Agricultural Systems Management (ASM)

ASM 115. Fundamentals of Agricultural Systems Management. 3 Credits.
Overview of agricultural systems management; engines, machinery, structures, electricity, processing, and conservation. 3 lectures. Coreq: MATH 103 or MATH 104 or MATH 107.

ASM 125. Fabrication & Construction Technology. 3 Credits.
Introduction to materials, methods, and tools used in fabrication, installation, and maintenance of agricultural production and processing facilities. 2 lectures, 1 three-hour laboratory.

ASM 194. Individual Study. 1-3 Credits.

ASM 196. Field Experience. 1-15 Credits.

ASM 199. Special Topics. 1-5 Credits.

ASM 225. Computer Applications in Agricultural Systems Management. 3 Credits.
Application and use of software for problem solving, reporting, and graphical communication. 2 lectures. Prereq: CSCI 114 or CSCI 116, MATH 105, MATH 107 or MATH 146.

ASM 264. Natural Resource Management Systems. 3 Credits.
General principles of natural resource management, including soil and water conservation, soil and wind erosion, use of tillage and vegetation for conservation, drainage, irrigation, and soil and water quality. 3 lectures. Prereq: MATH 103, MATH 104 or MATH 107. Cross-listed with NRM 264 and SOIL 264.

ASM 264L. Natural Resource Management Systems Laboratory. 1 Credit.
Laboratory to complement concepts introduced in ASM 264. Topics include land survey, maps, rainfall and runoff, erosion control, drainage and irrigation, and costs and returns. Co-req: ASM 264 or NRM 264 or SOIL 264. Prereq: Students must be ASM majors only.

ASM 291. Seminar. 1-3 Credits.

ASM 292. Study Abroad. 1-15 Credits.

ASM 294. Individual Study. 1-5 Credits.

ASM 299. Special Topics. 1-5 Credits.

ASM 323. Post-Harvest Technology. 3 Credits.
Principles and management of crop and feed storage, handling, drying, processing, and crop/feed systems siting, planning, and development. 3 lectures. Prereq: MATH 103 or MATH 104.

ASM 354. Electricity and Electronic Applications. 3 Credits.
Fundamentals and applications of electricity, power distribution, controls, motors, and solid-state electronics. For non-engineering majors. 2 lectures, 1 three-hour laboratory. Prereq: Junior standing, MATH 103 or MATH 104.

ASM 368. Structures and Environment Systems. 3 Credits.
Study of environmental needs of animals and bioproducts, control of building environments, construction materials, framing systems, and functional planning for biosystem structures. 3 lectures. Prereq: MATH 103 or MATH 104.

ASM 373. Tractors & Power Units. 3 Credits.
Theory and principles of operation, use, maintenance, repair, and selection of tractors and power systems. Includes engines, transmissions, fuel, lubrication, hydraulics, traction, and electrical systems. 3 lectures. Prereq: MATH 103 or MATH 104.

ASM 374. Power Units Laboratory. 1 Credit.
Laboratory to complement concepts introduced in ASM 373. Topics include engine systems, operation, adjustment, maintenance, repair, measurement, and testing. 1 three-hour laboratory. Prereq: MATH 103 or 104.

ASM 378. Machinery Principles and Management. 3 Credits.
Principles of agricultural machinery manufacture, sales, operation, and management. Topics include selection, replacement, operation, application, and maintenance. 2 lectures, 1 three-hour laboratory. Prereq: MATH 103 or MATH 104.

ASM 379. Study Tour Abroad. 1-6 Credits.

ASM 391. Seminar. 1-3 Credits.

ASM 392. Study Abroad. 1-15 Credits.

ASM 394. Individual Study. 1-5 Credits.

ASM 396. Field Experience. 1-15 Credits.

ASM 397. Fe/Coop/Internship. 1-4 Credits.

ASM 399. Special Topics. 1-5 Credits.

ASM 429. Hydraulic Power Principles and Applications. 3 Credits.
Study of fluid power principles, components, schematics, and systems. Emphasis is on proper use, maintenance, and applications of hydraulic power equipment. Prereq: PHYS 211, Junior standing.

ASM 454. Principles and Application of Precision Agriculture. 3 Credits.
Principles and application of precision agriculture including yield monitoring systems, variable rate technology, GIS, GPS, sensors, auto guidance, data acquisition and management, mapping and equipment management. 2 lectures, 1 three-hour laboratory. Prereq: MATH 103, MATH 104, or MATH 107.{Also offered for graduate credit - see ASM 654.}.

ASM 468. Landscape Irrigation Design. 2 Credits.
Students will learn the basic issues of water resources, water management, and irrigation system design. 2 lectures. Prereq: Junior standing. Cross-listed with PLSC 468. F (odd years).

ASM 469. Landscape Irrigation Installation and Management. 2 Credits.
Irrigation system installation, winterization, start-up, troubleshooting, renovation, and drainage. 2 lectures. Prereq: Junior standing. Cross-listed with PLSC 469. S (even years).

ASM 475. Management of Agricultural Systems. 2 Credits.
Capstone learning experience involving team solution to problems in agricultural systems management. Oral and written communications are emphasized. 2 lectures. Prereq: Senior standing. {Also offered for graduate credit - see ASM 675.}.

ASM 491. Seminar. 1-5 Credits.

ASM 492. Study Abroad. 1-15 Credits.

ASM 494. Individual Study. 1-5 Credits.

ASM 496. Field Experience. 1-15 Credits.

ASM 499. Special Topics. 1-5 Credits.

ASM 654. Principles and Application of Precision Agriculture. 3 Credits.
Principles and application of precision agriculture including yield monitoring systems, variable rate technology, GIS, GPS, sensors, auto guidance, data acquisition and management, mapping and equipment management. 2 lectures, 1 three-hour laboratory. {Also offered for undergraduate credit - see ASM 454.}.

ASM 675. Management of Agricultural Systems. 2 Credits.
Capstone learning experience involving team solution to problems in agricultural systems management. Oral and written communications are emphasized. 2 lectures. {Also offered for undergraduate credit - see ASM 475}.