AGSC - Agricultural Science

AGSC 101. Introduction to Agricultural and Environmental Resources. 1 Credit. (1 Lec) F
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 Credit. (1 Lab) F
Meets first third of semester. Recognition and identification of seed, vegetative parts, and floral structure of the major species of cereals, forage legumes, and grasses.

AGSC 290R. Undergraduate Research, 1-6 Credits. (1-6 Ind; max unlimited) F,S
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.

AGSC 291. Special Topics, 1 Credit. (1 Lec) On Demand
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 Ind; 6 cr max) On Demand
PREREQUISITE: Consent of instructor and approval of department head.

AGSC 341. Field Crop Prod, 3 Credits. (3 Lec) S alternate years, to be offered even years.
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) F
PREREQUISITE: BIOB 110. Principles of applied forage crop management including establishment, irrigation, fertilization, pests, harvesting, and forage integration of many legume and grass species.

AGSC 401. Integrated Pest Management, 3 Credits. (3 Lec) F
PREREQUISITE: BIOO 262 and one of the following: BIOB 100IN, BIOB 170IN or consent of instructor. 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 428. Sustainable Cropping Systems, 3 Credits. (3 Lec) S
PREREQUISITE: ENSC 245IN and either AGSC 341 or AGSC 342 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-lead discussion format to highlight issues and principles in review of a series of papers that the class will read. The course 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.

AGSC 441. Plant Breeding & Genetics, 3 Credits. (3 Lec) S alternate years, to be offered odd years.
PREREQUISITE: BIOB 375 or BIOB 377. The genetic principles and practices involved in plant breeding. Selection of plant breeding methods based on an understanding of 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) S alternate years, to be offered odd years.
PREREQUISITE: BIOM 421 or consent of instructor. This course will provide comprehensive coverage of the concepts of integrated management of plant diseases. Concepts covered include regulatory, cultural, chemical, host plant resistance, and biological controls. Students will be introduced to epidemiology and weather-based predictive computer models for use in disease management programs.

AGSC 454. Agrostology, 3 Credits. (1 Lec, 2 Lab) F alternate years, to be offered odd years.

AGSC 455. Molecular Plant-Microbe & Insect Interactions, 3 Credits. (3 Lec) S alternate years
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 465R. Health, Agriculture, Poverty, 4 Credits. (1 Lab) S
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 Sem; 6 cr max) F,S
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.

AGSC 490R. Undergraduate Research, 1-6 Credits. (1 Ind; 12 cr max) F,S
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.

AGSC 491. Plant Nutrition and Soil Fertility Management, 3 Credits. (3 Lec) F
PREREQUISITE: Approval of instructor, 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 492. Independent Study, 1-3 Credits. (1-3 Ind; 6 cr max) On Demand
PREREQUISITE: Junior standing, consent of instructor and approval of department head. Directed research and study on an individual basis.

AGSC 495. Sustainable Cropping Systems, 3 Credits. (3 Lec) S alternate years, to be offered odd years.
AGSC 496. Integrated Pest Management, 3 Credits. (3 Lec) F alternate years, to be offered odd years.
AGSC 497. Health, Agriculture, Poverty, 4 Credits. (1 Lab) S
AGSC 498. Ag Ambassador Seminar, 1-6 Credits. (1-6 Sem; 6 cr max) F,S
AGSC 499. Plant Nutrition and Soil Fertility Management, 3 Credits. (3 Lec) F
AGSC 500. Independent Study, 1-3 Credits. (1-3 Ind; 6 cr max) On Demand
AGSC 501. Plant Breeding & Genetics, 3 Credits. (3 Lec) S alternate years, to be offered odd years.
AGSC 502. Integrated Pest Management, 3 Credits. (3 Lec) F alternate years, to be offered odd years.
AGSC 503. Health, Agriculture, Poverty, 4 Credits. (1 Lab) S
AGSC 504. Ag Ambassador Seminar, 1-6 Credits. (1-6 Sem; 6 cr max) F,S
AGSC 505. Plant Nutrition and Soil Fertility Management, 3 Credits. (3 Lec) F
AGSC 506. Independent Study, 1-3 Credits. (1-3 Ind; 6 cr max) On Demand
AGSC 507. Plant Breeding & Genetics, 3 Credits. (3 Lec) S alternate years, to be offered odd years.
AGSC 508. Integrated Pest Management, 3 Credits. (3 Lec) F alternate years, to be offered odd years.
AGSC 509. Health, Agriculture, Poverty, 4 Credits. (1 Lab) S
AGSC 510. Ag Ambassador Seminar, 1-6 Credits. (1-6 Sem; 6 cr max) F,S
AGSC 511. Plant Nutrition and Soil Fertility Management, 3 Credits. (3 Lec) F
AGSC 512. Independent Study, 1-3 Credits. (1-3 Ind; 6 cr max) On Demand
AGSC 513. Plant Breeding & Genetics, 3 Credits. (3 Lec) S alternate years, to be offered odd years.
AGSC 514. Integrated Pest Management, 3 Credits. (3 Lec) F alternate years, to be offered odd years.