

# FORENSIC SCIENCE (M.S.)

## Master of Science Program

Program Code: MS-AS

Major Code: FSC

## Chemistry Department

SAMC 164 (716) 878-5204

chemistry.buffalostate.edu/ (<http://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 or project 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 30-31 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.
5. 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
<b>Required Courses (17 credit hours)</b>		
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
<b>Approved Electives (6-9 credit hours)**</b>		
Choose from the following:		
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	APPLIED FORENSIC GEOSCIENCE	
CRJ 630	CONSTITUTIONAL ISSUES IN CRIMINAL JUSTICE	
<b>Research Credit (4-8 credit hours)</b>		
Choose one of the following options:		
<b>1) Thesis Option (8 credit hours)</b>		
CHE 699	THESIS SEMINAR AND DEFENSE	

Select one research option:

FOR 795 RESEARCH THESIS IN  
FORENSIC SCIENCE

CHE 795 RESEARCH THESIS IN  
CHEMISTRY

BIO 695 RESEARCH THESIS IN BIOLOGY

2) *Project Option (4 credit hours)*

FOR 690 MASTERS PROJECT  
or CHE 690 MASTER'S PROJECT

Note : while students can sign up for CHE 795,  
FOR 795, BIO 695 in anywhere from 1-12 crs, they  
must take a total of 6 credits for the degree.

**Total Required Credit Hours 31**

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A maximum of 3 credits of FOR 598 may be used to the  
satisfy the elective course requirement.

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Students selecting the Thesis Option must take 6 credits of  
electives; students selecting the Project Option must complete  
9 credits of electives.

Students will:

1. develop expertise in areas of scientific knowledge that are  
essential to forensic scientists
2. acquire skills and experience in the application of basic  
forensic science concepts and of specialty knowledge to  
problem solving
3. be oriented in professional values, concepts and ethics
4. acquire the basic knowledge necessary for effective  
testimony as an expert witness
5. demonstrate effective oral communication of scientific  
information
6. demonstrate integration of knowledge and skills through a  
capstone experience