

PLANT AND ENVIRONMENTAL SCIENCES

Undergraduate Program Information

The undergraduate program in Plant and Environmental Science prepares you for a variety of careers in agriculture and related fields. Accordingly, a flexible curriculum has been designed that will allow specific programs to be developed in consultation with your academic advisor. Programs may also be developed if you wish to prepare for advanced studies in graduate school. In addition to the courses listed for each major, 35 credits must be taken in the College of Agricultural, Consumer and Environmental Sciences, and the university general education requirements must be met.

The minors require a minimum of 18 credits of which at least 9 hours must be at the 300 or higher level. Specific coursework requirements apply. See advisor for course requirements and scheduling.

Graduate Program Information

More than ever, we are linked in an interconnected world: both in agriculture and sustainability of environmental systems. The department has programs in

- plant sciences,
- environmental science,
- soil science,
- water management,
- natural resources management and
- turf management.

Students trained in these areas are in demand for U.S. and international positions. This demand is at all levels of training—BS, MS, and Ph.D. Therefore, the course work and original research in Plant and Environmental Sciences leading to the Master of Science and Doctor of Philosophy are designed for and have proven to be successful in preparing students for commercial companies, educational institutions, governmental agencies and private production enterprises.

The student may emphasize study in several discipline areas described in the following pages.

- The agronomy section emphasizes sustainable crop production, plant-pest/disease/weed interactions, soil-water-plant relations, crop physiology, and breeding and genetics of cotton, alfalfa, maize and peanuts.
- The genetics section places special emphasis on genetic basis of agronomic or horticultural traits, applied bioinformatics, gene regulation and genomics.
- The environmental and soil science sections emphasize environmental quality and ecosystem services, bioremediation, recycling of organic wastes and wastewater, water use efficiency, soil-plant relations, soil-geomorphology and desert ecology, and the fertility, chemistry, physics, and microbiology of soils, including forest soils.
- The horticulture section emphasizes the creative use of plants by humans, and studies on the technical advancements in the husbandry of most economic commodity groups of fruits, vegetables, or ornamentals as well as managed turf. Emphasis may be

in breeding and genetics of chile or onions, plant growth and development, nutrition, dormancy and cold hardiness, plant stress (water and/or salinity) response, fruit and vegetable physiology, forestry, and turfgrass.

Most students will be expected to complete a thesis. The research detailed in a thesis should be of a scope and quality to merit publication in a refereed journal. Depending on prior training and experience, a non-thesis option is available subject to approval by a departmental committee. The non-thesis option requires completion of a research project and paper of limited scope. In both the thesis and non-thesis options, suitability of the research project and resulting thesis or paper will be judged by the student's graduate committee. A minor is recommended and may be taken in chemistry, biology, molecular biology, environmental management, applied statistics, toxicology or other areas.

Prerequisite to major graduate work is completion of a curriculum essentially equivalent to that required by the department for the BS degree at New Mexico State University.