

Biological & Agricultural Technology Management - BATM

Courses

BATM 1110 INTRODUCTION TO TECHNOLOGY DESIGN (3) LEC. 2. LAB. 3. Introduction to the design process, 2D and 3D parametric solid modeling, and both manual and automated fabrication processes.

BATM 2110 DIGITAL ANALYTICS IN AGRICULTURE AND TECHNOLOGY (3) LEC. 2. LAB. 1. Pr. BATM 1110 or BIOP 2120. An introduction to creative and analytical methods to solve technological problems. Define the problem, explore strategies, select and implement solutions, and evaluate results.

BATM 3100 COMPUTER AIDED DESIGN TECHNOLOGY (3) LEC. 2. LAB. 1. Introductory course in computer aided design (CAD) and land mapping. Students gain competence in CAD operations used to fabricate parts and to develop field- and watershed-scale maps. Class and project topics include drawing for mechanical part fabrication and scale mapping for construction site development and agricultural field management. Must be in Junior standing Course may be repeated for a maximum of 6 credit hours.

BATM 3110 AG TECHNOLOGY GEOSPATIAL APPLICATIONS (3) LEC. 2. LAB. 3. Pr. PHYS 1500 or PHYS 1600. Geospatial applications for agricultural land resource management. Course introduces equipment and practices used in conventional land surveying and geospatial mapping as they interface with global positioning systems (GPS), geographic information systems (GIS), and computer-aided design (CAD).

BATM 3500 NATURAL RESOURCE SYSTEMS CONSERVATION (3) LLB. Pr. (MATH 1130 or MATH 1133 or MATH 1150 or MATH 1610 or MATH 1680) and (PHYS 1500 or PHYS 1600). Natural resource conservation technologies including rainfall-runoff relationships, sediment transport capacity, runoff control structures, water supply development, surveying techniques including GPS methods.

BATM 3510 AGRICULTURAL POWER AND MACHINERY FUNDAMENTALS (3) LLB. Pr. (MATH 1130 or MATH 1133 or MATH 1150 or MATH 1610 or MATH 1680) and (PHYS 1500 or PHYS 1600). Power unit fundamentals with emphasis on diesel and small gasoline engines; mechanics of operation, safety, use, and adjustment of machines used for horticultural and agronomic crop production; and precision agriculturr principles and technology.

BATM 3530 AGRICULTURAL PRODUCTION AND PROCESSING FACILITY TECHNOLOGY (3) LEC. 3. Pr. MATH 1130 or MATH 1133 or MATH 1150 or MATH 1610 or MATH 1680. Fundamental requirements for the design and operation of agricultural production and processing facilities.

BATM 3560 TURF SYSTEMS IRRIGATION DESIGN (3) LEC. 3. Pr. MATH 1120 or MATH 1130 or MATH 1133 or MATH 1150 or MATH 1610 or MATH 1680. Irrigation system design for turf-based systems including residential lawns, commercial properties, athletic fields, and golf courses. Irrigation scheduling and water demand are presented to provide management capabilities.

BATM 4100 PROFESSIONAL PRACTICE IN TECHNOLOGY MANAGEMENT (2) LEC. 1. LAB. 3. Pr. BATM 5110. First in the two-course capstone experience. This course focuses on professional topics that prepare students for technical careers; teamwork, communication, standards and codes, economics, project and time management. Teams initiate the capstone design project.

BATM 4110 TECHNOLOGY CAPSTONE (3) LEC. 1. LAB. 6. Pr. BATM 4100. Development and evaluation of a team-based capstone project using tools from the technology curriculum; emphasizing communication, critical thinking, and technical and economic analyses.

BATM 5110 AGRI-INDUSTRIAL ELECTRICAL APPLICATIONS (3) LEC. 2. LAB. 3. Pr. BATM 2110 and (PHYS 1500 or PHYS 1600). An introduction to the fundamentals of electricity and electrical systems used in agricultural and industrial applications. Electricity basics include safety, AC (single and three phase) and DC power. Selecting and sizing components include wiring conductors, safety devices, motors, other loads.

BATM 5120 AGRI-INDUSTRIAL ELECTRONICS AND CONTROLS (3) LEC. 2. LAB. 3. Pr. BATM 5110. An introduction to the fundamentals of electronic control systems used in agricultural and industrial production and processing applications. Electronic control system components include programmable logic controllers (PLCs), switches, relays, sensors, and ladder logic.

BATM 5130 PRECISION AG TECHNOLOGY (3) LEC. 2. LAB. 3. Pr. BATM 3510. An overview of the principles of precision agriculture with focus on prescriptive agriculture and the ability to effectively execute input management plans using today's technologies. Course material and discussions will include how technologies such as GPS, agricultural GIS, sensors for qualitative and quantitative measurement of soil and plant variables, variable-rate technology are being implement with data informing sub-field level management and subsequent farm business decisions.

BATM 5140 COMMERCIAL POULTRY & LIVESTOCK HOUSING (3) LEC. 2. LAB. 3. Pr. STAT 2510. An introduction to the basic design, operation, and maintenance of modern commercial animal housing systems. Emphasis will be placed on poultry and swine systems with elements of dairy and beef when applicable.

BATM 5550 PRINCIPLES OF FOOD ENGINEERING TECHNOLOGY (4) LEC. 3. LAB. 3. Pr. (MATH 1130 or MATH 1133 or MATH 1150 or MATH 1153 or MATH 1610 or MATH 1613 or MATH 1617) and (PHYS 1000 or PHYS 1003 or PHYS 1007 or PHYS 1500 or PHYS 1600 or PHYS 1607). Engineering concepts and unit operations used in processing food products. Fall.

BATM 6110 AGRI-INDUSTRIAL ELECTRICAL APPLICATIONS (3) LEC. 2. LAB. 3. Departmental approval. An introduction to the fundamentals of electricity and electrical systems used in agricultural and industrial applications. Electricity basics include safety, AC (single and three phase) and DC power. Selecting and sizing components include wiring conductors, safety devices, motors, other loads.

BATM 6120 AGRI-INDUSTRIAL ELECTRONICS AND CONTROLS (3) LEC. 2. LAB. 3. Pr. BATM 6110. An introduction to the fundamentals of electronic control systems used in agricultural and industrial production and processing applications. Electronic control system components include programmable logic controllers (PLCs), switches, relays, sensors, and ladder logic.

BATM 6130 PRECISION AG TECHNOLOGY (3) LEC. 2. LAB. 3. An overview of the principles of precision agriculture with focus on prescriptive agriculture and the ability to effectively execute input management plans using today's technologies. Course material and discussions will include how technologies such as GPS, agricultural GIS, sensors for qualitative and quantitative measurement of soil and plant variables, variable-rate technology are being implement with data informing sub-field level management and subsequent farm business decisions.

BATM 6140 COMMERCIAL POULTRY AND LIVESTOCK HOUSING (3) LEC. 2. LAB. 1. An introduction to the basic design, operation, and maintenance of modern commercial animal housing systems. Emphasis will be placed on poultry and swine systems with elements of dairy and beef when applicable.

BATM 6550 PRINCIPLES OF FOOD ENGINEERING TECHNOLOGY (4) LEC. 3. LAB. 3. Pr. (MATH 1130 or MATH 1133) and (PHYS 1000 or PHYS 1003 or PHYS 1007). Engineering concepts and unit operations used in processing food products. Fall.