

AGRONOMY (AGRO)

AGRO 501: Graduate Student Dialogue

1 Credits

Orientation discussion group for incoming graduate students. Review departmental policies and learn about the diverse faculty programs in the department. AGRO 501 Graduate Student Dialogue (1) The objectives of this course are to (i) provide orientation on departmental policies and procedures to incoming graduate students, (ii) introduce students to the wide array of faculty research programs in the department, and (iii) build camaraderie among the cohort of students. This course is required of new graduate students in the department, yet inapplicable to '500-level major field' credit requirement. The course is graded pass/fail with emphasis on weekly classroom participation.

Cross-Listed

AGRO 510: Ecology of Agricultural Systems

3 Credits

Examination of ecological concepts and research on agroecosystem processes and dynamics via discussion and analysis of review and research papers. AGRO 510 Ecology of Agricultural Systems (3) This course covers agroecological components, processes, and dynamics. Emphasis is placed on learning via reading and discussing the recent agroecological research literature. Students also gain experience interpreting and critically analyzing scientific papers and theories. Students lead some of the class discussions on the assigned readings. They identify one or two articles that are relevant to their graduate research subject to read and discuss with the class. Students write review papers on the course themes and on agroecology research that is relevant to their graduate research topic. The course is offered in alternative years during spring semesters.

Prerequisite: BIOL 546 or HORT 445 or the equivalent (Classic Ecology, Population Ecology or Plant Ecology)

AGRO 518: Responses of Crop Plants to Environmental Stress

3 Credits

Physiological and ecological aspects of the response of crop plants to environmental stresses in establishment, persistence, and reproduction.

Prerequisite: AGRO 410W

AGRO 555: Effective Scientific Communications

2 Credits

Instruction and practice in verbal communication of scientific information to technical and non-technical audiences through realistic exercises with invited audiences. AGRO 555 Effective Scientific Communications (2) The overall course objective is discovery of methods to effectively communicate scientific information to both fellow scientists and the lay community. A majority of the course will be devoted to preparing students to deliver oral and poster presentations technically appropriate for their target audience. Specifically, students will learn to present information in oral and poster formats used for scientific meetings, seminars, and proposal hearings. Additional emphasis will be placed on techniques for handling questions from the audience. Students will also determine appropriate scientific paper formats, and realize how outlines

facilitate organized technical writing. Students will improve their critical listening, thinking, and interpersonal skills by participating in weekly topical discussions as well as peer reviews. This course is unlike others in the Crop and Soil Sciences curriculum in that it teaches students how to communicate what they have learned during their research and academic endeavors. Enrollees will make two formal presentations based on their research, present their research as a scientific poster and conduct an exercise in writing a scientific journal article. Students will be evaluated on five criteria: participation, scientific poster presentation, technical oral presentation, non-technical oral presentation, and a scientific journal writing exercise.

AGRO 590: Colloquium

1-3 Credits/Maximum of 3

Continuing seminars which consist of a series of individual lectures by faculty, students, or outside speakers.

Cross-Listed

AGRO 596: Individual Studies

1-9 Credits/Maximum of 9

Creative projects, including nonthesis research, which are supervised on an individual basis and which fall outside the scope of formal courses.

AGRO 597: Special Topics

1-9 Credits/Maximum of 9

Formal courses given on a topical or special interest subject which may be offered infrequently; several different topics may be taught in one year or term.

AGRO 600: Thesis Research

1-15 Credits/Maximum of 999

No description.

AGRO 601: Ph.D. Dissertation Full-Time

0 Credits/Maximum of 999

No description.

AGRO 602: Supervised Experience in College Teaching

1-3 Credits/Maximum of 3

Supervised training in teaching methodology for classroom and laboratory type instruction. Supervision provided by faculty member responsible for course.

AGRO 610: Thesis Research Off Campus

1-15 Credits/Maximum of 999

No description.

AGRO 611: Ph.D. Dissertation Part-Time

0 Credits/Maximum of 999

No description.

AGRO 808: Applied Computational Analysis

3 Credits/Maximum of 999

Comprehensive appraisal of designs for field, greenhouse, and growth-chamber experiments; and techniques for data collection, analysis, inference, and presentation. This course provides practical guidance in effective design, management, and interpretation of parametric experimentation by agricultural, environmental, and/or horticultural researchers. Upon course completion, students will be able to: define and specify appropriate experimental designs for field, greenhouse, and growth chamber research with consideration of the planned hypotheses, methodologies, and available resources; interpret/classify types of response data, describe components of experimental error and develop sampling/data collection strategies for control of error, bias, and confounding. Students will demonstrate proficiency in data organization and pre-processing for computational analysis; distinguish the required assumptions of analysis of variance (ANOVA), describe procedures to assess and resolve initially noncompliant data sets; implement software code for data analysis by experimental design; invoke appropriate mean separations, contrast statements, covariate structures, and linear estimators as necessary to optimize inference; employ software output to construct tables/figures that clearly depict sources/parameters/statistics; and construct line-, bar-, or scatter-plot graphs to describe mean response and/or significant trends/differences. The objective of Applied Computational Analysis is furtherance of thesis research quality through proficient experimental design, methodology, data analysis, and results inference.

AGRO 851: Applied Plant Population Biology

3 Credits

Lectures and exercises designed to develop student competency in plant selection to promote ecological diversity and genetically superior plants. AGRO 851 Applied Plant Population Biology (3) Even though the emphasis of this course will be on the applied aspects of plant population biology, students nevertheless require a fundamental understanding of the underlying science and theory on which to guide their land management decisions, with particular emphasis on plant materials. This course is designed to give potential superintendents and managers of large land holdings (such as golf courses, highway roadsides, game lands, and military installations) the skills necessary for making sound ecological decisions regarding the choice and management of plant materials utilized in land restoration and revegetation. Emphasis will be made on the applied aspects of plant population biology.