

Sample Four-Year Degree Plan
B.S. GEOCHEMISTRY

The State University of New York at Fredonia is committed to doing our part to provide each student a clear path to graduation. This four-year degree plan is a sample map for fulfilling requirements in the major, the College Core Curriculum (CCC), and other supporting courses. The pathway that you take to your degree may differ somewhat from this illustration, depending on where you start and the detours and side trips you may take along the way. If you are committed to completing your degree in four years, we encourage you to consider signing up for the Fredonia in 4 program. For complete information about this degree program, please consult the university catalog at fredonia.smartcatalogiq.com

FIRST YEAR				
Fall Semester			Spring Semester	
Course		Credits	Course	Credits
GEO 165	Geology I	3	GEO 210	Geology II
GEO 169	Geology Lab I	1		STAT 250 OR CSIT Course
CHEM 115	General Chemistry I	3	CHEM 116	General Chemistry II
CHEM 125	General Chemistry Lab I	1	CHEM 126	General Chemistry Lab II
ENGL 100	English Composition	3	CCC	Social Science
CCC	American History	3	CCC	Foreign Language
GEO 102	Freshman Seminar	1		
		TOTAL	15	TOTAL
				16

SECOND YEAR				
Fall Semester			Spring Semester	
Course		Credits	Course	Credits
GEO 411	Mineralogy	4	GEO 421	Petrology
MATH 122	University Calculus I	4	MATH 123	University Calculus II
CHEM 215	Organic Chemistry I	3	CHEM 216	Organic Chemistry II
CHEM 225	Organic Chemistry Lab I	1	CHEM 226	Organic Chemistry Lab II
CCC	Western Civilization	3	CCC	Art
		TOTAL	15	TOTAL
				15

THIRD YEAR				
Fall Semester			Spring Semester	
Course		Credits	Course	Credits
CHEM 315	Introduction to Physical Chemistry	3	GEO 431	Geochemistry
CHEM 325	Physical Chemistry Lab I	1	CHEM 317	Analytical Chemistry, Quantitative Analysis
PHYS 230	University Physics I	4	CHEM 327	Analytical Chemistry, Quantitative Analysis Lab
PHYS 232	University Physics Lab I	1	PHYS 231	University Physics II
CCC	Humanities	3	PHYS 233	University Physics Lab II
CCC	Other World Civilizations	3		General Elective
		TOTAL	15	TOTAL
				16

FOURTH YEAR				
Fall Semester			Spring Semester	
Course		Credits	Course	Credits
CHEM 318	Analytical Chemistry, Instrumental Analysis	3	GEO 459	Seminar in Geosciences
CHEM 328	Analytical Chemistry, Instrumental Analysis Lab	1		Field Geology (Summer Term)
	GEO Lab Elective (300-400 Level)	4		General Elective
	GEO Lab Elective (300-400 Level)	4		General Elective
	General Elective	3		General Elective
			CCC	Social Science
		TOTAL	15	TOTAL
				16
2016-2017			GRAND TOTAL	123

Geology and Environmental Sciences

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The B.S. Geochemistry

degree offers students several alternatives. While the primary goal of the program is academic, the background of chemistry and geology prescribed permits students to continue their geochemical education at the graduate level or to engage in suitably oriented employment. Alternatively, with judiciously selected electives, students may pursue graduate training in either chemistry or geology, or may earn certification for teaching earth science and chemistry at the secondary school level.

fredonia.edu

Why Study the Natural Sciences at Fredonia?

The Natural Sciences at Fredonia encompass state of the art programs in pure and applied sciences that prepare you well for graduate school and professional careers. Each program gives you the opportunity to engage in meaningful research in collaboration with the faculty.

Choose from a variety of disciplines

- Mathematical Sciences offer programs in pure and applied mathematics, as well as certification programs in mathematics education.
- Computer and Information Sciences have multiple programs including those in software development, systems management and cooperative computer engineering.
- Biology houses programs in Biology, Medical Technology, Molecular Genetics, Exercise Science and Biology Adolescence Education.
- The Department of Chemistry and Biochemistry offers programs approved by the premier accreditor, The American Chemical Society, as well as certification program in Adolescence Chemistry Education.



- Programs in the Physics Department include several concentrations in Physics (including Physics Education), as well as being the home for most Cooperative Engineering majors.
- Programs in Geology and Environmental Sciences cover all aspects of earth and planetary sciences as well as the interdisciplinary programs in environmental science and GIS.

Thrive in state-of-the-art Science Center

- Our new \$60 million Science Center features \$5 million in cutting-edge instruments and equipment. It boasts an innovative design that maximizes student learning, facilitates student-faculty collaboration, and creates spontaneous interactions across disciplines.
- Research labs and classrooms incorporate glass walls, natural light and open spaces, allowing visitors to easily observe students and faculty learning together.

Receive an exceptional value

- Fredonia alumni in graduate and medical schools consistently say they were better prepared than their peers at larger schools because of rigorous Fredonia courses, smaller class sizes, undergraduate research opportunities and genuine relationships with faculty mentors.
- Internships are conducted in hospital labs, physician offices, health departments, environmental agencies, and energy, biomedical and pharmaceutical companies, as well as hospitals, pharmacies, veterinary clinics and zoos.
- Health Professions Advising Program assists students pursuing careers in medicine, dentistry, optometry and veterinary medicine.
- Students perform field research in Lake Erie, its tributaries and Fredonia's 200-acre nature sanctuary.

- Numerous need- and merit-based scholarships and fellowships are available for academically talented students, including some of the biggest awards available on campus.

Exceptional faculty

- Faculty conduct research and are recognized consistently for their efforts on local, regional, national and international levels.
- Their interests range from studying the animal behavior of bats and praying mantises, among other species, quantifying the potential natural gas held with the Marcellus Shale region, and improving the water quality of the Great Lakes.



- One professor's research spurred a national law signed by President Obama. It bans the use of plastic microbeads in beauty and exfoliating products — because a Fredonian showed they contaminate water systems.

Alumni successes

- Many recent graduates are enrolled in medical, dental, veterinary and optometry schools.
- Alumni have gone on to become clinical scientists, high school teachers, biomedical research scientists, physicians, pharmacists, environmental scientists, venture capitalists, veterinarians, lab directors, lawyers and forensic scientists, among other professions.
- Fredonians are among the faculty at University of California at Berkeley, Penn State University, Indiana University of Pennsylvania, The Scripps Research Institute and other institutions.