A minor in soil resources is useful for students majoring in agriculture who plan to seek employment in areas of agricultural production, marketing, management, and conservation, i.e., areas in which decision-making requires a basic understanding of soils. The minor is also valuable for students in the Arts and Sciences and other students who would like to understand the fate of chemicals and waste products that are applied to or buried in the soil. For students in Geology, Geography, Anthropology and Archeology, this minor will provide background information for identifying and understanding soils and the climate and processes under which they are formed. Since soil is the basic resource on which civilizations are built, students in an international program, or who are interested in working in developing countries of the world, will acquire a background in soils that will help them relate to the economic and political problems of these developing countries.

Soil is a fundamental resource for ecosystem function and environmental health. It is a living filter that provides vital ecosystem services – including food production, water purification, carbon sequestration, nutrient recycling, and assimilation of waste products. Soil is a key component of natural agricultural, wildland, and urban ecosystems that sustain all global processes. Soil science is highly interdisciplinary; soil scientists apply biology and microbial ecology, chemistry, earth sciences, ecology, hydrology, mineralogy, mathematics, nutrition, toxicology, and physics to understand, sustain, and improve the environment.

The minor in Soil Science is designed to introduce students to basic soil environmental science concepts, techniques and practices. A diverse range of soil science course offerings provide experience with geospatial analysis, computer modeling, spectroscopy, bioassays, molecular biology, and other advanced field and lab technology for soil investigation.

A Soil Science minor consists of 15 semester units* chosen as follows:

**Required Environment and Natural Resources Courses (4 hours):**
ENR 3000 (3), 3001 (1)

**Required Electives (to meet the 15 credit minimum requirement):**
ENR 4260 (3), 5260 (3), 5261 (3), 5262 (3), 5263 (3), 5268 (2), 5270 (3), 5273 (3), 5274 (3), 5279 (3)

*Some courses may include prerequisites not indicated here.
**This minor is not available to students majoring in Environmental Science.**

At least six credits must be at the 3000 level or above.

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### Soil Science minor program guidelines

The following guidelines govern this minor:

**Required for graduation** No

**Credit hours required** A minimum of 15 credit hrs. 1000 level courses shall not be counted in the minor. At least 6 credits must be at the 3000 level or above.

**Transfer and EM credit hours allowed** A student is permitted to count up to 6 total hours of transfer credit and/or credit by examination.

**Overlap with the GE** A student is permitted to overlap up to 6 credit hours between the GE and the minor.

**Overlap with the major and additional minor(s)**
- The minor must be in a different subject than the major.
- The minor must contain a minimum of 12 hours distinct from the major and/or additional minor(s).

**Grades required**
- Minimum C- for a course to be listed on the minor.
- Minimum 2.00 cumulative point-hour ratio required for the minor.
- Course work graded Pass/Non-Pass cannot count in the minor.
- No more than 3 credit hours of coursework graded Satisfactory/Unsatisfactory may count toward the minor.

**X193 credits** No more than 3 credit hours.

**Minor approval** Not required as long as students complete the courses as indicated on the minor program description.

**Filing the minor program form** The minor program form must be filed at least by the time the graduation application is submitted to a college/school counselor.

**Changing the minor** Once the minor program is filed in the college office, any changes must be approved by filing a petition for change in the minor through the academic unit offering the minor.