AGSM - Agricultural Systems Mgmt

Courses

AGSM 125 Introduction to Agricultural Systems Management
Credit 1. 2 Lab Hours.
Introduction to technical management of agricultural systems using management projects presented by agricultural managers from industry; problem definition, information search, idea generation and development of management solutions.
Prerequisite: Freshman or sophomore classification or approval of instructor; majors only.

AGSM 201 Agricultural Energy and Power Systems
Credits 3. 2 Lecture Hours. 2 Lab Hours.
(AGRI 2301) Agricultural Energy and Power Systems. A study of the types of power and energy sources used in agricultural equipment and systems; management considerations for selecting, operating and maintaining internal combustion engines, electric equipment and motors, and renewables as power sources.

AGSM 285 Directed Studies
Credits 0 to 4. 0 to 4 Other Hours.
Selected problems in any phase of agricultural systems management; credit and specific content dependent upon background, interest, ability and needs of student enrolled; individual consultations and reports required.
Prerequisites: Freshman or sophomore classification; approval of department head.

AGSM 289 Special Topics in...
Credits 1 to 4. 1 to 4 Lecture Hours.
Selected topics in an identified area of agricultural systems management. May be repeated for credit.
Prerequisite: Approval of instructor.

AGSM 291 Research
Credits 0 to 3. 0 to 3 Other Hours.
Research conducted under the direction of faculty member in agricultural systems management.
Prerequisites: Freshman or sophomore classification and approval of instructor.

AGSM 301 Systems Analysis in Agriculture
Credits 3. 3 Lecture Hours.
Operations research and systems theory applied to management problems in food and agricultural industries; linear programming, queuing theory, simulation and critical path method; provides the knowledge and computer skills to better manage resources for the evolving agricultural industries.
Prerequisite: MATH 141 and MATH 142 or equivalent; junior or senior classification or approval of instructor.

AGSM 310 Agricultural Machinery Management
Credits 3. 2 Lecture Hours. 2 Lab Hours.
Selection of a matched complement of power units and machines for farming operations; consider constraints such as crops, season, weather, personnel and capital; apply systems techniques such as linear programming, optimization, queuing theory and inventory models; utilize available software programs and learn to develop electronic spreadsheets and other customized software.
Prerequisites: AGSM 301; AGEC 330; or registration therein.*

AGSM 315/FSTC 315 Food Process Engineering Technology
Credits 3. 2 Lecture Hours. 2 Lab Hours.
Elementary mechanics, physical properties of food and processing materials, heat transfer, temperature measurement, solar heating and cooling, refrigeration and insulation, dehydration as applied to foods and food processing.
Prerequisite: FSTC 201; PHYS 201; junior or senior classification or approval of instructor.
Cross Listing: FSTC 315/AGSM 315.

AGSM 325 Agri-Industrial Applications of Electricity
Credits 3. 2 Lecture Hours. 2 Lab Hours.
Elements of electric current generation and transmission, applications of electric heating, lighting and power, wiring, motors, energy rates, meter reading, safety rules and regulations.
Prerequisite: Agricultural systems management majors only or approval of instructor.

AGSM 335 Water and Soil Management
Credits 3. 2 Lecture Hours. 3 Lab Hours.
Elementary principles of surface and ground water supply, flood control, water distribution systems and irrigation systems; principles of drainage, soil conservation and erosion control; elementary surveying, chaining, leveling and mapping applied to agricultural and natural resource needs; illustrated by practical examples of terracing and farm pond design.
Prerequisite: AGSM 301.

AGSM 337 Technology for Environmental and Natural Resource Engineering
Credits 3. 3 Lecture Hours.
For the nonengineering student in the environmental and management sciences; concentrates on the application of technology for solving local environmental problems while considering global issues; reduction of water, air and hazardous waste pollutants; legislative issues and modeling.
Prerequisites: AGSM 301 and MATH 142.

AGSM 355 Energy and Conversion Systems
Credits 3. 3 Lecture Hours.
Basic physical conversion principles of energy use, including historical and future patterns; conservation measures, alternative energy sources, and the environment impact of U.S. and world energy use.
Prerequisites: Junior or senior classification; non-majors only.

AGSM 360 Occupational Safety Management
Credits 3. 3 Lecture Hours.
Safety considerations in the work environment, including safety mandates, safety mission, personal and business liability, fire, chemical, dust, machine noise, personal protective devices; design and implementation of safety programs.

AGSM 403 Processing and Storage of Agricultural Products
Credits 3. 2 Lecture Hours. 2 Lab Hours.
Factors influencing the nature of biological materials and the preservation of quality throughout the harvesting, handling and processing system; a systems approach to cereal grains includes principles of drying, quality deterioration, storage, conveying and handling; processing of fiber crops.
Prerequisites: AGSM 310 and AGSM 315/FSTC 315.*
AGSM 435 Irrigation Principles and Management
Credits 3. 2 Lecture Hours. 3 Lab Hours.
Principles of irrigation and management for efficient use of water; soil-water-plant relationships; methods of application; power and labor requirements; automated systems and components.
Prerequisites: AGSM 335, AGSM 301, MATH 141.

AGSM 439 Management of Agricultural Systems I
Credits 3. 3 Lecture Hours.
Application of agricultural systems management principles in solving realistic problems faced by agribusiness managers; project selection from problems posed by biological and agricultural industrial consultants; project feasibility study and outline; management and application philosophy; teamwork and communication, economics; product liability and reliability; standards and codes; goal setting and time management.
Prerequisites: AGSM 301, AGSM 315/FSTC 315, AGSM 325, and AGSM 360; AGSM 335, AGSM 337 and AGSM 403 or registration therein; senior classification; must be taken prior to AGSM 440; AGSM majors only.

AGSM 440 Management of Agricultural Systems II
Credits 3. 2 Lecture Hours. 3 Lab Hours.
Management of agricultural systems through team solution of management problems posed by agribusiness managers, farmers, extension specialists and other industry consultants; application of management principles to give students experience in solving realistic problems faced by agribusiness managers; critical evaluation of results by students, staff and consultants.
Prerequisites: AGSM 439; should be taken last spring semester prior to graduation.

AGSM 461/SPSC 461 Geographic Information Systems for Resource Management
Credits 3. 2 Lecture Hours. 2 Lab Hours.
Geographic Information System (GIS) approach to the integration of spatial and attribute data to study the capture, analysis, manipulation and portrayal of natural resource data; examination of data types/formats; integration of GIS with remote sensing and Global Positioning System; lab use of GIS applications to conduct analyses of topics in natural resources.
Prerequisite: Junior or senior classification or approval of instructor.
Cross Listing: SPSC 461/AGSM 461.

AGSM 470 Agricultural Electronics and Control
Credits 3. 2 Lecture Hours. 2 Lab Hours.
Technology of electronic systems in agricultural production and processing, sensors, actuators, and controllers, controller hardware and computer bases.
Prerequisite: AGSM 325.

AGSM 473 Project Management for Agricultural Systems Technology
Credits 3. 3 Lecture Hours.
Development of fundamental skill set in project management; basic knowledge of project management methods, tools and techniques; includes organization and life cycle, management processes, integration management, time management, cost management, quality management, communications management, risk management, procurement management, stakeholder management.
Prerequisites: AGSM 301 and senior classification.

AGSM 475 Applied Information Technologies for Agricultural Systems
Credits 3. 2 Lecture Hours. 2 Lab Hours.
Definition and documentation of the value of information in agriculturally-based technology companies; methods for mapping information flow within the company and across companies; articulation of information within a value chain for a food product by simulation; and projects using project management software and web-based interactions.
Prerequisites: ISYS 209 or equivalent; junior or senior classification.

AGSM 481 Seminar
Credit 1. 1 Lecture Hour.
Professional development; ethics; career opportunities and topics of interest related to the practice of agricultural systems management.
Prerequisite: Senior classification.

AGSM 485 Directed Studies
Credits 0 to 4. 0 to 4 Other Hours.
Selected problems in any phase of agricultural systems management; credit and specific content depend on background and interest of student; individual consultations and reports required.
Prerequisites: Junior classification; approval of department head; 2.0 GPR.

AGSM 489 Special Topics in...
Credits 1 to 4. 1 to 4 Lecture Hours.
Special topics in an identified area of agricultural systems management. May be repeated for credit.

AGSM 491 Research
Credits 0 to 3. 0 to 3 Lecture Hours.
Research conducted under the direction of faculty member in agricultural systems management. May be repeated 2 times for credit. Registration in multiple sections of this course are possible within a given semester provided that the per semester credit hour limit is not exceeded.
Prerequisites: Junior or senior classification and approval of instructor.