Soil Science

Soil scientists study and manage land and water resources to protect the environment and enhance agricultural productivity. Graduate education opportunities in Soil Science at NC State prepares students for careers with public and private organizations in soil, agricultural, environmental, and natural resource sciences. Our graduates find employment opportunities with private sector firms, government organizations, academia, and entrepreneurship.

You will have the opportunity to study and do research with world-class faculty in outstanding laboratory and field facilities. Graduate students may specialize in the following sub-disciplines: soil physics; soil chemistry; soil microbiology and biochemistry; soil fertility and plant nutrition; soil genesis, morphology and classification; and soil, water and land management and conservation. Students can also incorporate other disciplines into their work, presenting outstanding opportunities to focus on issues of interest.

Admission Requirements

A minimum of a 3.0 GPA at the baccalaureate (BS) or master’s (MS) level is required. However, exceptions may be made for master’s applicants with a very strong GPA in science classes, an exceptional track record in their final two years, or with substantial post-baccalaureate work experience. Students accepted will typically have a BS or MS degree in Soil Science, or closely related fields, with strong preparation in the biological and physical sciences. Research experience is helpful. The Graduate Record Exam (GRE) is not required for application or admission to Soil Science graduate programs. International students must demonstrate proficiency in English prior to admission.

To ensure that all graduates are well founded in all aspects of Soil Sciences, students are expected to demonstrate competence in the following sub-disciplines (four for Master’s and all five for Ph.D. programs): soil physics, soil chemistry, soil microbiology, soil genesis and classification, and soil fertility.

Degrees

- Soil Science (MS) ([http://catalog.ncsu.edu/graduate/agriculture-life-sciences/soil-science/soil-science-ms/](http://catalog.ncsu.edu/graduate/agriculture-life-sciences/soil-science/soil-science-ms/))
- Soil Science (PhD) ([http://catalog.ncsu.edu/graduate/agriculture-life-sciences/soil-science/soil-science-phd/](http://catalog.ncsu.edu/graduate/agriculture-life-sciences/soil-science/soil-science-phd/))
- Soil Science (Minor) ([http://catalog.ncsu.edu/graduate/agriculture-life-sciences/soil-science/soil-science-minor/](http://catalog.ncsu.edu/graduate/agriculture-life-sciences/soil-science/soil-science-minor/))

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

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**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 Cummins
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