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.

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 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
3 Credits
Students will learn to effectively present their research to scientific and non-scientific audiences. The overall goal of the course is to develop student skills in spoken and written communication of scientific concepts, methods, and data, and to provide effective evidence-based recommendations for practical application of such knowledge. In addition, students will develop skills in writing testable hypotheses, evaluating experimental approaches, considering alternative approaches, and envisioning expected outcomes of a research plan.

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.

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.