ENVIRONMENTAL MANAGEMENT SYSTEMS
ENVIRONMENTAL ANALYSIS & RISK MANAGEMENT

Students in this concentration will develop a knowledge and practical understanding of: chemistry (analytical, organic, and quantitative analysis, instrumentation, soil and water chemistry); environmental microbiology; environmental fate and transport geology (hydrology); land use planning (including GIS/GPS); site investigation principles and collection methods; human and ecological risk assessment; and federal and local regulations governing site assessment, site evaluation, and site remediation. Graduates in Environmental Management Systems are well-qualified for a variety of careers because of their solid training in sciences, problem-solving, and written and oral communications. This program will provide you with the knowledge and skills for a career in environmental management, as well as for graduate and professional school.

Career possibilities: air quality control specialist, environmental analyst/manager, environmental project coordinator, environmental scientist

### SEMESTER 1
**CRITICAL: MATH 1021.**
EMS 1011 Environment and Technology: Perspective on Environmental Problems (3)
BIOL 1201 Biology for Science Majors I (3)
BIOL 1208 Biology Laboratory for Science Majors I (1)
ENGL 1001 English Composition (3)
MATH 1021 College Algebra (3)
General Education course - Humanities (3)
**Total Semester Hours: 16**

### SEMESTER 2
**CRITICAL: CHEM 1201; MATH 1022.**
CHEM 1201 General Chemistry I (3)
BIOL 1202 Biology for Science Majors II (3)
POLI 2051 American Government (3) or SOCL 2001 Introductory Sociology (3)
MATH 1022 Plane Trigonometry (3)
General Education course - Arts (3)
**Total Semester Hours: 15**

### SEMESTER 3
**CRITICAL: EMS 1011; BIOL 1201.**
AGEC 2003 Introduction to Agricultural Economics (3) or ECON 2030 Economic Principles (3)
BIOL 1209 Biology Laboratory for Science Majors II (1)
EMS 2011 Analysis of Environmental Issues (3)
CHEM 1202 General Chemistry (3)
CHEM 1212 General Chemistry Laboratory (2)
CMST 2060 Public Speaking (3)
**Total Semester Hours: 15**

### SEMESTER 4
**CRITICAL: BIOL 1202.**
CHEM 2060 Survey of Organic Chemistry (3) or CHEM 2261 Organic Chemistry (3)
AGRO 2051 Soil Science (4)
ENGL 2000 English Composition (3)
MATH 1431 Calculus with Business and Economic Applications (3)
**Total Semester Hours: 13**

### SEMESTER 5
**CRITICAL: CHEM 2060/CHEM 2261; ENGL 2000.**
CHEM 2001 Analytical Chemistry (3)
MGT 3200 Principles of Management (3)
PHYS 2001 General Physics I (3)
General Education course - Humanities (3)
General Elective (3)
**Total Semester Hours: 15**

### SEMESTER 6
BIOL 2051 General Microbiology (4)
AGRO 4055 Chemical Properties of Soil (4)
EXST 2201 Introduction to Statistical Analysis (4)
General Electives (4)
**Total Semester Hours: 16**

### SEMESTER 7
EMS 3050 Environmental Regulations and Compliance (3)
Approved Electives (13)
**Total Semester Hours: 16**

### SEMESTER 8
EMS 3040 Applied Environmental Management (4)
EMS 4020 Quantitative Risk Assessment (3)
Elective (1)
Approved Electives (6)
**Total Semester Hours: 14**

**120 TOTAL SEMESTER HOURS**

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1 - A list of approved electives is available in the School of Plant, Environmental and Soil Sciences. Students may select no more than six hours of approved electives below the 3000-level.