

AGST - AGRICULTURAL SCIENCE AND TECHNOLOGY

AGST130 Did Yeast Create Civilization? (3 Credits)

Fermented foods have played a major role in the transition from nomadic to settled agrarian societies, the establishment of social and religious customs, the expansion of empires, and modern economies. To what extent are our past and current attitudes towards fermented foods rooted in historical and cultural imprints? Explore the central role of fermentation in human history and culture, the basic microbiological processes underlying fermentation processes, and the processes used to produce and distribute fermented foods. Find out how the fruits, grains, and dairy products used to produce fermented foods are grown and selected. Students will learn about the development and modern use of fermented dairy products, pickles, bread, tea, chocolate, wine, beer, distilled liquors, and pharmaceutical/manufactured products.

Recommended: CHEM103, CHEM131, CHEM135, or CHEM146. Cross-listed with: PLSC130.

Credit Only Granted for: AGST130 or PLSC130.

AGST275 Fundamentals of Agricultural and Environmental Chemistry (3 Credits)

An in-depth discussion of chemistry targeted to students enrolled in plant and animal management curricula offered in AGNR. Covers the nomenclature and basic functional groups in organic chemistry, natural products and pesticides. Current practices of crop, agriculture and environmental management and genetic engineering also discussed.

Prerequisite: CHEM131 and CHEM132; and (PLSC110 and PLSC111); or (PLSC112 and PLSC113); or (BSCI160 and BSCI161); or (BSCI170 and BSCI171); or PLSC100 or PLSC101.

Restriction: Must not have completed CHEM104 or CHEM105; and must be in a major within the AGNR-College of Agriculture and Natural Resources; or permission of instructor.

Credit Only Granted for: AGST275 or PLSC275.

Formerly: PLSC275.

AGST333 Crafty Beverage Crops (3 Credits)

From soda to wine, a scientific introduction to "crafty beverage crops". Students will expand their horticulture knowledge and gain an appreciation for craft beverages and the plants that made them. Topics include history, biology, production and management techniques, harvest, storage and market potential for crafty beverage crops.

Recommended: PLSC110 or PLSC112; or 1 course in BSCI, BCHM, BIOL.

AGST400 Advanced Crop Science (3 Credits)

Focuses on the study of the agronomic principles and practices required for the production of food, feed, fiber and fuel crops. This is a project-based course where students will develop a farm plan from knowledge gained in previous courses and built upon in this course. Students will learn to integrate data and information from many sources in order to build and operate a successful and sustainable agronomic farm operation using current and new technology. The use of farm management software will be an integral part of the course and farm project.

Prerequisite: PLSC112, PLSC113, BSCI160, BSCI161, and MATH113 or higher.

Recommended: ANSC101.

Credit Only Granted for: PLSC407 or AGST400.

Formerly: PLSC407.

Additional Information: There will be two required Saturday field trips during the semester. Because of the changing nature of agriculture, the dates of these field trips will be decided upon at the beginning of the semester by discussion among the students and based on cooperators availability and environmental factors. Students will have a minimum of two weeks notice as to the dates of the field trips.

AGST401 Tractor and Equipment Operation, Safety and Maintenance (1 Credit)

Provides students with basic skills needed to safely operate and maintain farm equipment, such as tractors and implements used in agronomic production. Students will receive introductory background training in the basic safety and operation of tractors through hands-on learning. Emphasis will also be placed on the mechanical functioning of equipment and the functional similarities and differences between gasoline (two-stroke and four-stroke) and diesel engines as well as electric motors as they relate to farm equipment (mobile and stationary). This knowledge will be used to teach students to safely perform basic care and maintenance of different tractor types as well as various implements. Students will also learn basic implement connection and disconnection, including the safe use of implements that employ a power take-off unit. Included in the course will be an introduction to the equipment and use of satellite navigation systems used in agronomic production.

Prerequisite: PLSC112 and PLSC113; MATH113 or higher MATH course; and must have completed or be concurrently enrolled in AGST400.

Restriction: Must be in the Agricultural Science and Technology major (01010) with priority given to Agronomy students (0101A); and must have earned a minimum of 60 credits; and permission of the Department of Plant Sciences and Landscape Architecture.

Additional Information: Course location will be the University of Maryland Wye Research & Education Center, Queenstown, Maryland. Because students will be working around machinery with moving parts, there is a strict dress code based on information from the United State Department of Agriculture Cooperative States Research, Education and Extension Service's Hazardous Occupations Safety Training for Agriculture (HOSTA), National Safe Tractor and Machinery Operation Program (NSTMOP) standards. YContact instructor for more information?.