

# Soil Science (MR)

---

## Degree Requirements

Code	Title	Hours	Counts towards
<b>Required Courses</b>		<b>5-8</b>	
SSC 601	Seminar <sup>1</sup>		
SSC 620	Special Problems <sup>2</sup>		
<b>Core Courses</b>		<b>4-7</b>	
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		
<b>Undergraduate Courses</b>		<b>6</b>	
400-Level undergraduate courses from outside soil science will be determined in conjunction with the academic committee			
<b>Elective Courses</b>		<b>18</b>	
"Elective Courses" will be determined in conjunction with the academic committee <sup>4</sup>			
<b>Total Hours</b>		<b>36</b>	

<sup>1</sup> Students can take no more than two credits of SSC 601 Seminar total.

<sup>2</sup> Students can take four to six credits of SSC 620 Special Problems.

<sup>3</sup> Students may have courses waived upon proving competency in the following coursework

<sup>4</sup> 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

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

---

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

Hui Li

Matthew C. Ricker

**Area of Research:** Pedology

Alex L. Woodley

**Area of Research:** Sustainable Agricultural Systems

---

## Practice/Research/Teaching Professors

Robert E. Austin

**Area of Research:** Geospatial Information and Analytics in Soils,  
Agriculture and Environmental Science

---

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 Waggoner

Jeffrey G. White

Arthur Wollum