graduate status and experience in school/ school-related setting or instructor permission. Role of the teacher in cases of child abuse and neglect; nature and causation of abuse and neglect; workings of the current child protection system; specific role of the teacher in that system; broader role of the school in remedying and preventing child maltreatment.

SWK 590 INDEPENDENT STUDY

1-3, 0/0

SWK 594 GRADUATE WORKSHOP

1-3, 0/0

Graduate Workshop.

SWK 602 MANAGEMENT: ADMINISTRATIVE BEHAVIOR

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

SWK 603 HUMAN RESOURCE MANAGEMENT

3, 3/0

Personnel-related functions and the utilization of resources to support these functions within organizations: design of in-service training programs; supervisory skills for enhancing motivation and productivity; employee benefit packages; grievance and labor relations plans; proposals to obtain funding and training.

Equivalent Course: BUS 603

SWK 643 SUPERVISION IN THE HUMAN SERVICES

3, 3/0

Prerequisite: Graduate status. Roles and functions of supervisors in a variety of work settings; supervisory role in coordinating agency functions and meeting clients' needs; worker role and responsibilities; leadership, organizational, and systems theory; application of theory to practice situations.

Equivalent Course: PAD 643

SWK 645 PROGRAM PLANNING IN THE HUMAN SERVICES

3, 3/0

Use of data for program planning in human service organizations. Students design a study pertinent to human services management.

Equivalent Course: PAD 645

SWK 690 MASTER'S PROJECT

3, 3/0

Study undertaken by one or more individuals on a problem of special interest submitted in acceptable form according to directions given by the Social Work Department.

SWK 695 MASTER'S THESIS

3, 0/0

SWK 712 MANAGING PROGRAM EVALUATION

3, 3/0

Prerequisite: Graduate standing or instructor permission. Management and technical skills required for program evaluation in the public and private sectors; establishing evaluation standards and criteria; developing evaluation instruments and designs; statistical analysis of evaluation data; computer-based statistical analyses; report preparation and follow-up studies.

Equivalent Courses: BUS 712, PAD 712, SPF 712

SWK 715 MANAGEMENT PRACTICES AND TECHNIQUES

3, 3/0

Prerequisites: PSY 101 Grade of C, and instructor permission. Major management theories and factors affecting organizational systems; managing conflict and negotiating agreements; effective interpersonal skills for managers; defining problems and generating creative alternatives; types and sources of information needed by managers; relation of leadership style to staff productivity and development; relating effectively to upper-level management.

Equivalent Courses: ADE 715, SPF 715

SWK 721 THESIS/PROJECT CONTINUATION

0, 0/0

SWK 722 THESIS/PROJECT EXTENDED

0, 0/0

Sociology (SOC)

SOC 501 CONTEMPORARY SOCIAL PROBLEMS

3, 3/0

Prerequisite: SOC 100. Problem areas of American society; sources of information; techniques for discovering and analyzing social problems; analysis of several major problems, selected in accordance with student needs and interests.

SOC 505 TECHNOLOGY, SOCIETY, AND SELF

3, 3/0

Prerequisite: SOC 100. Interplay between society, technology, and science; social organization of research; social factors fostering research and development; consequences of science and technology for society, various institutions, subgroups within society, and individuals in society.

SOC 506 MINORITY GROUPS IN AMERICAN CULTURE

3, 3/0

Prerequisite: SOC 100. Current and historical sociocultural characteristics, experiences, and development of major religious, racial, and ethnic minorities; social conflict, current trends, and recent issues in minority-majority social relationships.

SOC 587 TOPICS IN SOCIOLOGY

1-4, 1/0

Examination of emerging disciplinary issues, topics, or practices; offered occasionally.

SOC 590 INDEPENDENT STUDY

1-3, 0/0

SOC 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

SOC 690 MASTER'S PROJECT

3, 0/0

SOC 695 MASTER'S THESIS

3, 0/0

SOC 721 THESIS/PROJECT CONTINUATION

0, 0/0

SOC 722 THESIS/PROJECT EXTENDED

0, 0/0

Spanish (SPA)

SPA 500 SPANISH LINGUISTICS AND PEDAGOGY

3, 3/0

Prerequisites: Graduate status. Exploration of the Spanish professional literature on applied linguistics and its implications for Spanish teaching and learning.

SPA 502 SEMINAR IN LATIN AMERICAN LITERATURE: SELECTED TOPICS

3, 3/0

Prerequisites: Graduate status or undergraduate senior with an average of B or better in upper-level Spanish courses and permission of instructor, department chair, and dean of Graduate School. In-depth treatment of a selected topic; analysis of selected works, with readings in history and literary criticism; research into specific problems.

SPA 516 LITERACY FOR SPANISH TEACHERS

3, 3/0

Prerequisites: Graduate status or instructor permission. Development of literacy in Spanish and proficiency in literacy-centered language teaching practices. Taught in Spanish.

SPA 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

SPA 602 SPANISH SOCIOLINGUISTICS AND PRAGMATICS

3, 3/0

Prerequisites: Graduate standing or instructor permission. Exploration of research and methodology in the study of Spanish sociolinguistics and pragmatics.

SPA 606 CONTEMPORARY CIVILIZATION AND CULTURES OF SPAIN

3, 3/0

Prerequisite: Must be admitted into Master of Science K-12 Foreign Language Teaching program, or instructor permission. Development of cultures in Spain since the country's emergence as a modern nation state; their implications for Spain's future within the European community.

SPA 609 CIVILIZATIONS AND CULTURES OF LATIN AMERICA

3, 3/0

Prerequisite: Must be admitted into Master of Science K-12 Foreign Language Teaching program, or instructor permission. Challenges faced by the emerging nations of Latin America from the nineteenth century to the present; emphasis on the relationships between these diverse cultures and the rest of the world.

SPA 617 DON QUIXOTE

3, 3/0

Prerequisite: Must be admitted into Master of Science K-12 Foreign Language Teaching program, or instructor permission. Cervantes' Don Quixote in its historical context; multiple levels of interpretive reading; questions of genre relationships.

SPA 631 CINEMA OF SPAIN

3, 3/0

Aspects of the cinema of Spain as a reflection of Spanish cultures; individual directors, periods of film production; influence of politics and culture on the cinema.

Speech Lang Path & Audiology (SLA)

SLA 510 SURVEY OF COMMUNICATION DISORDERS

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

Speech Language Pathology (SLP)

SLP 501 CLINICAL METHODS

2, 2/0

Prerequisite: Graduate status in speech-language pathology program; corequisite: SLP 515. Techniques used in the clinical management of speech, language, and swallowing disorders across cultures and throughout the life span; professional issues in speech-language pathology.

SLP 502 LANGUAGE ANALYSIS LABORATORY

1, 0/2

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

SLP 505 GRADUATE PRACTICUM IN AN EDUCATIONAL SETTING

6, 0/30

Prerequisites: Graduate status in speech-language pathology program; minimum grade of B in previous clinical practica; minimum of 48 hours of professional coursework; instructor permission; prerequisite or corequisite: SLP 424 or equivalent. Supervised clinical experience in an educational setting providing diagnosis and therapy for a variety of communication disorders. Meets the student teaching requirement for the New York State Education Certification of Teachers of the Speech and Hearing Handicapped.

SLP 511 NEURAL PROCESSES OF COMMUNICATION
3, 3/0

Pre-requisite: graduate status in the Speech-Language Pathology program. Basic concepts of neuroanatomy and neurophysiology as the foundation for diagnosis and treatment of communication and swallowing disorders of neurologic origin.

SLP 515 CLINICAL PRACTICUM
1-8, 0/0

Prerequisites: Graduate status in speech-language pathology program, SLP 501, and completion of 25 hours of supervised observation. Supervised on-campus clinical practicum for graduate students in speech-language pathology as necessary to meet state licensure and national certification requirements; policies and procedures of Buffalo State College Speech-Language-Hearing Clinic. Required for all graduate students prior to enrollment in SLP 505 or SLP 611.

SLP 516 DIAGNOSTIC PRINCIPLES AND PROCEDURES
2, 2/0

Prerequisite: Graduate status in speech-language pathology program. Exploration and implementation of diagnostic procedures in speech-language pathology. Emphasis is on the problem-solving principles and the importance of evidence-based and culturally appropriate practice in the clinical evaluation of individuals with communication and swallowing disorders.

SLP 518 EXTENDED APPLICATIONS IN COMMUNICATION SCIENCES AND DISORDERS
1, 0/2

Pre-requisite: graduate status in Speech-Language Pathology program. This lab will provide students with hands-on experience using various formal and informal assessment procedures, and with the diagnostic and therapeutic application of instrumentation commonly used in Communication Sciences and Disorders (CSD).

SLP 520 COMMUNICATION DISORDERS IN MULTICULTURAL POPULATIONS
3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

SLP 540 CHILDHOOD LANGUAGE DISABILITIES
3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

SLP 541 LANGUAGE DISORDERS: BIRTH TO AGE 5
3, 3/0

Prerequisites: Graduate status in speech-language pathology and a course in language development/disorders. Communicative and social interactions of children from birth to age 5; team approaches to the assessment of the communication patterns of infants, toddlers, and preschoolers from a range of culturally and linguistically diverse backgrounds; the development of appropriate intervention programs; theoretical, evidence-based, and practical applications.

SLP 580 RESEARCH METHODS IN SPEECH-LANGUAGE PATHOLOGY

2, 2/0

Prerequisite: Graduate status in speech-language pathology program. Research questions and methodologies used in communication disorders and sciences that include cultural and ethical considerations: quantitative and qualitative research models; literature review techniques; research-question formation; methods of data collection; critical analysis. Students formulate a research question in consultation with program faculty and review pertinent literature.

SLP 587 TOPICS COURSE
3, 3/0

In-depth examination of rapidly and significantly changing disciplinary issues, topics, or practices; offered occasionally.

SLP 590 INDEPENDENT STUDY
1-3, 0/0

Independent study arranged between a graduate faculty member and a student. See the Independent Study section of this catalog for the independent study policy.

SLP 594 GRADUATE WORKSHOP
1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

SLP 605 CONTEMPORARY ISSUES IN CLINICAL INTERACTIONS: FAMILIES AND CULTURE
2, 2/0

Prerequisite: Graduate status in speech-language pathology program. Multicultural considerations within the framework of family systems theory; working effectively with families from a variety of multicultural backgrounds; developing strategies for enhancing communication with families across diverse cultures; assessment and intervention techniques for various communication and swallowing disorders in multicultural populations; understanding relevant policies for multicultural speech-language pathology.

SLP 606 FLUENCY DISORDERS AND CLEFT PALATE
3, 3/0

Prerequisite: Graduate status in speech-language pathology program. Etiologic, psychologic, sociologic, clinical, and multicultural information relative to the assessment and treatment of individuals with dysfluent speech or disordered speech caused by cleft lip and/or palate; theoretical, evidence-based, and practical applications.

SLP 607 DYSPHAGIA ACROSS THE LIFE SPAN
2, 2/0

Prerequisites: Graduate status in speech-language pathology program, SLP 511 or equivalent. Congenital and acquired swallowing disorders, their neurological and physical bases, differential diagnoses, prevention, treatments, and associated cultural and ethical issues across the life span; theoretical, evidence-based, and practical applications.

SLP 608 NEUROMOTOR SPEECH DISORDERS AND DYSPHAGIA ACROSS THE LIFE SPAN

2, 2/0

Prerequisites: Graduate status in speech-language pathology program, SLP 511 or equivalent. Child and adult neuromotor speech disorders, including neurological bases, differential diagnoses, prevention, and treatments across the life span and with culturally and linguistically diverse populations; theoretical, evidence-based, and practical applications.

SLP 609 DISORDERS OF VOICE

2, 2/0

Prerequisite: Graduate status in speech-language pathology program. Nature, etiology, diagnosis, and intervention of voice disorders across the life span and in multicultural populations: theoretical, evidence-based, and practical applications.

SLP 610 EVALUATION AND TREATMENT OF PHONOLOGICAL DISORDERS

3, 3/0

Pre-requisite: graduate status in Speech-Language Pathology program. Various approaches to the evaluation and treatment of phonological disorders, including theoretical issues, evidence based assessment and treatment approaches, and cultural and linguistic issues.

SLP 611 EXTERNSHIP IN COMMUNICATION DISORDERS

3-12, 0/15

Prerequisites: Graduate status in speech-language pathology program; minimum grade of B in previous clinical practica; minimum of 48 hours professional coursework; instructor permission. Supervised clinical practicum in community speech-language-hearing clinics and/or hospitals providing diagnosis and therapy for a variety of communication disorders across the life span. Required for ASHA certification and NYS license in speech-language pathology. Required for all speech-language pathology majors.

Equivalent Course: BXE 628

SLP 615 AURAL REHABILITATION

3, 3/0

Prerequisites: Graduate status in speech-language pathology program, SLP 314 or equivalent. Effects of hearing loss on speech and language development, speech perception, and educational achievement; rehabilitative strategies, amplification devices, and communication options for the hearing impaired; characteristics and management of children with central auditory processing disorders; cultural and ethical considerations; theoretical, evidence-based, and practical applications.

SLP 618 SEMINAR IN LANGUAGE

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

SLP 621 AUGMENTATIVE AND ALTERNATIVE COMMUNICATION

2, 3/0

Prerequisite: Graduate status in speech-language pathology or exceptional education program. Needs of nonspeaking individuals across the life span and in multicultural populations; alternative and augmentative communication systems, techniques, and strategies; assessment and intervention strategies for alternative and augmentative communication; theoretical, evidence-based, and practical applications.

SLP 622 LANGUAGE DISORDERS OF SCHOOL-AGED INDIVIDUALS

3, 3/0

Prerequisite: Graduate status in speech-language pathology program. Culture-based approaches and procedures applied to assessment and intervention of language disorders of school-aged children; theoretical, evidence-based, and practical applications.

SLP 623 ACQUIRED LANGUAGE DISORDERS

3, 3/0

Prerequisites: Graduate status in speech-language pathology program, SLP 511 or equivalent. Acquired neurogenic language disorders in adults; differential diagnosis and treatment of the varieties of cognitive/communicative disorders associated with acquired brain damage, with consideration for cultural and linguistic background; theoretical, evidence-based, and practical applications.

SLP 624 SEMINAR IN AUDIOLOGY

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

SLP 625 ADVANCED TOPICS AND ISSUES IN COMMUNICATION SCIENCES AND DISORDERS

3, 3/0

Prerequisite: Graduate status in speech-language pathology program. In-depth examination of contemporary professional and clinical topics, and new and emerging issues in the field of communication sciences and disorders. Relevant, timely course content will vary to keep pace with current issues that have an impact on the discipline.

SLP 690 MASTER'S PROJECT

3, 3/0

Prerequisite: SLP 580 or equivalent. Study undertaken by one or more individuals on a problem of special interest submitted in acceptable written form according to guidelines provided by the Speech-Language Pathology Department.

SLP 695 MASTER'S THESIS

1-3, 0/0

Individual investigation of an original problem submitted in acceptable form according to guidelines provided by the Graduate School.

SLP 721 THESIS/PROJECT CONTINUATION

0, 0/0

SLP 722 THESIS/PROJECT EXTENDED

0, 0/0

Technology (TEC)

TEC 590 INDEPENDENT STUDY

1-3, 0/0

TEC 594 GRADUATE WORKSHOP

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

www.buffalostate.edu/graduateschool/documents/courselistings.pdf)

TEC 690 MASTER'S PROJECT

3, 0/0

TEC 695 MASTER'S THESIS

3, 0/0

TEC 721 THESIS/PROJECT CONTINUATION

0, 0/0

TEC 722 THESIS/PROJECT EXTENDED

0, 0/0

Technology Education (TED)

TED 501 TECHNOLOGY EDUCATION IN THE ELEMENTARY SCHOOL

3, 3/0

Planning, organizing, and constructing activities for the elementary school; use of a variety of materials; technology education in the elementary school; changing technological processes and their effect on society. For technology education and non-technology education majors.

TED 507 TECHNOLOGY EDUCATION FACILITY PLANNING AND MANAGEMENT

3, 3/0

Problems involved in planning new technology education facilities or 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; critique of an existing technology education laboratory.

TED 521 OCCUPATIONAL AND PRACTICAL ARTS EDUCATION FOR STUDENTS WITH SPECIAL NEEDS

3, 3/0

Prerequisite: Technology education, career and technical education, or exceptional education program major or instructor permission. Nature and needs of individuals with disabilities and the disadvantaged enrolled in occupational and practical arts education; curriculum development; evaluating work potential; identifying instructional resources and teaching methods and techniques; interpreting research; identifying the function of available vocational rehabilitation and occupational and practical arts education programs.

TED 531 ELEMENTS OF MANUFACTURING TECHNOLOGY

3, 0/3

Manufacturing technology systems; management; personnel; and production.

TED 540 CAREER AWARENESS IN TECHNOLOGY FOR THE ELEMENTARY SCHOOL

3, 3/0

Current developments in career education; role of the elementary school in career education; curriculum development and correlation techniques.

TED 590 INDEPENDENT STUDY

1-3, 3/0

TED 594 WORKSHOP

1-6, 1/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

www.buffalostate.edu/graduateschool/documents/courselistings.pdf)

TED 600 FOUNDATIONS IN TECHNOLOGY EDUCATION

3, 0/3

European and American antecedents of technology education; social and technological factors that make the technology education a major condition of culture; psychological and philosophical basis for teaching technology education. Required for technology education majors.

TED 615 POWER TECHNOLOGY

3, 0/3

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

www.buffalostate.edu/graduateschool/documents/courselistings.pdf)

TED 617 ELECTRONICS

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

www.buffalostate.edu/graduateschool/documents/courselistings.pdf)

TED 618 ELECTRONICS

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

www.buffalostate.edu/graduateschool/documents/courselistings.pdf)

TED 629 DRAFTING--PROBLEMS AND TECHNIQUES

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

www.buffalostate.edu/graduateschool/documents/courselistings.pdf)

TED 630 GRAPHIC ARTS

3, 3/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

www.buffalostate.edu/graduateschool/documents/courselistings.pdf)

TED 690 MASTER'S PROJECT

1-3, 3/0

Prerequisites: TED 600, BUS 601, BUS 602, and BUS 604.

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

TED 695 MASTER'S THESIS

1-6, 0/0

Prerequisites: TED 600, BUS 601, BUS 602, and BUS 604.

Individual investigation of an original problem submitted in acceptable form according to directions given by the Graduate School. Problem and procedure must be approved by the student's graduate adviser, the graduate advisory committee, and the department chair before the investigation is begun.

TED 701 SEMINAR IN TECHNOLOGY EDUCATION:
WRITING AND PUBLISHING

3, 3/0

Mechanics of writing and publishing, for those with a genuine desire and ability to express ideas in written form.

TED 702 SEMINAR IN THE PHILOSOPHY OF
TECHNOLOGY EDUCATION

3, 3/0

Critical examination of technology from a historical perspective: study of prevalent views and issues relative to technology; its meaning, characteristics, and interdisciplinary scope; its relation to science and its place in education.

TED 703 SEMINAR IN THE DEVELOPMENT OF
INSTRUCTIONAL MATERIALS

3, 3/0

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

TED 705 CAREER EXPLORATION IN TECHNOLOGY
FOR THE MIDDLE SCHOOL

3, 0/0

Student-teacher planning in career education for the middle school: curriculum development articulation methodology; developing instructional units of study for computer-based resource units.

TED 706 CAREER EXPLORATION IN TECHNOLOGY
FOR THE SECONDARY SCHOOL

3, 3/0

The evolution and potentiality of career education for adolescents; opportunities for participants to develop occupational cluster information banks, including instructional objectives, content, media, learning activities, and evaluation devices.

TED 721 THESIS/PROJECT CONTINUATION

0, 0/0

TED 722 THESIS/PROJECT EXTENDED

0, 0/0

Theater Arts (THA)

THA 590 INDEPENDENT STUDY

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

THA 690 MASTER'S PROJECT

3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

THA 695 THESIS

1-3, 0/0

See the Graduate Course Catalog (<http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf>)

THA 721 THESIS/PROJECT CONTINUATION

0, 0/0

THA 722 THESIS/PROJECT EXTENDED

0, 0/0

Urban Education (UED)

UED 617 CONTEMPORARY SOCIAL CONTEXTS OF
URBAN EDUCATION

3, 3/0

Prerequisites: Graduate Standing. The contemporary social contexts of urban education; theory, schooling, and strategies for improved ways of teaching in relation to the community are explored.

UED 625 PEDAGOGIES FOR THE URBAN CLASSROOM

3, 3/0

Prerequisites: Graduate Standing. Culturally responsive pedagogies and research that highlights effective instruction in urban educational environments. Emphasizes an emancipatory view of education, deconstructs dominant educational discourses, and investigates multiple literacies for culturally diverse populations.

UED 632 CRITICAL EDUCATION THEORY IN URBAN
EDUCATION

3, 3/0

Prerequisites: Graduate Standing. Overview and analysis of the relevant theoretical orientations used to examine the socio-historical condition of education, both its institutions and agents, within an urban context. Topics explored in this course include Critical Race Theory and Critical Urban Theory.

UED 655 SOCIAL ACTION: TEACHER AS AGENT OF
CHANGE

3, 3/0

Prerequisites: Graduate Standing. The politics of urban education—the forces that affect the urban classroom and the ways a teacher can navigate those forces to bring about change and sound educational outcomes.

ADMINISTRATION

- SUNY Buffalo State (p. 185)
- State University of New York (p. 185)

SUNY Buffalo State

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- Marshall A. Lichtman
- Stanley Litow
- Richard Socarides
- Carl Spielvogel
- Edward Spiro
- Cary F. Staller
- Nina Tamrowski
- Merryl Tisch

SUNY System Administration

Person	Title
Dr. Kristina M. Johnson	Chancellor Elect
Chancellor's Cabinet	To Be Announced

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- Anthropology Department (p. 186)
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- Art Conservation Department (p. 187)
- Biology Department (p. 187)
- Business Department (p. 187)
- Career and Technical Education (p. 188)
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- Higher Education Administration (p. 191)
- History and Social Studies (p. 191)
- Hospitality and Tourism Department (p. 191)
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- University College (p. 193)

Adult Education Department

Susan K. Birden, PHD, *University Of Oklahoma Norman Campus*, Professor (2001)

Geraldine M. Hura, PHD, *University Of Akron Main Campus*, Associate Professor (2005)

Andrea B. Nikischer, PHD, *SUNY At Buffalo*, Assistant Professor (2008)

Anthropology Department

Lisa Marie Anselmi, PHD, *University of Toronto*, Chair and Associate Professor (2004)

Dennis L. Gaffin, PHD, *SUNY At Buffalo*, Professor (1989)

Kimberly L. Hart, PHD, *Indiana University-Bloomington*, Associate Professor (2007)

Susan E. Maguire, PHD, *SUNY At Buffalo*, Associate Professor (2004)

Julie A. Wieczkowski, PHD, *University Of Georgia*, Associate Professor (2008)

Art and Design Department

Lucy Andrus, MSED, *SUNY College At Buffalo*, Professor (1982)

Michelle S. Bae-Dimitriadis, PHD, *University Of Illinois At Urbana-Cham*, Associate Professor (2010)

Jozef Bajus, MFA, *Academy of Fine Arts and Design*, Associate Professor (2002)

Sylvia D. Bakos, PHD, *Rutgers University-New Brunswick*, Associate Professor (1990)

Harriet Blitzer, PHD, *Indiana University-Bloomington*, Professor (1997)

Stanley K. Friesen, MFA, *Fort Hays State University*, Associate Professor (2000)

Frances M. Gage, PHD, *Johns Hopkins University*, Associate Professor (2008)

Anthony P. Gorny, MFA, *Yale University*, Associate Professor (2001)

Sarah B. Hinderliter, PHD, *Columbia University*, Associate Professor (2008)

Lin Xia Jiang, MFA, *University Of Utah*, Professor (1995)

Sunhwa Kim, MFA, *Savannah College Of Art And Design*, Associate Professor (2008)

Candace P. Masters, MFA, *Catholic University Of America*, Associate Professor (2008)

Joseph A. Miller, MFA, *Southern Illinois University Carbonda*, Associate Professor (1997)

Yola L. Monakhov Stockton, MFA, *Columbia University*, Assistant Professor (2016)

Philip B. Ogle, MFA, *Maryland Institute College Of Art*, Professor (2010)

Kenneth P. Payne, MFA, *University Of Wisconsin-Milwaukee*, Professor (1990)

Alice C. Pennisi, EDD, *Teachers College At Columbia Universi*, Associate Professor (2005)

Richard J. Ross, MFA, *University Of Connecticut*, Associate Professor (1995)

Stephen F. Saracino, MFA, *Kent State University-Main Campus*, Professor (1981)

Colleen Toledano, MFA, *Ohio University-Main Campus*, Associate Professor (2013)

Carol A. Townsend, MFA, *Ohio University-Main Campus*, Associate Professor (1994)

Robert L. Wood, MFA, *Indiana State University*, Professor (1987)

Art Conservation Department

Jiuan Jiuan Chen, CAS, *SUNY College At Buffalo*, Assistant Professor (2012)

James F. Hamm, MA, *SUNY College At Oneonta*, Professor (1986)

Rebecca Ploeger, PHD, *Universita degli Studi di Napoli Fede*, Assistant Professor (2014)

Patrick C. Ravines, MLS, *Columbia University*, Director and Associate Professor (2010)

Aaron N. Shugar, PHD, *University College London*, Andrew W. Mellon Professorship (2006)

Theresa J. Smith, MA, *SUNY College At Buffalo*, Assistant Professor (2016)

Jonathan L. Thornton, MA, *SUNY College At Oneonta*, Professor (1983)

Biology Department

I. Martha Skerrett, PHD, *Flinders University*, Chair and Associate Professor (2005)

Derek L. Beahm, PHD, *University Of California-Irvine*, Assistant Professor (2012)

Amy M. McMillan, PHD, *University Of Kansas Main Campus*, Associate Professor (2003)

Christopher M. Pennuto, PHD, *University Of Kansas Main Campus*, Professor (2003)

Alicia Perez-Fuentetaja, PHD, *SUNY College Of Environmental Science*, Professor (2006)

Gary W. Pettibone, PHD, *Bowling Green State University-Main C*, Professor (1986)

Daniel L. Potts, PHD, *University Of Arizona*, Associate Professor (2007)

Howard P. Riessen, PHD, *Yale University*, Professor (1988)

Randal J. Snyder, PHD, *University Of California-Davis*, Professor (1990)

Edward A. Standora, PHD, *University Of Georgia*, Professor (1985)

Gregory J. Wadsworth, PHD, *North Carolina State University At Ra*, Associate Professor (1992)

Robert J. Warren II, PHD, *University Of Georgia*, Associate Professor (2012)

Thomas D. White, PHD, *University Of California-Los Angeles*, Professor (1991)

Xiang-Dong Zhang, PHD, *Mississippi State University*, Assistant Professor (2016)

Business Department

Michael J. Littman, PHD, *Ohio State University-Main Campus*, Chair and Associate Professor (1986), Chancellor's Award for Excellence in Teaching (May 2015)

Solochidi oL Ahiarah, PHD, *University Of Pittsburgh-Main Campus*, Associate Professor (1990)

John L. DeNisco, MBA, *Canisius College*, Associate Professor Emeritus (1982), Chancellor's Award for Excellence in Faculty Service (May 2012)

Uma G. Gupta, PHD, *University Of Central Florida*, Professor (2007)

Joseph M. Kelly, JD, *Northern Illinois University*, Professor (1990)

Christine A. Lai, PHD, *SUNY At Buffalo*, Associate Professor (2007)

Edward J. Marecki, MS, *Canisius College*, Lecturer (2005)

Lorena D. Mathien, PHD, *SUNY At Buffalo*, Assistant Professor (2011)

Career and Technical Education

N. John Popovich, EDD, *Wayne State University*, Chair and Associate Professor (1974)

Clark W. Greene, MSED, *SUNY College At Buffalo*, Lecturer (2000)

Steve M. Macho, EDD, *West Virginia University*, Associate Professor (2006)

Center for Excellence in Urban Ed

John F. Siskar, PHD, *SUNY At Buffalo*, Sr Advisor for Ed Pipeline (1992)

Center for Health & Social Research

William F. Wiczorek, PHD, *SUNY At Buffalo*, Dir, Inst Cmnty Health Promotion (1997), Chancellor's Award for Excellence in Scholarship and Creative Activities (May 2005)

Center for Studies in Creativity

Gerard J. Puccio, PHD, *University of Manchester*, Chair and Professor (1990)

Selcuk Acar, PHD, *University Of Georgia*, Assistant Professor (2013)

Cynthia Burnett, PHD, *University of Toronto*, Associate Professor (2000)

John F. Cabra, PHD, *University of Manchester*, Associate Professor (2005), Chancellor's Award for Excellence in Teaching (May 2016)

Jon Michael Fox, MS, *SUNY College At Buffalo*, Lecturer (1997)

Susan M. Keller-Mathers, EDD, *Argosy University-Sarasota Campus*, Associate Professor (1990)

Chemistry Department

M. Scott Goodman, PHD, *Arizona State University At The Tempe*, Chair and Professor (1996)

Zeki Y. Al-Saigh, PHD, *University of Birmingham*, Professor (2002)

Kimberly A. Bagley, PHD, *University Of Illinois At Urbana-Cham*, Professor (1993)

William S. Durfee, PHD, *Case Western Reserve University*, Professor (1995)

Gregory W. Ebert, PHD, *University Of Nebraska At Lincoln*, Professor (1985)

Jinseok Heo, PHD, *Texas A+M University*, Associate Professor (2009)

Joonyeong Kim, PHD, *Texas A+M University*, Associate Professor (2005)

Alexander Y. Nazarenko, PHD, *Kiev University*, Associate Professor (2000)

Maria D. Pacheco, PHD, *University Of Puerto Rico-Rio Piedras*, Associate Professor (1985)

Douglas A. Ridolfi, MS, *San Francisco State University*, Coordinator, Forensic Chemistry (2012)

Communication Department

Joseph J. Marren Jr., MA, *Saint Bonaventure University*, Chair and Professor (1997), Chancellor's Award for Excellence in Faculty Service (May 2014)

Bruce G. Bryski, PHD, *Pennsylvania State University-Main Ca*, Associate Professor (1983)

S. Diane McFarland, PHD, *SUNY At Buffalo*, Associate Professor (2002)

Michael I. Niman, PHD, *SUNY At Buffalo*, Professor (2002), Chancellor's Award for Excellence in Teaching (May 2012)

Seth A. Oyer, PHD, *University Of Florida*, Assistant Professor (2012)

Deborah A. Silverman, PHD, *SUNY At Buffalo*, Associate Professor (2005)

Computer Information Systems

Sarbani Banerjee, PHD, *SUNY At Buffalo*, Professor (2000)

John T. Favata, PHD, *SUNY At Buffalo*, Associate Professor (1997)

Stephen E. Gareau, PHD, *Mississippi State University*, Professor (2005)

Ruth X. Guo, PHD, *University of British Columbia*, Professor (2007)

Ramona R. Santa Maria, PHD, *SUNY At Buffalo*, Associate Professor (1999)

Barbara A. Sherman, PHD, *SUNY At Buffalo*, Associate Professor (2007)

Criminal Justice Department

James J. Sobol, PHD, *SUNY At Albany*, Chair and Associate Professor (2008)

Clairissa D. Breen, PHD, *Temple University*, Assistant Professor (2016)

Michael A. Cretacci, PHD, *SUNY At Albany*, Associate Professor (2006)

Jill M. D'Angelo, PHD, *American University*, Associate Professor (2007)

Shashi M. Gayadeen, PHD, *SUNY At Buffalo*, Assistant Professor (2005)

James R. Gillham, PHD, *University Of Illinois At Urbana-Cham*, Professor (1977)

Dae-Young Kim, PHD, *University Of Nebraska At Omaha*, Assistant Professor (2012)

Melissa A. Menasco, PHD, *SUNY At Buffalo*, Assistant Professor (2013)

Scott W. Phillips, PHD, *SUNY At Albany*, Associate Professor (2001)

John H. Song, PHD, *University Of California-Irvine*, Professor (1988)

Elizabeth Szockyj, PHD, *University Of California-Irvine*, Associate Professor (2004)

JawJeong Wu, PHD, *University Of Nebraska At Omaha*, Associate Professor (2009)

Earth Sciences and Science Edu

Elisa T. Bergslien, PHD, *SUNY At Buffalo*, Chair and Associate Professor (2002)

Catherine Lange, PHD, *SUNY At Buffalo*, Associate Professor (2007)

Jill K. Singer, PHD, *Rice University*, Professor (1986), Chancellor's Award for Excellence in Scholarship and Creative Activities (May 2008)

Gary S. Solar, PHD, *University Of Maryland-College Park*, Associate Professor (2000), Chancellor's Award for Excellence in Teaching (May 2011)

Kevin K. Williams, PHD, *Arizona State University At The Tempe*, Associate Professor (2006)

Joseph L. Zawicki, PHD, *SUNY At Buffalo*, Associate Professor (2002)

Economics and Finance Department

Frederick G. Floss, PHD, *SUNY At Buffalo*, Chair and Professor (1983)

Theodore F. Byrley, PHD, *University Of Cincinnati-Main Campus*, Associate Professor (1984), Chancellor's Award for Excellence in Teaching (May 2005)

Susan M. Davis, PHD, *The New School*, Associate Professor (1985)

Bruce L. Fisher, JD, *SUNY At Buffalo*, Visiting Professor and Director (2008)

William T. Ganley, PHD, *University Of California-Berkeley*, Professor Emeritus (1972)

Curtis Haynes Jr., PHD, *University Of Massachusetts-Amherst*, Associate Professor (1993)

Tae-Hee Jo, PHD, *University Of Missouri-Kansas City*, Associate Professor (2007)

Victor Kasper Jr., PHD, *Rutgers University-New Brunswick*, Associate Professor (2001)

Yung M. Kim, PHD, *SUNY At Buffalo*, Professor Emeritus (1968)

Joelle J. Leclaire, PHD, *University Of Missouri-Kansas City*, Associate Professor (2004)

Xingwang Qian, PHD, *University Of California-Santa Cruz*, Associate Professor (2008)

Ted P. Schmidt, PHD, *University Of California-Riverside*, Associate Professor (1990)

John L. Wilcox, PHD, *Capella University*, Lecturer (2005)

Elementary Education and Reading

Julie J. Henry, PHD, *SUNY At Buffalo*, Chair and Associate Professor (2015)

Rosemary Arioli, MS, *SUNY College At Brockport*, Lecturer (1999)

Maria A. Ceprano, PHD, *SUNY At Buffalo*, Professor (1997)

Mary C. Cummings, MA, *University Of Redlands*, Lecturer (2006)

Pixita M. Del Prado Hill, EDD, *Harvard University*, Professor (1999)

Keli A. Garas-York, PHD, *SUNY At Buffalo*, Associate Professor (2006)

Patricia D. George, MED, *SUNY At Buffalo*, Lecturer (2013)

David R. Henry, PHD, *SUNY At Buffalo*, Associate Professor (1999), Chancellor's Award for Excellence in Faculty Service (May 2014)

Laura J. Klenk, PHD, *University Of Michigan-Ann Arbor*, Associate Professor (2009)

Peter W. Loehr, PHD, *Kent State University-Main Campus*, Associate Professor (1996)

Dianne S. McCarthy, EDD, *SUNY At Buffalo*, Associate Professor (2005)

Wendy McLeish, MSED, *Wheelock College*, Lecturer (2001)

Nanci M. Monaco, PHD, *SUNY At Buffalo*, Associate Professor (2000)

Hibajene Shandomo, PHD, *Andrews University*, Associate Professor (2000)

Christopher T. Shively, PHD, *SUNY At Buffalo*, Assistant Professor (2001)

Coralee S. Smith, PHD, *University Of Missouri-Columbia*, Associate Professor (1999)

Christine L. Tredo, MS, *SUNY College At Buffalo*, Lecturer (2002)

Sherri M. Weber, PHD, *Capella University*, Assistant Professor (2011)

Jing Zhang, PHD, *University of Toronto*, Associate Professor (2010)

Engineering Technology Department

Mohan S. Devgun, PHD, *University of Birmingham*, Chair and Professor (1990)

John J. Earshen, PHD, *SUNY At Buffalo*, Associate Professor (1980)

Slade Gellin, PHD, *Harvard University*, Professor (1999)

Stephanie R. Goldberg, PHD, *SUNY At Buffalo*, Professor (1990)

Ilya Y. Grinberg, PHD, *Moscow State University of Civil Engi*, Professor (1995), Chancellor's Award for Excellence in Scholarship and Creative Activities (May 2016)

Anthony J. Hotchkiss, PHD, *Southampton University - same Univs*, Professor (1994)

David J. Kukulka, PHD, *SUNY At Buffalo*, Professor (1982)

Richard A. Stempniak, PHD, *SUNY At Buffalo*, Associate Professor (1974)

English Department

Lisa Berglund, PHD, *University Of Virginia-Main Campus*, Chair and Professor (2001), Chancellor's Award for Excellence in Faculty Service (May 2013)

Barish Ali, PHD, *SUNY At Buffalo*, Associate Professor (2006)

David N. Ben-Merre, PHD, *Brown University*, Associate Professor (2008)

Timothy J. Bryant, PHD, *SUNY At Buffalo*, Assistant Professor (2011)

James E. Cercone, PHD, *SUNY At Buffalo*, Asst Professor+ English Ed Coord (2011)

Kim K. Chinquee, MFA, *University Of Illinois At Urbana-Cham*, Associate Professor (2008)

Adrienne M. Costello, PHD, *SUNY At Buffalo*, Associate Professor (2006)

Mark K. Fulk, PHD, *Miami University-Oxford*, Associate Professor (2001)

Michele Ninacs, PHD, *Indiana University Of Pennsylvania-Ma*, Associate Professor (2001)

Lorna L. Perez, PHD, *SUNY At Buffalo*, Associate Professor (2008)

Peter J. Ramos, PHD, *SUNY At Buffalo*, Associate Professor (2005)

Jennifer D. Ryan-Bryant, PHD, *University Of Iowa*, Associate Professor (2005)

Karen Sands-O'Connor, PHD, *University of Wales*, Professor (1997)

Macy P. Todd, PHD, *SUNY At Buffalo*, Assistant Professor (2016)

Aimable Twagilimana, PHD, *SUNY At Buffalo*, Professor (1995)

Ralph L. Wahlstrom, PHD, *Michigan Technological University*, Professor (1997)

Exceptional Education Department

Lawrence J. Maheady, PHD, *University Of Pittsburgh-Main Campus*, Horace Mann Endowed Chair (2013)

Lisa A. Rafferty, PHD, *SUNY At Buffalo*, Chair and Associate Professor (2007), Chancellor's Award for Excellence in Teaching (May 2015)

Shannon E. Budin, PHD, *Pennsylvania State University-Penn St*, Associate Professor (2005)

Kathy R. Doody, PHD, *SUNY At Buffalo*, Assistant Professor (2004)

Warren L. Gleckel, PHD, *Syracuse University*, Associate Professor (1975)

Theresa M. Janczak, PHD, *SUNY At Buffalo*, Associate Professor (2005)

Michaelene M. Meger, PHD, *SUNY At Buffalo*, Associate Professor (1993)

Angela L. Patti, PHD, *SUNY At Buffalo*, Assistant Professor (2012)

Mark P. Posluszny, EDD, *University Of Kentucky*, Associate Professor (1985)

Sharon L. Raimondi, PHD, *American University*, Professor (1990)

Awilda Ramos Zagarrigo, PHD, *SUNY At Buffalo*, Associate Professor (2008)

Raquel J. Schmidt, PHD, *SUNY At Buffalo*, Associate Professor (2001)

Krista M. Vince Garland, PHD, *University Of Central Florida*, Assistant Professor (2012)

Geography and Planning Department

Kelly M. Frothingham, PHD, *University Of Illinois At Urbana-Cham*, Chair and Professor (2000)

Camille A. Holmgren, PHD, *University Of Arizona*, Associate Professor (2007)

Wende A. Mix, PHD, *SUNY At Buffalo*, Associate Professor (2004)

Tao Tang, PHD, *University Of Wisconsin-Milwaukee*, Professor (1998)

Vida Vanchan, PHD, *SUNY At Buffalo*, Associate Professor (2006)

Stephen J. Vermette, PHD, *McMaster University*, Professor (1993)

Graduate School

Kevin J. Miller, EDD, *West Virginia University*, Interim Dean (2006)

Great Lakes Center

Alexander Y. Karatayev, PHD, *Belarusian State University*, Director (2007)

Health, Nutrition, and Dietetics

Carol A. DeNysschen, PHD, *SUNY At Buffalo*, Chair and Professor (2008)

Catherine E. Cardina, PHD, *Ohio State University-Main Campus*, Assistant Professor (2015)

Tina M. Colaizzo-Anas, PHD, *SUNY At Buffalo*, Associate Professor (1997)

Suk Y. Oh, PHD, *Colorado State University*, Professor (1995)

Higher Education Administration

Kimberly A. Kline, PHD, *Indiana University-Bloomington*, Chair and Professor (2007)

Wanda M. Davis, PHD, *Pennsylvania State University-Main Ca*, Professor (1995)

Amy B. Wilson, PHD, *SUNY At Buffalo*, Assistant Professor (2012)

History and Social Studies

Andrew D. Nicholls, PHD, *University of Guelph*, Chair and Professor (1996)

John D. Abromeit, PHD, *University Of California-Berkeley*, Associate Professor (2009)

David A. Carson, PHD, *Texas Christian University*, Distinguished Service Professor (1983), Chancellor's Award for Excellence in Teaching (May 1999)

Bridget Maria Chesterton, PHD, *SUNY At Stony Brook*, Professor (2007), Chancellor's Award for Excellence in Scholarship and Creative Activities (May 2016)

Cynthia A. Conides, PHD, *Columbia University*, Associate Professor (2000)

Martin F. Ederer, PHD, *SUNY At Buffalo*, Associate Professor (1998)

Jill M. Gradwell, PHD, *SUNY At Buffalo*, Professor (2004)

Michael C. Lazich, PHD, *SUNY At Buffalo*, Associate Professor (1997)

Kenneth S. Mernitz, PHD, *University Of Missouri-Columbia*, Associate Professor (1985)

Albert L. Michaels, PHD, *University Of Pennsylvania*, Professor (2009)

William I. Mitchell, PHD, *University Of Missouri-Columbia*, Associate Professor (1991)

York A. Norman, PHD, *Georgetown University*, Associate Professor (2007)

Kenneth J. Orosz, PHD, *SUNY At Binghamton*, Professor (2008)

Hospitality and Tourism Department

Kevin F. Mulcahy, EDD, *University Of California-Los Angeles*, Chair and Associate Professor (1992)

International and Exchange Programs

Robert H. Summers, PHD, *University Of South Florida*, Assistant Provost (2013)

Mathematics Department

Jane R. Cushman, PHD, *The University Of Texas At Austin*, Chair and Associate Professor (2006)

Saziye Bayram, PHD, *SUNY At Buffalo*, Associate Professor (2006)

Valentin E. Brimkov, PHD, *Sofia University*, Professor (2005), Chancellor's Award for Excellence in Scholarship and Creative Activities (May 2012)

Joaquin O. Carbonara, PHD, *University Of California-San Diego*, Professor (1992)

Daniel W. Cunningham, PHD, *University Of California-Los Angeles*, Professor (1991)

Chaitali Ghosh, PHD, *SUNY At Buffalo*, Associate Professor (2000)

Tom M. Giambrone, EDD, *SUNY At Buffalo*, Professor (1990)

Jodelle SW Magner, PHD, *University Of Maryland-College Park*, Associate Professor (2000)

Susan E. McMillen, PHD, *SUNY At Buffalo*, Professor (2000)

Peter R. Mercer, PHD, *University of Toronto*, Professor (1997)

Jeffrey C. Morton, PHD, *University Of California-Riverside*, Assistant Professor (2016)

Robin Sue O'Dell, PHD, *SUNY At Buffalo*, Associate Professor (2007)

Robin Sue Sanders, PHD, *University Of Illinois At Urbana-Cham*, Associate Professor (1997)

Bruce Q. Sun, PHD, *University Of Pittsburgh-Main Campus*, Assistant Professor (2012)

Janine M. Viglietti, PHD, *SUNY At Buffalo*, Assistant Professor (2012)

David C. Wilson, PHD, *SUNY At Buffalo*, Associate Professor (2002)

Hongliang Xu, PHD, *SUNY At Buffalo*, Professor (2009)

Modern and Classical Languages

Mark K. Warford, PHD, *The University Of Tennessee*, Chair and Associate Professor (2000)

Andrea Guiati, PHD, *Rutgers University-New Brunswick*, Distinguished Teaching Professor (1985), Chancellor's Award for Excellence in Teaching (May 1997)

Deborah L. Hovland, PHD, *University Of Minnesota-Twin Cities*, Associate Professor (1992)

Carol B. Kirby, PHD, *University Of Kentucky*, Professor (1985)

Raul F. Neira, PHD, *The University Of Texas At Austin*, Associate Professor (1991)

Music Department

Emily W. Boyce, DMA, *University Of Rochester*, Chair and Associate Professor (2003)

Ho Eui H. Bewlay, DMA, *University Of Rochester*, Associate Professor (2005)

Mark H. Filsinger, DMA, *University Of Rochester*, Assistant Professor (2012)

Ricky L. Fleming, PHD, *Florida State University*, Associate Professor (2001)

Victoria J. Furby, PHD, *Ohio State University-Main Campus*, Associate Professor (2008)

Carolyn Guzski, PHD, *CUNY Graduate School And University C*, Associate Professor (2009)

Jose T. Henriques, PHD, *SUNY At Buffalo*, Associate Professor (2009)

Charles Mancuso, MA, *SUNY College At Buffalo*, Professor (1976)

Kerry B. Renzoni, PHD, *Temple University*, Assistant Professor (2012)

Thomas E. Witakowski, DMA, *Indiana University-Bloomington*, Associate Professor (1992)

Physics Department

Michael J. DeMarco, PHD, *University Of Cincinnati-Main Campus*, Professor (1981)

David J. Ettestad, PHD, *Cornell University*, Associate Professor (1986)

Dan L. MacIsaac, PHD, *Purdue University-Main Campus*, Associate Professor (2002)

Ram C. Rai, PHD, *University Of Kentucky*, Associate Professor (2007)

Political Science Department

Michael S. Pendleton, DA, *Idaho State University*, Chair and Associate Professor (1979)

Kyeonghi Baek, PHD, *University Of Mississippi Main Campus*, Associate Professor (2008)

Laurie A. Buonanno, PHD, *Johns Hopkins University*, Professor (2006)

Atta A. Ceesay, PHD, *Rutgers University-Newark*, Assistant Professor (2015)

Patrick J. McGovern, PHD, *University Of Arizona*, Associate Professor (2006)

Anthony Neal, PHD, *Clark Atlanta University*, Associate Professor (1988)

Jason D. Rivera, PHD, *Rutgers University-Camden*, Assistant Professor (2015)

Suparna Soni, PHD, *SUNY At Buffalo*, Assistant Professor (2014)

Peter R. Yacobucci, PHD, *University Of Arizona*, Associate Professor (2010)

Psychology Department

Jill M. Norvilitis, PHD, *Wayne State University*, Chair and Professor (1997), Chancellor's Award for Excellence in Teaching (May 2010)

Robert P. Delprino, PHD, *Old Dominion University*, Professor (1992)

Jean M. DiPirro, PHD, *SUNY At Buffalo*, Associate Professor (1999)

Stephani M. Foraker, PHD, *New York University*, Associate Professor (2008)

Dwight A. Hennessy, PHD, *York University*, Professor (2000)

Jennifer S. Hunt, PHD, *University Of Minnesota-Twin Cities*, Associate Professor (2007)

Jurgis Karuza Jr., PHD, *Wayne State University*, Professor (1978)

Michael G. MacLean, PHD, *Arizona State University At The Tempe*, Associate Professor (1997)

Howard M. Reid, PHD, *University Of Maine*, Professor (1977), Chancellor's Award for Excellence in Teaching (May 1988), Chancellor's Award for Excellence in Faculty Service (May 2005)

Pamela Schuetze-Pizarro, PHD, *Virginia Polytechnic Institute And St*, Professor (1996), Chancellor's Award for Excellence in Scholarship and Creative Activities (May 2013)

Michael J. Zborowski, PHD, *Ohio University-Main Campus*, Associate Professor (1991)

School of Education

Jevon D. Hunter, PHD, *University Of California-Los Angeles*, Woods-Beal Endowed Chair (2010)

Social & Psychological Foundations

Reva M. Fish, PHD, *SUNY At Buffalo*, Associate Professor (2008)

P. Rudy Mattai, PHD, *University Of Pittsburgh-Main Campus*, Professor (1990)

Alexander J. Means, PHD, *University of Toronto*, Assistant Professor (2013)

William L. White, EDD, *West Virginia University*, Professor (2007)

Sociology Department

Eric J. Krieg, PHD, *Northeastern University*, Chair and Professor (1997)

Staci Newmahr, PHD, *SUNY At Stony Brook*, Associate Professor (2008)

Allen C. Shelton, PHD, *University Of Georgia*, Professor (1998)

Gary S. Welborn, PHD, *SUNY At Buffalo*, Associate Professor (1993)

Jie Zhang, PHD, *Brigham Young University*, Professor (1997), Chancellor's Award for Excellence in Faculty Service (May 2005), Chancellor's Award for Excellence in Scholarship and Creative Activities (May 2013)

Speech-Language Pathology

Susan Felsenfeld, PHD, *University Of Minnesota-Twin Cities*, Chair and Associate Professor (2016)

Katrina R. Fulcher, PHD, *SUNY At Buffalo*, Assistant Professor (2016)

Deborah M. Insalaco, PHD, *University Of Arizona*, Associate Professor (1999)

Camilo Maldonado III, PHD, *SUNY At Buffalo*, Assistant Professor (2005)

Kathleen M. McNerney, PHD, *SUNY At Buffalo*, Assistant Professor (2015)

Constance Dean Qualls, PHD, *University Of Memphis*, Professor (2005)

University College

Susan Mary Paige, PHD, *SUNY At Buffalo*, Lecturer (1999)

Amitra A. Wall, PHD, *Texas Woman's University*, Interim Associate Provost (2000), Chancellor's Award for Excellence in Teaching (May 2011)

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