AGRICULTURAL SYSTEMS MGT (ASM)

ASM 1000 Introductory ASM Seminar (1 credit)
The objective of this course is to introduce the student to the College of Agriculture and Life Sciences and the Agricultural Systems Management program. The student will develop a course of study that will lead to a Bachelor of Science in Soil and Water Systems with a major in Agricultural Systems Management. Typically Offered: Fall.

ASM 1070 Beginning Welding (3 credits)
Principles of operation, use, and care of arc and acetylene welding equipment. One lecture, one 2-hour lab, and two hours of individual practice per week. Enrollment limited to 12 per section. Typically Offered: Fall and Spring. Cooperative: open to WSU degree-seeking students.

ASM 1120 Introduction to Agricultural Systems Management (3 credits)
Application of basic engineering principles to solving problems dealing with farm machinery, buildings, processing, irrigation, and energy use. Recommended Preparation: high school algebra.

ASM 2000 (s) Seminar (1 credit, max 99)
Credit arranged.

ASM 2020 Agricultural Shop Practices (3 credits)
Primarily for agricultural systems management and agricultural education students. Operation, use, and care of shop tools and equipment. One lecture, one 3-hour lab, and two hours of individual practice per week. Typically Offered: Fall and Spring.

ASM 2040 (s) Special Topics (1-16 credits, max 99)
Credit arranged

ASM 2100 Small Engines (3 credits)
Principles of engine operation, tune-up, and maintenance; repair and overhaul of small engines. One lecture, one 2-hour lab, and two hours of individual practice per week. Enrollment limited to 12 per section.

ASM 2400 Computer Applications in Biophysical Systems (3 credits)
This course is designed as an introductory course to computer applications with specific emphasis on applications used in agriculture and life sciences. Content includes spreadsheet management, database management, data analysis, data visualization, and presentation applications. Two lectures and one 2-hour lab per week. Recommended preparation: three credits of college math. Typically Offered: Varies.

ASM 2990 (s) Directed Study (1-16 credits, max 99)
Credit arranged

ASM 3050 Precision Agriculture (3 credits)
Joint-listed with ASM 5051
This course will cover the fundamentals of precision agriculture, such as field variability in time and space, yield monitors, and variable rate applications. Instrumentation used in agriculture, environmental science, and industry will be discussed. Two lectures and one 3-hour lab a week. Additional work required for graduate credit. Typically Offered: Fall. Cooperative: open to WSU degree-seeking students.

ASM 3150 Irrigation Systems and Water Management (3 credits)
Joint-listed with ASM 5150
Irrigation methods, irrigation management, water rights, conveyance and measurement, pumps, soil-water-plant relationships, and drainage. Graduate student project required for graduate credit. Two lectures and one 3-hour lab a week. Typically Offered: Fall.
Prereqs: SOIL 2050, MATH 1080, MATH 1143, MATH 1160 or MATH 1170 or Permission Cooperative: open to WSU degree-seeking students.

ASM 3310 Electric Power Systems for Agriculture (3 credits)
Basic circuits; wiring and the code; motors and controls; heating, lighting, and power. Two lectures and one 3-hour lab a week. Cooperative: open to WSU degree-seeking students.

ASM 3980 (s) Internship (1-6 credits, max 6)
Graded Pass/Fail.
Prereqs: Permission

ASM 4000 (s) Seminar (1-16 credits, max 99)
Credit arranged

ASM 4030 (s) Workshop (1-16 credits, max 99)
Credit arranged

ASM 4040 (s) Special Topics (1-16 credits, max 99)
Credit arranged

ASM 4050 Precision Agriculture Science and Technology (3 credits)
This course focuses on the operation, application, and calibration of current agricultural equipment technologies used in the digital and precision agriculture industry including precision sprayer application, row/section/nozzle control, air drills, crop yield/quality monitors, proximal crop/soil sensing, in-situ environmental sensors, and data control/storage/communication. Typically Offered: Varies.
Prereqs: MATH 1143

ASM 4070 Advanced Welding (1 credit)
This course provides the student an opportunity to learn various advanced welding theories, practices and applications for ferrous and non-ferrous metals, which include Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW), Gas Tungsten Arc Welding (GTAW) and Plasma Arc Cutting (PAC). These are only introduced in ASM 1070 and will be covered in depth in this course. This course will also provide the student with a technical understanding of calculating material and use of proper procedures for the completion of project manufactured in the lab. Student presentations and demonstrations are required. This course will introduce emerging technologies in welding and fabrication industries.
Prereqs: ASM 1070 and Permission

ASM 4090 Agricultural Tractors, Power Units and Machinery Management (4 credits)
This course focuses on the selection, operation, adjustment, and servicing of farm tractors and power units. Fuels, lubrication, cooling, and electrical systems will also be covered. Machinery operation, power transmission systems, hitching, traction, and safety are also discussed. The course will conclude with discussions on depreciation and machinery replacement. Three 1-hour lectures and one 3-hour lab a week.

ASM 4760 Remote Sensing Application with Unmanned Aerial Systems (UAS) (3 credits)
Cross-listed with REM 4750
This course introduces students to the fundamental components of UAS, sensors and platforms, UAS operational concepts, the principles of UAS data collection, the legal framework for UAS operations, photogrammetric theory, image processing software, and the generation and analysis of orthomosaics and 3D point clouds. The course emphasizes the use of UAS in the context of natural resource science, technology and applications. Typically Offered: Varies.
Prereqs: FOR 3700 or equivalent

ASM 4980 (s) Internship (1-6 credits, max 6)
Graded Pass/Fail.
Prereqs: Permission

ASM 4990 (s) Directed Study (1-16 credits, max 99)
Credit arranged

ASM 5051 Precision Agriculture (3 credits)
Joint-listed with ASM 3050
This course will cover the fundamentals of precision agriculture, such as field variability in time and space, yield monitors, and variable rate applications. Instrumentation used in agriculture, environmental science, and industry will be discussed. Two lectures and one 3-hour lab a week. Additional work required for graduate credit. Typically Offered: Fall. Cooperative: open to WSU degree-seeking students.

ASM 5150 Irrigation Systems and Water Management (3 credits)
Joint-listed with ASM 3150
Irrigation methods, irrigation management, water rights, conveyance and measurement, pumps, soil-water-plant relationships, and drainage. Graduate student project required for graduate credit. Two lectures and one 3-hour lab a week. Typically Offered: Fall. Cooperative: open to WSU degree-seeking students.