Soil Science (MR)

Degree Requirements

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
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<tbody>
<tr>
<td>SSC 601</td>
<td>Seminar ¹</td>
<td>5-8</td>
<td></td>
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<tr>
<td>SSC 620</td>
<td>Special Problems</td>
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Core Courses 4-7

Select four of the following courses:

- SSC 511 Soil Physics
- SSC 521 Soil Chemistry
- SSC 532 Soil Microbiology
- SSC 541 Soil Fertility
- SSC 551 Soil Morphology, Genesis and Classification

Undergraduate Courses 6

400-Level undergraduate courses from outside soil science will be determined in conjunction with the academic committee.

Elective Courses 18

"Elective Courses" will be determined in conjunction with the academic committee ⁴

Total Hours 36

¹ Students can take no more than two credits of SSC 601 Seminar total.
² Students can take four to six credits of SSC 620 Special Problems.
³ Students may have courses waived upon proving competency in the following coursework.
⁴ Students must take at least 18 hours of letter-graded course work – these must be NC State courses or inter-institutional courses (https://studentservices.ncsu.edu/your-classes/exchange-programs/inter-institutional-program/).

Additional Requirements

All Masters students must demonstrate competence in four of the five sub-disciplines listed below, and Doctoral students must demonstrate competency in all five.

- Soil Chemistry
- Soil Fertility and Plant Nutrition
- Soil Genesis and Classification
- Soil Microbiology and Biochemistry
- Soil Physics

The required competencies can be achieved by any combination of the following:

1. relevant course work from previous undergraduate and/or graduate degree programs;
2. prior professional experience in the major sub-discipline(s); and
3. graduate courses included in the student’s Plan of Work (POW) for their current degree program.

Faculty

Full Professors

Aziz Amoozegar
Area of Research: Environmental Soil Physics

Stephen W. Broome
Area of Research: Environmental Soil Science

David A. Crouse
Area of Research: Soil Science Education

Owen W. Duckworth
Area of Research: Soil Biogeochemistry

Alan J. Franzluebbers
Area of Research: Soil Ecology and Management

John L. Havlin
Area of Research: Soil Fertility

Joshua L. Heitman
Area of Research: Soil Physics & Hydrology

Richard A. McLaughlin
Area of Research: Urban Soil & Water Management

Michael D. Mullen
Area of Research: Soil Biology & Soil Science Education

Deanna L. Osmond
Area of Research: Soil Fertility & Watershed Management

Wei Shi
Area of Research: Soil Microbiology & Ecology

Michael J. Vepraskas
Area of Research: Wetland Soils & Pedology

Associate Professors

Alexandria K. Graves
Area of Research: Soil Microbiology

Assistant Professors

Kevin Garcia
Area of Research: Plant-Microbe Interactions & Nutrient Transport

Terrence G. Gardner
Area of Research: Soil & Environmental Microbial Ecology

Luciano C. Gatiboni
Area of Research: Soil Fertility & Nutrient Management

Amy M. Johnson
Area of Research: Soil Science

Stephanie B. Kulesza
Area of Research: Nutrient Management and Animal Waste
Matthew C. Ricker  
**Area of Research:** Pedology

Alex L. Woodley  
**Area of Research:** Sustainable Agricultural Systems

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**Practice/Research/Teaching Professors**

Robert E. Austin  
**Area of Research:** Geospatial Information and Analytics in Soils, Agriculture and Environmental Science

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**Emeritus Faculty**

Stanley W. Buol  
Keith Cassel  
Maurice Cook  
Fred Cox  
Carl Crozier  
George Cummings  
J. Wendell Gilliam  
Dean L. Hesterberg  
Daniel Israel  
Joseph Kleiss  
David Lindbo  
Gordon Miner  
George C. Naderman Jr.  
Wayne Robarge  
Thomas J. Smyth  
Richard Volk  
Michael Wagger  
Jeffrey G. White  
Arthur Wollum