

MS in Natural Resources with Emphasis in Soil, Environmental and Atmospheric Sciences

The Master of Science in Natural Resources with an emphasis in Soil, Environmental and Atmospheric Sciences is designed to prepare students for academic careers in research and teaching or other advanced scientific or professional careers. Students entering the MS program are required to have a BS degree. MS candidates conduct original research under the supervision of a faculty advisor or advisors and with the participation of a master's committee. The Soil, Environmental and Atmospheric Sciences program expects students to take part in professional and educational activities by giving presentations at conferences and presenting seminars. MS candidates complete a thesis and are expected to publish their research results in peer-reviewed scientific journals. A non-thesis option is also available that requires additional coursework and a research project.

Degree Requirements

The degree program with emphasis in SEAS must include:

- 30 hours of graduate credit, with at least 15 hours comprised of 8000- or 9000-level courses.
- A minimum of one credit hour of graduate seminar must be included in each student's graduate program.
- All students enrolled in graduate programs are required to participate in a supervised teaching activity.

For an atmospheric science focus area, appropriate atmospheric science courses must be selected and approved in consultation with the student's advisor and graduate thesis committee.

For a soil science focus area, at least 12 credit hours of soil science courses at the 7000, 8000, and 9000 levels, exclusive of problems and thesis research, must be included in the student's graduate program.

For an environmental science focus area, at least six credit hours of environmental science courses at the 7000, 8000, and 9000 levels, exclusive of problems and thesis research, must be included in the student's graduate program. To meet the six credit hour requirement, courses must be selected from the following list of approved environmental science courses:

ATM_SC 7520	Environmental Biophysics	3
ENV_SC 7305	Environmental Soil Physics	3
ENV_SC 7306	Environmental Soil Physics Laboratory	2
ENV_SC 7312	Environmental Soil Microbiology	3
ENV_SC 7318	Environmental Soil Chemistry	3
ENV_SC 7320	Hydrologic and Water Quality Modeling	3
ENV_SC 8400	Solute Transport in the Vadose Zone	3
FOREST 7390	Watershed Management and Water Quality	3
FOREST 8390	Physical Hydrology	3
SOIL 7308	Soil Conservation	3
SOIL 7313	Soil Fertility and Plant Nutrition	3

SOIL 7314	Soil Fertility and Plant Nutrition Laboratory	2
SOIL 7320	Genesis of Soil Landscape	4
SOIL 9422	Pedology	3
Total Credits		41

To complete the environmental science focus area, an additional six credit hours must be selected from courses listed above or from the following programs: biochemistry, biological engineering, biological sciences, chemical engineering, chemistry, civil and environmental engineering, fisheries and wildlife sciences, forestry, geography, geological sciences, and natural resources. Selection of these courses will be determined in consultation with faculty members serving on a student's thesis committee.

Accelerated BS in Environmental Sciences with Emphasis in Atmosphere to MS in Natural Resources with Emphasis in Soil, Environmental and Atmospheric Sciences

An accelerated option is available for students pursuing the BS in Environmental Sciences with an emphasis in Atmospheric Science (<https://catalog.missouri.edu/collegeofagriculturefoodandnaturalresources/environmentalsciences/bs-environmental-sciences-emphasis-atmosphere/>) to complete the MS in Natural Resources with an emphasis in Soil, Environmental and Atmospheric Sciences on the Atmosphere track.

Refer to the Graduate School's webpage on Accelerated Programs (<https://gradschool.missouri.edu/admissions/apply/accelerated-masters-applicants/>) for more information. For general information on how accelerated options work at MU, and for guidance on participation, refer to Accelerated Options (<https://catalog.missouri.edu/academicpolicies/acceleratedoptions/>) in the catalog.

Recommended Preparation

Appropriate undergraduate majors in preparation for graduate studies in the soil, environmental and atmospheric sciences emphasis area include: agronomy, atmospheric science, biochemistry, biology, biogeochemistry, botany, chemistry, earth science, civil and environmental engineering, environmental science, forestry, geosciences, hydrology, mathematics, microbiology, physics, soil science, and watershed management. Check with the Emphasis Area Coordinator for specific recommendations for preparation for each graduate focus area.

Applicants should contact specific faculty to determine the availability of potential advisors, available position(s) in the potential advisor's lab, and of available research assistantships prior to applying.

Completion of a BS Degree

Undergraduate GPA of 3.0 for the last 60 hours of coursework

- **Atmospheric science focus area applicants:** undergraduate program should include integral calculus and one year of college physics.
- **Environmental science focus area applicants:** undergraduate program should include general and organic chemistry, introductory biology, calculus, geology, physics, and ecology.
- **Soil science focus area applicants:** completed courses in general and organic chemistry, calculus, geology and physics. Inadequacies

in courses must be remedied through additional course work
immediately after admission.

Graduate Emphasis Area Coordinator

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