BS in Agricultural Systems Management

Degree Program Description

Agricultural Systems Management combines interests in machines and business. The business and technical skills acquired prepares students for any number of careers in many industries, including Agricultural and Power Equipment Manufacturing, Equipment Sales, Food Production and Processing, and Government. In Agricultural and Power Equipment Manufacturing, companies such as Caterpillar, Case IH and John Deere seek product developers, managers and supervisors trained in the latest in precision agriculture, hydraulics, electrical circuits, engines and machinery management. In Equipment Sales, local and regional dealerships who sell agricultural machinery to agricultural producers seek technical sales representatives who possess strong product knowledge and an understanding of business finance and marketing to provide producers with the equipment they need. In Food Production and Processing, companies such as Anheuser-Busch, Archer Daniels Midland, Frito-Lay, Pioneer Hi-Bred, Cargill and Purina Mills seek grain elevator and mill operators and managers to properly handle, store and process agricultural crops and materials. In Government, state and federal agencies such as the Missouri Department of Natural Resources, the U.S. Department of Agriculture and the Natural Resources Conservation Service seek consultants and specialists to oversee and regulate pesticide application, water handling and irrigation systems, animal waste management systems, and watershed management.

Major Program Requirements

Students earning a Bachelor of Science in Agricultural Systems Management are required to complete all University general education (http://catalog.missouri.edu/academicdegreerequirements/generaleducationrequirements), (http://catalog.missouri.edu/academicdegreerequirements/generaleducationrequirements) University undergraduate requirements (http://catalog.missouri.edu/academicdegreerequirements/universityrequirements), degree, and major requirements, including selected foundational courses, which may fulfill some University general education requirements.

Foundational Courses		
AG_ED_LD 2220	Verbal Communication in Agriculture, Food and Natural Resources	3
or COMMUN 1200	Public Speaking	
CHEM 1100	Atoms and Molecules with Lab	3-4
or CHEM 1320	College Chemistry I	
BIO_SC 1010 & BIO_SC 1020	General Principles and Concepts of Biology and General Biology Laboratory	5
or BIO_SC 1030	General Principles and Concepts of Biology with Laboratory	
or BIO_SC 1200	General Botany with Laboratory	
or BIO_SC 1500	Introduction to Biological Systems with Laboratory	
AG_EC 1041	Applied Microeconomics	3
or ECONOM 1014	Principles of Microeconomics	
AG_EC 1042	Applied Macroeconomics	3
or ECONOM 1015	Principles of Macroeconomics	
Core requirements		9
AG_S_M 1020	Introduction to Agricultural Systems Management	3
AG_S_M 1040	Physical Principles for Agricultural Applications	3
AG_S_M 4970	Agricultural Systems Management - Capstone	3
Select at least three courses from the following		9
AG_S_M 2220	Agricultural/Industrial Structures	3
AG_S_M 2360	Fluid Power	3
AG_S_M 4020	Agricultural Safety and Health	3
AG_S_M 4220	Material Handling and Conditioning	3
AG_S_M 4140	Electricity: Wiring and Equipment	3
AG_S_M 4320	Agricultural Equipment and Machinery	3
Select at least one course from the following		3
AG_S_M 4420	Surface Water Management	3
AG_S_M 4460	Irrigation and Drainage	3
Agricultural System Management Electives		31
AG_S_M 2320	Internal Combustion Power	3
AG_S_M 2340	Pesticide Application Equipment	3
AG_S_M 2345	Chemical Application Systems	2-3
AG_S_M 3350	Problems in Agricultural Systems Management (up to 6)	1-5
AG_S_M 4150	Biorenewable Systems Technology	3
AG_S_M 4225	Preservation of Grain Quality	2
AG_S_M 4360	Precision Agriculture Science and Technology	3
AG_S_M 4365	Machinery Management Using Precision Agriculture Technology	3
AG_S_M 4366	Data Management and Analysis Using Precision Agriculture Technology	3
AG_S_M 4368	Profit Strategies Using Precision Agriculture Technology	3
AG_S_M 1002	Topics in Agricultural Systems Management-Biological/Physical/Math	3
AG_S_M 1120	Agricultural/Industrial Materials and Processes	3
AG_S_M 4120	Advanced Agricultural/Industrial Materials and Processes	2-3
AG_S_M 4350	Problems in Agricultural Systems Management	1-3
AG_S_M 4940	Agricultural Systems Management Internship	2-5
AFNR Supporting courses		
AFNR 1120	Computing and Information Technology	1-2
or AFNR 2120	Working with Data Using Excel	
PLNT_S 2100	Introduction to Soils	2-3
or PLNT_S 2110	Plants and their Cultivation	
or AN_SCI 1065	Animal Science Laboratory Practicum	
Business/Economics (select 5 courses)		
ACCTCY 2036	Accounting I	3
MANGMT 3000	Principles of Management	3
AG_EC 2183	The Agricultural Marketing System	3
AG_EC 2223	Agricultural Sales	3
AG_EC 3224	New Products Marketing	3
AG_EC 3256	Agribusiness and Biotechnology Law	3
AG_EC 3260	General Farm Management	3
AG_EC 3282	Agribusiness Finance	3
or FINANC 1000	Principles of Finance	

Electives	27

In consultation with their advisor, students may select elective courses to bring their total credit hours to the 120 hour minimum. Typically electives are chosen to provide emphasis in one of the following areas:

- Natural resource and environment
- Materials handling and crop processing
- Power and machinery systems
- Production agriculture

Agricultural Equipment Dealership Management Program

Students who participate in the Agriculture Equipment Dealership Management program take a comprehensive sequence of courses in agricultural systems management and agricultural business management. Each student plans and completes an internship with a sponsoring dealer. Up to 6 credits may be earned through an Internship.

Semester Plan

Below is a sample plan of study, semester by semester. A student's actual plan may vary based on course choices where options are available.

First Year			
Fall	**CR**	**Spring**	**CR**
AG_S_M 1020	3	AG_S_M 1040	3
AG_EC 1041	3	AG_EC 1042	3
BIO_SC 1020	2	AFNR 2120	1
MATH 1100	3	ENGLSH 1000	3
BIO_SC 1010	3	HIST 1100, 1200, POL_SC 1100, or POL_SC 2100	3
		CHEM 1100	3
	14		16
Second Year			
Fall	**CR**	**Spring**	**CR**
Humanistic Studies and/or Fine Arts	3	AG_S_M 2320	3
AG_ED_LD 2220	3	AG_S_M 2340	3
AG_S_M 2360	3	SOIL 2100	3
BIOCHM 2112	3	STAT 1400	3
AG_EC 2223	3	AFNR Elective	3
	15		15
Third Year			
Fall	**CR**	**Spring**	**CR**
AG_S_M 4140	3	AG_S_M 4020	3
FINANC 1000	3	AG_S_M 4220	3
AG_EC 2183	3	AG_S_M 4940	3
AFNR Elective	3	ACCTCY 2026	3
SCI_AG_J 3240	3	AFNR Elective	3
	15		15
Fourth Year			
Fall	**CR**	**Spring**	**CR**
AG_S_M 4970	3	AG S M Elective	3
AG_S_M 4320	3	AG S M Elective	3
AG_S_M 4368	3	AG S M Elective	3
AG_S_M 4366	3	AG_EC 3256	3
AG_EC 3260	3	AG_S_M 4360	3
	15		15

Total Credits: 120