

Agronomy (AGRO)

Courses

AGRO 3362 Soil Morphology and Classification: 3 semester hours.

The shape and source of soil features materials and processes involved in or produced after the formation of soil with emphasis on variations world-wide and the principles of soil classification, mapping, and interpretation. Additional topics include: soil taxonomy; land capability classification; soil survey and its utilization; and soil interpretations for non-farm uses.

Prerequisites: AGRO 2603 or AGRO 2360 and (AGRO 3633 (may be taken concurrently) or AGRO 3363 (may be taken concurrently)) and (AGRO 3371 (may be taken concurrently) or AGRO 3713 (may be taken concurrently)).

AGRO 3363 Soil Fertility and Fertilizers: 3 semester hours.

Chemical, biological and physical processes as they influence soil fertility, manufacture of fertilizers and their reactions with soils and the oil-plant-water system.

Prerequisites: AGRO 2603 or AGRO 2360 and (AGRO 3623 (may be taken concurrently) or AGRO 3362 (may be taken concurrently)) and (AGRO 3713 (may be taken concurrently) or AGRO 3371 (may be taken concurrently)).

AGRO 3364 Soil and Water Management: 3 semester hours.

Sustainable soil productivity and management in agricultural systems involving resource inputs, tillage systems, erosion control, residue management, and water management for a quality environment.

Prerequisites: (AGRI 2360 or AGRO 2603) and (AGRO 3373 (may be taken concurrently) or AGRO 3733).

AGRO 3371 Gen Entomology: 3 semester hours.

Insect morphology, life histories, characteristics and habits of beneficial and harmful insects and their impact on agricultural production and the environment; anatomy and physiological growth and metamorphosis, insect orders, ecological aspects and insect behavior, control of harmful insects.

Prerequisites: AGRO 1703 or AGRI 1370.

AGRO 3373 Plant Pathology: 3 semester hours.

Fundamental principles of plant pathology, including parasites and disease development, identification of major agronomic diseases and their biotic and abiotic causes; proper diagnosis of plant diseases, differentiation between signs and symptoms, isolation of pathogens in pure culture; environmental effects on development of infectious plant diseases; control of plant diseases.

Prerequisites: AGRI 1370 or AGRO 1703.

AGRO 3399 Independent Study: 1-3 semester hour.

Readings, research and/or field work on selected topics.

AGRO 4361 Soil Microbiology: 3 semester hours.

Role of soil microorganisms in soil-plant ecosystems. Microbial ecology, microbes in nutrient cycles important to agriculture, pesticide degradation, bacterial fertilizers, composting, waste disposal, plant microbe interactions. Laboratory estimation of soil microbial populations and measurement of important biological processes in soil and current methods.

Prerequisites: AGRO 3362 or AGRO 3623 and (AGRO 3363 or AGRO 3633) and (AGRO 3364 or AGRO 3643).

AGRO 4362 Environmental Science: 3 semester hours.

Physical, chemical, biological and agricultural components of the environment and their interactions and effects on pollution and the maintenance and utilization of varied environmental systems.

Prerequisites: AGRO 2360 or AGRO 2603 and (AGRI 1301 or AGRO 2613).

AGRO 4399 Independent Study: 1-3 semester hour.

Readings, research and/or field work on selected topics.

AGRO 5366 Principles of Environmental Science and Management: 3 semester hours.

Discussion, study and analysis of the methods of monitoring, assessing, and designing remedies for environmental pollution, including the physical, chemical and biological components utilized in maintaining and improving the capacity of varied environmental characteristics as related to agricultural production.

AGRO 5375 Soils, Ecology, and Land Uses: 3 semester hours.

Soils and their properties as planned related to landscape ecology and specific land uses will be examined on a global, regional, and local level. An ecosystem approach will be used to examine issues and current problems associated with ecology and land use practices in agricultural systems, rangelands, forests, and wetlands. Also, ethical and philosophical points will be considered based on different soils, ecology, and land use viewpoints.

AGRO 5379 Problems and Issues in Environmental Science: 3 semester hours.

Identification and analysis of current trends and issues in environmental science. Evaluation of pending legislation, federal agency regulations and state and local policy applications. Reports; discussions; projects.