Revised May 15, 2009

SOIL, ENVIRONMENTAL & ATMOSPHERIC SCIENCES B.S. DEGREE WITH EMPHASIS IN ENVIRONMENTAL SCIENCE
(128 credit hours)

University Requirements (32 credits)

ENGLISH 1000 - Exposition and Argumentation (3 credits) FSpS
Course to fulfill State Law Requirement (3 credits)
(History 1100, 1200, or 1400 or Political Science 1100 or 1700)
AG EC 1041 - Applied Microeconomics (3 credits) FSp **or**
AG EC 2070 - Environmental Economics & Policy (WI) (3 credits) Sp
RU SOC 1000 - Rural Sociology (3 credits) FSp **or**
RU SOC 1120 - Population and Ecology (3 credits) FSp
Humanistic Studies and Fine Arts electives (9 credits)
MATH 1100 - College Algebra for Calculus Bound Students (3 credits) FSpS
STAT 2530 - Statistical Methods in Natural Resources (3 credits) Sp
CHEM 1310 - General Chemistry I (2 credits) FSpS
CHEM 1320 - General Chemistry II w/Lab (3 credits) FSpS

Departmental Quantitative Skills (3 credits)

MATH 1400 - Calculus for Social and Natural Sciences I (3 credits) FSpS **or**
MATH 1500 – Analytical Geometry and Calculus I (5 credits) FSpS
Recommended elective for Air Quality Track -
MATH 1700 – Calculus II (5 credits) FSp

Departmental Sciences (32-33 credits)

Biological Science (15 credits)
BIO SC 1200 - General Botany w/Lab (5 credits) F
BIO SC 1500 - Introduction to Biological Systems w/Lab (5 credits) FSpS
BIO SC 3650 - General Ecology (WI) (5 credits) F **or**
FOREST 4320 - Forest Ecology (WI) (5 credits) F
Chemistry (3 credits)
CHEM 1330 - General Chemistry III w/Lab (3 credits) FSpS
Recommended electives -
CHEM 2050 - Introduction to Organic Chemistry w/Lab (5 credits) F **or**
CHEM 2100 - Organic Chemistry I (3 credits) FSpS **and**
CHEM 2110 - Organic Chemistry II (3 credits) FSpS **and**
CHEM 2130 - Organic Chemistry Lab I (2 credits) FSp
Geology (4 credits)
GEOL 1100 - Principles of Geology w/Lab (4 credits) FSpS **or**
GEOL 1200 - Environmental Geology w/Lab (4 credits) FSp
Physics (4 or 5 credits)
ENV SC 4305 – Environmental Soil Physics (3 credits) F **and**
ENV SC 4306 – Environmental Soil Physics Laboratory (2 credits) F **or**
PHYSCS 1210 - College Physics I (4 credits) FSpS **or**
PHYSCS 2750 - University Physics I (5 credits) FSpS
Recommended elective for Air Quality Track -
PHYSCS 2760 - University Physics II (5 credits) FSp
Social Sciences (6 credits)
AG ED 2220 - Verbal Communication in Agriculture, Food & Natural Res. (3 credits) FSp **or**

COMMUN 1200 – Public Speaking (3 credits) FSpS **or**
RU SOC 2010 - Leadership in Today's World (3 credits) FSp **or**
RU SOC 2225 – Science, Technology, & Society (3 credits) Sp **and**
AG EC 4356 - Environmental Law & Policy (3 credits) F **or**
NAT R 4353 - Natural Resource Policy/Administration (3 credits) Sp **or**
P R & TR 3231 - Principles of Interpretative Outdoor Recreation (3 credits) Sp **or**

Departmental Requirements (29-30 credits)

Atmospheric Science/Soil Science (8 credits)
ATM SC 1050 - Introduction to Meteorology (3 credits) FSp
SOIL 2100 - Introduction to Soils (3 credits) FSp
SOIL 2106 - Soil Science Laboratory (2 credits) FSp

Computer Science (3 - 4 credits)
AGRIC 1111 - Computing and Information Systems I (3 credits) FSp **and**
NAT R 1090 - Beginning GIS for Natural Resources (1 credit) FSp **or**
CMP SC 1040 - Introduction to Problem Solving and Programming (3 credits) FSpS **or**
CMP SC 1050 - Algorithm Design and Programming I (3 credits) FSpS **or**
NAT R 4325 - Introduction to GIS (3 credits) Sp **or**
GEOG 4840 - Geographic Information Systems I (3 credits) FSp

Environmental Science Emphasis Area Requirements (15 credits)
ENV SC 1100 - Introduction to Environmental Science (3 credits) F
ENV SC 3290 - Soils and the Environment (WI) (3 credits) F
ENV SC 3500 – Pollutant Fate and Transport (3 credits) Sp
ENV SC 4320 - Hydrologic and Water Quality Modeling (3 credits) Sp

Capstone Experience (3 credits)
NAT R 4970 - Natural Resources Practicum (3 credits) Sp **or**
ATM SC 4990 – Daily Analysis and Forecast Interpretation (3 credits) Sp

Concentration Specific (21-22 credits)

Water Quality Track
F&W 3400 - Water Quality & Natural Resource Management (3 credits) Sp
ENV SC 4940 - Environmental Science Internship (3 credits) FSpS
Select 5 classes from the following list (must take courses from at least two departments)
AGSM 4420 - Surface Water Management (3 credits) FSp
ATM SC 3600 - Climates of the World (3 credits) Sp
ATM SC 4400 - Micrometeorology (3 credits) F
BIO EN 4150 - Soil and Water Conservation Engineering (3 credits) F
CV ENG 3702 - Hydrology (4 credits) FSp
CV ENG 4200 - Remote Sensing of the Environment (3 credits)
ENV SC 3330 – Land Use Management (3 credits) Sp
ENV SC 4305 - Environmental Soil Physics (3 credits) F
ENV SC 4312 - Environmental Soil Microbiology (3 credits) Sp
ENV SC 4318 – Environmental Soil Chemistry (3 credits) Sp
F&W 4100 - Limnology (3-4 credits) F
F&W 4800 - Environmental Toxicology (3 credits) Sp
FOREST 4360 - Forest Information Systems (3 credits) F
FOREST 4390 - Watershed Management & Water Quality (3 credits) F
GEOG 4630 - Fluvial Geomorphology (3 credits)
GEOG 4830 - Remote Sensing (3 credits) F
GEOG 4840 – Geographic Information Systems I (3 credits) FSp

GEOG 4940 - Geographic Information Systems II (3 credits) Sp
GEOL 4100 – Ground Hydrogeology (3 credits) F
GEOL 4110 - Karst Hydrology (3 credits)
GEOL 4300 - Introduction to Low-Temperature Geochemistry (3 credits) Sp
NAT R 4325 - Introduction to GIS (3 credits) Sp
PLNT S 4720 - Aquatic Entomology (3 credits)
SOIL 4308 - Soil Conservation (3 credits) Sp
SOIL 4313 - Soil Fertility and Plant Nutrition (3 credits) Sp
SOIL 4320 - Genesis of Soil Landscapes (4 credits) F

Land Management Track

ENV SC 3330 – Land Use Management (3 credits) Sp
ENV SC 4940 - Environmental Science Internship (3 credits) FSpS
Select 5 classes from the following list (must take courses from at least two departments)
AGSM 4360 - Precision Agriculture Science and Technology (3 credits) Sp
AGSM 4420 - Surface Water Management (3 credits) FSp
ATM SC 3600 - Climates of the World (3 credits) Sp
ATM SC 4400 - Micrometeorology (3 credits) F
BIO EN 4150 - Soil and Water Conservation Engineering (3 credits) F
CV ENG 4200 - Remote Sensing of the Environment (3 credits)
ENV SC 4305 - Environmental Soil Physics (3 credits) F
ENV SC 4312 - Environmental Soil Microbiology (3 credits) Sp
ENV SC 4318 – Environmental Soil Chemistry (3 credits) Sp
F&W 4800 - Environmental Toxicology (3 credits) Sp
FOREST 3207 - Forest Fire Control and Use (2 credits) F
FOREST 4330 - Practice of Silviculture (3 credits) Sp
FOREST 4370 - Wildland Fire Management (3 credits) Sp
FOREST 4360 - Forest Information Systems (3 credits) F
FOREST 4390 - Watershed Management & Water Quality (3 credits) F
GEOG 3610 - Physical Geography of the US (3 credits) FSp
GEOG 3630 - Process Geomorphology (3 credits) F
GEOG 4710 - Spatial Analysis in Geography (3 credits) F
GEOG 4830 - Remote Sensing (3 credits) F
GEOG 4840 – Geographic Information Systems I (3 credits) FSp
GEOG 4940 - Geographic Information Systems II (3 credits) Sp
NAT R 4325 - Introduction to GIS (3 credits) Sp
PLNT S 3270 - Forage Crops (3 credits) F
PLNT S 3275 - Grain Crops (3 credits) F
RU SOC 4341 - Building Communities from the Grassroots (3 credits) FSp
SOIL 4308 - Soil Conservation (3 credits) Sp
SOIL 4313 - Soil Fertility and Plant Nutrition (3 credits) Sp
SOIL 4320 - Genesis of Soil Landscapes (4 credits) F

Air Quality Track

ATM SC 2720 - Weather Briefing (1 credit) Sp
ATM SC 4550 - Atmospheric Physics (3 credits) F
ATM SC 4949 - Internship in Meteorology (3 credits) FSpS
Select 5 classes from the following list (must take courses from at least two departments)
ATM SC 3600 - Climates of the World (3 credits) Sp
ATM SC 4400 - Micrometeorology (3 credits) F

ATM SC 4500 – Advanced Meteorological Observation & Instrumentation (3 credits) F
ATM SC 4310 - Atmospheric Thermodynamics (4 credits) F
ATM SC 4650 - Long Range Forecasting (3 credits) Sp
ATM SC 4710 - Synoptic Meteorology I (4 credits) F
BIO EN 4150 - Soil and Water Conservation Engineering (3 credits) F
CH ENG 4311 - Chemodynamics (3 credits) Sp
CH ENG 4312 - Air Pollution Control (3 credits) F
CHEM 4280 - Environmental Chemistry (3 credits)
CV ENG 3200 - Fundamentals of Environmental Engineering (4 credits) FSp
CV ENG 3702 - Hydrology (4 credits) FSp
CV ENG 4200 - Remote Sensing of the Environment (3 credits)
GEOG 4830 - Remote Sensing (3 credits)
GEOG 4840 - Geographic Information Systems I (3 credits) FSp
GEOG 4940 - Geographic Information Systems II (3 credits) Sp
NAT R 4325 - Intro to GIS (3 credits) Sp

Electives (9-12 credits)

Remaining hours from university, quantitative, science, and department to complete 128 credit hours total requirement.