BS in Agricultural Systems Technology

Degree Program Description

Agricultural Systems Technology combines interests in technology, machines, and business to be at the forefront of technological innovation in agriculture, environmental protection and related industries. Students will study digital agricultural systems pertaining to structures, hydraulics, precision agriculture, machinery, electricity, sensors and the Internet of Things to manage agricultural systems. Agricultural Systems Technology graduates apply science, technology and engineering principles to manage complex agricultural and other production systems.

Agricultural Systems Technology will prepare graduates for a variety of careers, including: agricultural and power equipment manufacturing, equipment sales and service, food production and processing, precision agriculture technology, and government.

Major Program Requirements

Students who earn a Bachelor of Science in Agricultural Systems Technology, the management of technical agricultural systems, are required to complete all University general education (http://catalog.missouri.edu/academicdegreerequirements/generaleducationrequirements/), University graduation (http://catalog.missouri.edu/academicdegreerequirements/universityrequirements/) and degree requirements, including selected foundational courses, which may fulfill some University general education requirements.

Foundational Courses		**29-30**
MATH 1100	College Algebra	3
ABM 2225	Statistical Analysis	3
or MATH 1140	Trigonometry	
or MATH 1400	Calculus for Social and Life Sciences I	
or MATH 1500	Analytic Geometry and Calculus I	
or STAT 1200	Introductory Statistical Reasoning	
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	
PLNT_SCI 2110	Who Runs the World? Plants.	3
or SOIL 2100	Introduction to Soils	
ABM 1041	Applied Microeconomics	3
ABM 1042	Applied Macroeconomics	3
CHEM 1400 & CHEM 1401	College Chemistry I and College Chemistry I Laboratory	4
or CHEM 1100	Atoms and Molecules with Lab	
ACCTCY 2036	Accounting I	3
or ACCTCY 2010	Introduction to Accounting	
or ACCTCY 2026	Accounting I	
AGSC_COM 2220	Verbal Communication in Agriculture, Food and Natural Resources	3
or COMMUN 1200	Public Speaking	

Core Requirements		**29**
AG_S_TCH 1020	Introduction to Agricultural Systems Technology	3
AG_S_TCH 1040	Physical Principles for Agricultural Applications	3
AG_S_TCH 2199	Seminar in Professional Development	1-3
AG_S_TCH 2340	Pesticide Application Equipment	3
AG_S_TCH 3225	Sensors and Control for Agricultural Systems	3
AG_S_TCH 4140	Electricity: Wiring and Equipment	3
AG_S_TCH 4160	Internet of Things for Agricultural Technology	3
AG_S_TCH 4320	Agricultural Equipment and Machinery	4
AG_S_TCH 4360	Precision Agriculture Science and Technology	3
AG_S_TCH 4390	Optimization and Management of Food and Agricultural Systems	3

Supporting AST Electives		**12**
AG_S_TCH 2220	Agricultural/Industrial Facility Systems	3
AG_S_TCH 2360	Fluid Power	3
AG_S_TCH 4220	Material Handling and Conditioning	3
AG_S_TCH 4420	Surface Water Management	3
AG_S_TCH 4365	Machinery Management Using Precision Agriculture Technology	3
AG_S_TCH 4366	Data Management and Analysis Using Precision Agriculture Technology	3
AG_S_TCH 4368	Profit Strategies Using Precision Agriculture Technology	3
AG_S_TCH 4460	Irrigation and Drainage	3
AG_S_TCH 4940	Agricultural Systems Technology Internship	2-5

In consultation with their advisor, students may select elective courses to bring their total credit hours to the 120 hour minimum.

Suggested Electives		
PLNT_SCI 2125	Plant Structure and Function	4
PLNT_SCI 3210W	Principles of Weed Science - Writing Intensive	4
PLNT_SCI 3275	Grain Crops	3
PLNT_SCI 4313	Soil Fertility and Plant Nutrition	3
ABM 3241W	Ethical Issues in Agriculture - Writing Intensive	3
ABM 3260	General Farm Management	3
ABM 3256	Agribusiness and Biotechnology Law	3

Example AST 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. This plan shows how students have the opportunity to develop their area of study to achieve a Certificate in Precision Agriculture Technology.

First Year			
Fall	**CR**	**Spring**	**CR**
AG_S_TCH 1020	3	AG_S_TCH 1040	3
AG_S_TCH 2199	1-3	ABM 1042	3
ABM 1041	3	ENGLSH 1000	3
MATH 1100	3	State Requirement	3

BIO_SC 1010	3	BIO_SC 1020	2
Humanities	3		
	16-18		**14**
Second Year			
Fall	**CR**	**Spring**	**CR**
AG_S_TCH 4140	3	AG_S_TCH 2340	3
AG_S_TCH 4320	4	AG_S_TCH 3225	3
COMMUN 1200 or AGSC_COM 2220	3	SOIL 2100	3
CHEM 1100	4	STAT 1200	3
Elective	3	Humanities	3
	17		**15**
Third Year			
Fall	**CR**	**Spring**	**CR**
AG_S_TCH 4360	3	AG_S_TCH 4220	3
AG_S_TCH 4160	3	AG_S_TCH 4365 (Precision AG Certificate)	3
Supporting AG_S_TCH Course	3	Supporting AG_S_TCH Course	3
Accounting	3	Writing Intensive	3
Elective	3	Elective	3
	15		**15**
Fourth Year			
Fall	**CR**	**Spring**	**CR**
AG_S_TCH 4390	3	AG_S_TCH 4368 (Precision AG Certificate)	3
Supporting AG_S_TCH Course	3	3000 Level Writing Intensive	3
AG_S_TCH 4366 (Precision AG Certificate)	3	Elective	3
Supporting AG_S_TCH Course	3	Elective	3
Elective	3	Elective	3
Elective	3		
	18		**15**

Total Credits: 125-127