

CROP AND SOIL SCIENCES



Crop and **soil sciences** are the disciplines and technologies involved in **managing the soil** and **using plants for food, fuel, feed and fiber**, and **turfgrass for lawns, golf courses** and **sports fields**. **Soil scientists, agronomists** and **plant pathologists** promote **soil health** and **improve crop production** in sustainable systems all over the world while **protecting** our **soil and water resources**. **Turfgrass managers work outdoors** to improve the performance of turfgrass.



MICHIGAN STATE
UNIVERSITY

College of Agriculture
and Natural Resources

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Plant, soil and microbial scientists seek **solutions** to problems related to **world hunger, soil remediation, the effects of climate change on crops, water quality, plant diseases** and **much more**. The major program and research areas within Crop and Soil Sciences are crop physiology and management, environmental soil sciences, microbial ecology, plant pathology, plant breeding and genetics, production ecology, soil fertility and management, turfgrass science and weed science.

Students engage in **experiential learning** through **laboratory exercises** at the Plant and Soil Sciences Building, the Hancock Turfgrass Teaching and Research Center, the MSU Agronomy Teaching and Research Center, and professional internships

Students **choose** one of the **following concentrations**. Elective courses in each track allow students to customize the program to suit their interests and career goals.

- **Agronomic sciences** prepares graduates to work as agronomists for agricultural businesses and government agencies such as departments of agriculture and/or natural resources, the Natural Resources Conservation Service and Extension. Core areas of study are the chemistry and applied physics of soil, weed management, plant biology and genetics, entomology and biotechnology.
- **Turfgrass management** prepares graduates for careers in the management of golf courses, athletic fields, lawns, and parks and grounds. Core areas of study are turfgrass soil fertility, biology and chemistry, plant biology and genetics, turfgrass physiology and entomology, irrigation, and pesticide and fertilizer application.
- **Advanced study** is specifically for those who plan to pursue graduate studies. Students who complete the other two concentrations may also pursue graduate study, but this concentration requires the completion of advanced levels of mathematics and advanced courses in the basic sciences.

Professional Internship Program

Crop and soil sciences students are required to complete a professional internship as part of their major requirements for graduation. This program provides an opportunity for students to bridge the gap between academia and experience, and a chance for employers to preview potential candidates for permanent employment. For the past four years, 100% of our graduates have found employment.

Core areas of study

- Plant biology, physiology and chemistry
- Soil physics
- Soil science (chemistry and biology)
- Plant genetics
- Entomology
- Plant pathology
- Biotechnology
- Weed management

Scholarships

The department awards over \$100,000 per year in scholarships to students who demonstrate outstanding academic performance, character, leadership, and involvement in departmental, university and/or community service activities. Many scholarships also are available from related industry and civic groups.

Sample Career Opportunities

- Agribusiness, manager
- Agronomist
- Crop advisor/consultant
- Farm manager
- Fertilizer, seed and crop protection chemical sales
- Soil conservation
- Research technician
- Golf course superintendent
- Sports field manager
- Professional lawn care service
- Sod production

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For information about this major, visit

www.canr.msu.edu/majors/crop_and_soil_sciences