AGSC - Agricultural Science

AGSC 101 Introduction to Agricultural and Environmental Resources: 1 Credits (1 Lec)
PREREQUISITE: Freshman or New Transfer Students. This course is optional but all freshmen in the College of Agriculture are strongly encouraged to enroll. Students taking this course will be introduced to all areas of the very broad field of agriculture, including all department programs and areas of specialty, career opportunities, professionalism, history, and ethics

AGSC 242 Crop Identification: 1 Credits (2 Lab)
Meets first third of semester. Recognition and identification of seed, vegetative parts, and floral structure of selected field and forage crops.

AGSC 290R Undergraduate Research: 1-6 Credits (1-6 Other)
PREREQUISITE: Consent of instructor. Directed undergraduate research/ creative activity which may culminate in a written work or other creative project. Course will address responsible conduct of research
Repeatable up to 99 credits.

AGSC 291 Special Topics: 1-3 Credits (1-3 Lec)
PREREQUISITE: None required but some may be determined necessary by each offering department. Courses not required in any curriculum for which there is a particular one time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number

AGSC 292 Independent Study: 1-3 Credits (1-3 Other)
PREREQUISITE: Consent of instructor and approval of department head
Repeatable up to 6 credits.

AGSC 341 Field Crop Production: 3 Credits (3 Lec)
PREREQUISITE: ENSC 245IN Production of field crops using practical and applied crop management principles. Emphasis includes understanding of crop management principles and application of problem solving capabilities to field crop management situations

AGSC 342 Forages: 3 Credits (2 Lec, 1 Lab)
PREREQUISITE: Sophomore standing or higher or consent of instructor. (F) Principles of applied forage crop management including establishment, irrigation, fertilization, pests, harvesting, and forage integration of many legume and grass species

AGSC 356 Plant Nutrition and Soil Fertility Management: 3 Credits (3 Lec)
PREREQUISITES: ENSC 245IN and CHMY 121IN or CHMY 141
Applied management of soil fertility to meet plant nutrition needs in agronomic and horticultural systems. Diagnosis of plant nutrient deficiency and toxicity, management of fertilizer and organic sources of plant nutrients, and assessment of environmental effects of soil fertility management.

AGSC 401 Integrated Pest Management: 3 Credits (3 Lec)
(F) This course focuses on conceptual approaches to integrated pest management. The overall framework will be the effective production of foodstuffs to meet increasing demands for safe and healthy commodities for consumers. By integrating multiple tactics, the production of food can be optimized given the current limitations to traditional “silver bullet” pest management. Material covered will include the definitions of IPM terminology as applied to weed, arthropod, and microbial pests; management tactics including biological, cultural, and chemical controls; host plant resistance and genetic modification; sample case studies; applicability to specialized production systems.

AGSC 402 Enhancing Women's Roles in Agriculture and Natural Resources: 2 Credits (2 Lec)
The goal of the course is to explore the cultures, life experiences, worldviews, roles, and contributions of women in agriculture in select agriculture occupational pathways, including research, extension, marketing, education, production, and administration. Content will focus on investigating the opportunities, demands, and conditions for the success of local and global women in agriculture. Students will study specific examples of women working in agricultural professions locally, nationally, and internationally. Course content will provide students with a broad picture of agriculture, including agricultural roles in society and employment possibilities.

AGSC 428 Cropping Systems and Sustainable Agriculture: 3 Credits (3 Lec)
PREREQUISITE: ENSC 245IN and either AGSC 341 or AGSC 356 or consent of instructor. The course goal is to elevate agricultural students' awareness of peer-reviewed literature that demonstrates application of principles to address issues of sustainability in agriculture. The course will use a student-led discussion format to highlight issues and principles in review of a series of papers that the class will read. It will focus on the interaction among agronomy, ecology, economics, and sociology to create an awareness of the interdisciplinary issues associated with sustainability in agriculture. Topical issues associated with climate change impacts, system resilience and thresholds and ways to understand complex interactions will be considered for discussion. Co-convened with LRES 529

AGSC 441 Plant Breeding & Genetics: 3 Credits (3 Lec)
PREREQUISITE: BIOB 375. (Sp) The genetic principles and practices involved in plant breeding. Selection of plant breeding methods based on an understanding of a plant species genetics and reproductive mechanisms. The class includes hands on experience in plant breeding through a series of lab and greenhouse exercises

AGSC 450 Plant Disease Control: 3 Credits (3 Lec)
PREREQUISITE: BIOB 110CS and BIOO 220 or consent of instructor. This course will cover the concepts necessary to develop integrated management plans of plant diseases. Concepts covered include regulatory, cultural, chemical, host plant resistance, and biological controls. Students will be introduced to the principles of epidemiology and how they are integrated in decision models for use in plant disease management programs

AGSC 454 Agrostology: 3 Credits (1 Lec, 2 Lab)
PREREQUISITE: BIOB 170IN and BIOO 230. Determination, classification, evolution, and nomenclature of grasses and grass-like plants; morphological and ecological features; preparation of reference specimens

AGSC 455 Molecular Plant-Microbe & Insect Interactions: 3 Credits (3 Lec)
PREREQUISITE: BIOB 160. This course is to teach students the molecular mechanisms by which plants and pathogens/insects interact during the progress of pathogenesis or resistance, the understandings of how plants recognize relatively conserved microbial patterns to active defense

AGSC 465 Cultures' Role in Agriculture, Poverty, Health: 3 Credits (3 Lec)
PREREQUISITE: Sophomore Standing
Explore cultures’ role in solving complex issues at the nexus of agriculture, poverty, and health. Gain skills appropriate to one’s life goals to provide leadership in holistically combining health, agriculture, and governance.

AGSC 465R Health, Agriculture, Poverty: 4 Credits (2 Lab, 2 Other)
PREREQUISITE: Junior standing in student's major. Students will explore causes and solutions to rural, economic poverty holistically by discovering the interconnections of health, agriculture, and governance. Students will gain skills appropriate to their own academic major to provide leadership in alleviating poverty worldwide. Students will conduct service-learning, community-based research with guided mentoring using the holistic process

AGSC 481 Ag Ambassador Seminar: 1-6 Credits (1-6 Other)
Class meetings, a retreat, a variety of recruiting opportunities, and College of Agriculture and MSU events will make up the largest portion of this course. Students will have to participate in a selection process in order to become an Agriculture Ambassador and participate in this course.
Repeatable up to 6 credits.

AGSC 490R Undergraduate Research: 1-6 Credits (1 Other)
PREREQUISITE: Junior or Senior standing and approval of instructor. Directed undergraduate research/creative activity which may culminate in a research paper, journal article, or undergraduate thesis. USP scholarships or project support grants are available in many cases. Course will address responsible conduct of research. May be repeated
Repeatable up to 12 credits.

AGSC 491 Special Topics: 3 Credits (3 Lec)
PREREQUISITE: Course prerequisites as determined for each offering. Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number

AGSC 492 Independent Study: 1-3 Credits (1-3 Other)
PREREQUISITE: Junior standing, consent of instructor and approval of department head. Directed research and study on an individual basis
Repeatable up to 6 credits.

AGSC 502 Enhancing Women's Roles in Agriculture and Natural Resources: 2 Credits (2 Lec)
The goal of the course is to explore the cultures, life experiences, worldviews, roles, and contributions of women in agriculture in select agriculture occupational pathways, including research, extension, marketing, education, production, and administration. Content will focus on investigating the opportunities, demands, and conditions for the success of local and global women in agriculture. Students will study specific examples of women working in agricultural professions locally, nationally, and internationally. Course content will provide students with a broad picture of agriculture, including agricultural roles in society and employment possibilities.

AGSC 541 Plant Breeding and Genetics: 3 Credits (3 Lec)
(Sp) The genetic principles and practices involved in plant breeding. Selection of plant breeding methods based on an understanding of a plant species genetics and reproductive mechanisms. The class includes hands on experience in plant breeding through a series of lab and greenhouse exercises. Department of Plant Sciences/Plant Pathology.

AGSC 591 Special Topics: 1-4 Credits ()