AGSM - AGRICULTURAL SYSTEMS MGMT (AGSM)

AGSM 105 The World Has a Drinking Problem - Global Water Scarcity
Credits 3. 3 Lecture Hours.
Study of how drinking water maintains and improves human health, availability of fresh water throughout the world; includes how population changes, cultural influences, and political power affect quality, distribution and cost of water for children, rural communities and underrepresented peoples.

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 284 Internship
Credits 0. 0 Lecture Hours. 0 Lab Hours. 0 Other Hours.
No Credit. Practical experience working in a professional agricultural systems management setting. May be taken three times.
Prerequisite: Freshman or sophomore classification; approval of instructor.

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.
Prerequisites: Grade of C or better in MATH 140 or MATH 168 and MATH 142 or MATH 151.

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 201; grade of C or better in AGSM 301 or concurrent enrollment; grade of C or better in PHYS 201.

AGSM 315/FSTC 315 Food Process Engineering Technology
Credits 3. 2 Lecture Hours. 2 Lab Hours.
Elementary mechanics, physical and thermal properties of food and processing materials, heat transfer, mass and energy balances, psychrometrics (properties of air), insulation.
Prerequisites: Grade of C or better in PHYS 201 or PHYS 218, 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: AGSM 201; AGSM majors or minors only.

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: Grade of C or better in MATH 140 or MATH 168; grade of C or better in CHEM 101 and CHEM 111, or CHEM 107 and CHEM 117, or CHEM 119; or approval of instructor.

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: Grade of C or better in MATH 140 or MATH 168 and MATH 142, or MATH 151 and MATH 152, or AGSM 301.
AGSM 360 Occupational Safety Management
Credits 3. 3 Lecture Hours. 0 Lab 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.
Prerequisite: Junior or senior classification.

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; or approval of instructor.

AGSM 417/FSTC 417 Food Process Engineering Technology II
Credits 3. 3 Lecture Hours.
Applications of basic engineering concepts to understand common unit operations in the food (and related) industry.
Prerequisites: AGSM 315/FSTC 315 or FSTC 315/AGSM 315; approval of instructor.
Cross Listing: FSTC 417/AGSM 417.

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: Grade of C or better in MATH 140 or MATH 168; grade of C or better in CHEM 101 and CHEM 111 or CHEM 119.

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: Grade of C or better in AGSM 301; ENGL 210, AGSM 310, and AGSM 325; AGSM 335, AGSM 337 and AGSM 403 or concurrent enrollment; 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 experience in solving realistic problems faced by agribusiness managers; critical evaluation of results by students, staff and consultants.
Prerequisites: COMM 203; grade of C or better in AGSM 439; should be taken last spring semester prior to graduation.

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; or approval of instructor.

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: Grade of C or better in AGSM 301; senior classification.

AGSM 477 Air Pollution Control and Regulatory Compliance
Credits 3. 3 Lecture Hours.
Overview of federal and state environmental regulations focusing on permitting requirements for agricultural operations; operation of air pollution abatement systems to include cyclones, bag filters, and scrubbers; dispersion modeling; National Ambient Air Quality Standards.
Prerequisites: Grade of C or better in AGSM 301, or grade of C or better in MATH 168 and MATH 142, or equivalent.

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 484 Internship
Credits 0 to 6. 0 to 6 Other Hours.
Practical experience working in a professional agricultural and/or food systems management setting. May be taken three times.
Prerequisites: Junior or senior classification; approval of the instructor.

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.