SCIENCE EDUCATION (M.S.ED.)

Master of Science in Science Education Program
Program Code: MSED-ED
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)

Career, Technical, and Science Education Department
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ctse.buffalostate.edu/ (https://ctse.buffalostate.edu/)

Accredited: Council for the Accreditation of Educator Preparation (CAEP) (formerly NCATE)

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.**

Professional Licensure: This program leads to a recommendation for NYS certification; please check for certification requirements in all other states **(**https://academicaffairs.buffalostate.edu/professional-licensure-disclosures/**)**

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 quality for NYSED initial certification allowing them to teach science in grades 7-12 in New York State.

Candidates should consult the Teacher Certification website for current seminars and workshops. https://teachercertification.buffalostate.edu/seminars-and-workshops (https://teachercertification.buffalostate.edu/seminars-and-workshops/)

Admission Requirements

Candidates new to Buffalo State College

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)		
Professional Education and Science Education (15-21 credit hours)		
SED 502	SECONDARY SCIENCE EDUCATION TEACHING: THEORY, CONTENT AND PEDAGOGY	3
SED 545	LITERACY FOR TEACHING SCIENCE	3
SED 650	CURRICULAR RESEARCH TOPICS IN SCIENCE	3
SED 664	TEACHING SCIENCE WITH TECHNOLOGY	3
EXE 500	INDIVIDUALS WITH SPECIAL NEEDS	3
SPF 503	EDUCATIONAL PSYCHOLOGY	3
EDU 609	RESEARCH AND PRACTICE IN ADOLESCENT LITERACY	3
Practica (13 credit hours)		
SED 677	INITIAL MIDDLE SCHOOL SCIENCE TEACHING EXPERIENCE	6
SED 678	INITIAL HIGH SCHOOL SCIENCE TEACHING EXPERIENCE	6
SED 679	SEMINAR IN SCIENCE EDUCATION	1
Culminating Project (3 credit hours)		
SED 690	MASTER'S PROJECT	3
Total Credit Hours		**31-37**

Program Overview

The SUNY Buffalo State graduate residency program provides a residency track option for qualified candidates who are selected by the faculty from their demonstrated competence in the first year of their Master's degree programs. In first year, course sequences are parallel for both non-resident track and resident track candidates to allow faculty and candidates to assess their suitability for the full residency track experience in year two. Rather than the standard 150 hours of field experiences and 100 hours of student teaching located in courses throughout the currently registered programs, residents enjoy 1000 hours of experience in graduated difficulty from field-based co-teaching focused on practicing specific pedagogies to full "teacher of record" responsibilities in the final months of their full year residency experience. The value of this model is in allowing resident applicants to be paid for working full time in schools while they complete their required coursework. The coursework remaining for the residency year complements their work with Mentor teachers and is accomplished in tandem with their classroom experiences.

Admission Requirements

Candidates who wish to pursue the residency option toward a recommendation for certification must be recommended by program faculty either upon first application to the program or during the first year of the curriculum prior to the residency year.

Program Requirements

Code	Title	Credit Hours
Preparatory Semester: Courses taken or undergraduate equivalents verified		**3-9**
SPF 500	MULTICULTURAL EDUCATION (Equivalent Undergraduate Acceptable)	0-3
SPF 503	EDUCATIONAL PSYCHOLOGY (Equivalent Undergraduate Acceptable)	0-3
or SPF 529	ADOLESCENT PSYCHOLOGY	
EDU 620	TEACHING AND LEARNING IN DIVERSE CLASSROOMS	3
Required Courses (9 credit hours)		**9**
EDU 609	RESEARCH AND PRACTICE IN ADOLESCENT LITERACY	3
SED 545	LITERACY FOR TEACHING SCIENCE	3
SED 650	CURRICULAR RESEARCH TOPICS IN SCIENCE	3
Residency Year (22 credit hours) [1]		**22**
SED 502	SECONDARY SCIENCE EDUCATION TEACHING: THEORY, CONTENT AND PEDAGOGY	3
SED 664	TEACHING SCIENCE WITH TECHNOLOGY	3
SED 677	INITIAL MIDDLE SCHOOL SCIENCE TEACHING EXPERIENCE	6
SED 678	INITIAL HIGH SCHOOL SCIENCE TEACHING EXPERIENCE	6
SED 679	SEMINAR IN SCIENCE EDUCATION	1
SED 690	MASTER'S PROJECT	3

1

Courses in both residency and non-residency programs are equivalent until final residency year when Methods of Teaching courses (SED 502, 664 and 690), are grouped into Semester I and Semester II of the Residency Year. Hours of practice in Semester I courses are increased to meet 500 hour requirement as are the 500 hours in the pratica, "teaching experience" courses, 677, 678) . Catalog descriptions of all included courses and catalog modifications are shown in MOU Appendix D. Courses in Residency are designated with an "R" and additional requirements specified.