Graduate Studies Catalog 2009-2011

Department of Environmental Science and Biology

105 Lennon Hall
(585) 395-5975

Chairperson and Professor: James M. Haynes, PhD, University of Minnesota; *Distinguished Service Professor:* Joseph C. Makarewicz, PhD, Cornell University; *Empire Innovation Professor of Wetland Science:* Douglas A. Wilcox, PhD, Purdue University; *Professor:* Christopher J. Norment, PhD, University of Kansas; *Assistant Professors:* Mark D. Norris, PhD, University of Minnesota; Jacques Rinchard, PhD, University of Namur (Belgium); *Instructional Support Technician:* Hilary R. Mosher; *Environmental Science Program Faculty:* Whitney J. Autin, Associate Professor of Earth Sciences, PhD, Louisiana State University; Mark R. Noll, Associate Professor of Earth Sciences, PhD, University of Delaware; Paul L. Richards, Assistant Professor of Earth Sciences, PhD, Pennsylvania State University; James A. Zollweg, Associate Professor of Earth Sciences, PhD, Cornell University; Michael A. Brown, Assistant Professor of Chemistry, PhD, University of Memphis; Mark P. Heitz, Associate Professor of Chemistry, PhD, SUNY at Buffalo; Markus M. Hoffmann, Associate Professor of Chemistry, PhD, Washington University; *Adjunct Faculty:* David H. Kosowski (NYDEC retired); Theodore W. Lewis (Research Associate); Charles R. O'Neill (New York Sea Grant); Gary N. Neuderfer (NYDEC retired); and Norma A. Polizzi (Adair Law Firm).

Environmental problems are among the most urgent issues facing our civilization. In order to manage Earth's environment well, we must understand the processes that shape its surface; control the chemistry of the air, water and soil; and produce and maintain the biological and other resources upon which humans depend. We must also understand the interactions of animals, plants and other living organisms with their physical and chemical environments, or their ecology. The environmental science curriculum includes both a common core and an individual course of study that allows MS candidates to develop conceptual knowledge and technical skills to use the disciplines of ecology, chemistry and the earth sciences to understand and solve environmental problems. Thus, fields of study like "green" and water chemistry, watershed analysis, limnology, fisheries and wildlife science and management, conservation biology, ecosystem ecology and global change, wetlands, and aquaculture are encompassed in this degree program.

The MS in environmental science and biology is a demanding, thesis-based experience. The curriculum is designed to challenge students to think critically, independently and creatively, while providing the intellectual depth and breadth necessary to support the research formally developed in the thesis proposal. Graduates in the areas of biological and earth sciences and chemistry with a focus on environmental science have been very

successful gaining admission to doctoral programs or finding professional employment in one of the environmental sciences.

Admission Requirements
Each student pursuing the MS is supervised by a faculty member in the Department of Environmental Science and Biology, or by an "associate" faculty member from the Departments of the Earth Sciences or Chemistry. The thesis advisor monitors the student's academic progress and is responsible for directing the student's academic program, including the thesis proposal, oral comprehensive examination, thesis project, and thesis defense.

Whether or not the applicant can be accepted will depend on his or her credentials and intended area of specialization, and the ability of a faculty member to accept a new MS advisee. Before a student is admitted to the MS program in environmental science and biology, a faculty member must be willing to serve as the student's thesis advisor.

The Curriculum
The MS program in environmental science and biology is designed so that the student can complete all coursework in 2 years.

First Fall Semester		**Credits**
*Experimental Design (ENV 614)		3
*Research Seminar (ENV 705)		1
700/600/500 Level Elective		3-4
700/600/500 Level Elective		3-4
	Subtotal	**10-12**
First Spring Semester		
*Research Seminar (ENV 705)		1
700/600/500 Level Elective		3-4
700/600/500 Level Elective		3-4
	Subtotal	**7-9**
Second Fall Semester		
700/600/500 Level Elective		3-4
700/600/500 Level Elective		3-4
	Subtotal	**6-8**
Second Spring Semester		
**Thesis Research (ENV 704)		1
700/600/500 Level Elective		3-4
	Subtotal	**4-5**
Minimum credits required for graduation		**30**

*Required course.
**Must take at least one credit of ENV 704, Research Thesis; make take up to six credits.

Graduation Requirements

1. Establish a Thesis Advisory Committee early in the first semester after matriculation.
2. Complete the graduate *Plan of Study*, as determined by the Thesis Advisory Committee in consultation with the candidate, by the end of the first semester after matriculation.
3. Complete a Thesis Research Proposal acceptable to the Thesis Advisory Committee by the end of second semester after matriculation.
4. Successfully complete an Oral Comprehensive Examination, administered by the Thesis Advisory Committee, by the end of the third semester after matriculation. The results of the exam may be used by the Advisory Committee to adjust the candidate's *Plan of Study*. In case of failure of the exam, ONE oral reexamination may be granted by the committee before the start of the fourth semester after matriculation.
5. Required core courses (13 credits)
    a. Graduate Research Seminar (ENV 705 – 4 credits, taken as one, 1-credit course per semester during the first four semesters after matriculation).
    b. Thesis (ENV 704 – 6 credits, taken as 2 credits in each of the second, third and fourth semesters after matriculation)
    c. Experimental Design (ENV 614 – 3 credits)
6. A minimum of 17 semester hours at the 600- and 700-level.
7. A minimum of 30 semester hours of graduate credit with a cumulative GPA of 3.0 or higher in all graduate courses taken at SUNY Brockport.
8. A defense of a written thesis administered by the Thesis Advisory Committee.
9. Submission of five copies of the successfully defended thesis to the ESB department's secretary.

Environmental Science and Biology Courses

New and revised Course Registration forms have been submitted to the Registrar in order to update Banner.