

# Agricultural Technology Management (Biomanufacturing Technology Option)

120 credit hours total

YEAR 1		YEAR 2		YEAR 3		YEAR 4	
FALL	SPRING	FALL	SPRING	FALL	SPRING	FALL	SPRING
<b>CHM 210 (4)</b> Chemistry I	<b>BIOL 198 (4)</b> Principles of Biology	<b>*MATH 205 (3)</b> General Calculus and Linear Algebra KSC-3	<b>STAT 325 (3)</b> Introduction to Statistics	<b>CC 110 (2)</b> Introduction to Computing	<b>ATM 331 (1)</b> Professional Practice for Agricultural Technology Managers PR: JR standing	<b>ATM 536 (3)</b> ATM Capstone Project PR: ATM 331 and SR standing	<b>ATM 545 (3)</b> Processing and Storage of Grains PR: ATM 160 or PHYS 113 or 115
<b>ATM 160 (3)</b> Engineered Systems and Technology in Agriculture	<b>ECON 110 (3)</b> Principles of Macroeconomics	<b>MANGT 220 (3)</b> Principles of Management	<b>*PHYS 113 (4)</b> General Physics I KSC-4	<b>CC 111 (1)</b> Elements of Computer Programming PR/CO: CC 110	<b>ATM 450 (3)</b> Sensors and Controls for Agricultural and Biological Systems PR: PHYS 113 or 115 PR: ATM 160 or MATH 100	<b>ATM 511 (3)</b> Agricultural Building Systems PR: ATM 160 or PHYS 113 or 115	<b>▲ Elective (3)</b> ATM/BAE
<b>DEN 160 (1)</b> College of Engineering Orientation	<b>*ENGL 100 (3)</b> Expository Writing I KSC-1	<b>*ENGL 200 (3)</b> Expository Writing II KSC-1 PR: ENGL 100	<b>ACCT 231 (3)</b> Accounting for Business Operation	<b>BIOCH 265 (5)</b> Introductory Organic Biochemistry PR: CHM 110	<b>● BAE 345/346 (3)</b> Properties of Biological Materials and Laboratory PR: CHM 210 or 220	<b>BIOL 455 (4)</b> General Microbiology PR: BIOL 198, one CHM course	<b>▲ Elective (3)</b> ATM/BAE
<b>*COMM 106 (3)</b> Public Speaking KSC-2	<b>* Elective (3)</b> Arts and Humanities KSC-6	<b>▲ Elective (3)</b> Graphics	<b>* Elective (3)</b> Social and Behavioral Sciences KSC-5	<b>ATM 245 (3)</b> Introduction to Biomanufacturing Technology PR: BIOL 198 or CHM 210 or BIOCH 265	<b>ATM 345 (3)</b> Cell Culture Technology in Biomanufacturing PR: MATH 205 or 220, BIOL 198 or CHM 210 or BIOCH 265	<b>▲ Elective (3)</b> ATM/BAE	<b>▲ Elective (3)</b> Technical
<b>* Elective (3)</b> Social and Behavioral Sciences KSC-5	<b>* Elective (3)</b> Institutional Sciences KSC-7	<b>* Elective (3)</b> Arts and Humanities KSC-6	<b>▲ Elective (3)</b> Technical	<b>▲ Elective (3)</b> Technical	<b>* Elective (3)</b> Institutional KSC-7	<b>▲ Elective (2)</b> Technical	<b>▲ Elective (3)</b> Business Management
					<b>▲ Elective (3)</b> Business Management		

(14 credit hours)

(16 credit hours)

(15 credit hours)

(15 credit hours)

(14 credit hours)

(16 credit hours)

(15 credit hours)

(15 credit hours)

## KEY

- = Prerequisite for another course
- PR = Prerequisite requirement
- PR/CO = Prerequisite or concurrent requirement
- \* = K-State Core (KSC) course
- ▲ = See department approved electives
- = Only offered in the semester shown

# Agricultural Technology Management Curriculum Notes

Students who satisfy all or part of K-State Core Institutional Electives (KSC-7) with courses that satisfy other degree requirements may use additional unrestricted electives to meet the degree requirement of 120 credit hours.

## Substitutions

AGEC 318 or MANGT 421 can substitute for MANGT 220.

CE 202 or GRSC 210 can substitute for BAE 250.

ECON 120 can substitute for ECON 110.

## Technical Electives

ATM/BAE electives and technical electives must be selected from an approved departmental list and be used to complete one of the option areas listed below.

### Agribusiness Management (43 credit hours total in option)

- 21 credit hours of required courses within option
- 15 credit hours of ATM/BAE electives
- 7 credit hours of technical electives

### Biomanufacturing (43 credit hours total in option)

- 24 credit hours of required courses within option
- 9 credit hours of ATM/BAE electives
- 10 credit hours of technical electives

### Precision Agriculture (43 credit hours total in option)

- 26 credit hours of required courses within option
- 12 credit hours of ATM/BAE electives
- 15 credit hours of technical electives

### Production Agriculture (43 credit hours total in option)

- 19 credit hours of required courses within option
- 9 credit hours of ATM/BAE electives
- 15 credit hours of technical electives

### Water Management (43 credit hours total in option)

- 17 credit hours of required courses within option
- 15 credit hours of ATM/BAE electives
- 11 credit hours of technical electives

Additional information is available at

[bae.k-state.edu/academics/undergraduate/atm/atm-elective-lists.pdf](http://bae.k-state.edu/academics/undergraduate/atm/atm-elective-lists.pdf).

## K-State Core

The K-State Core (KSC) is the university's version of the systemwide general education framework established by the Kansas Board of Regents.

**KSC requirement 1** – English (6 hours)

**KSC requirement 2** – Communications (3 hours)

**KSC requirement 3** – Math and Statistics (3 hours)

**KSC requirement 4** – Natural and Physical Sciences (4-5 hours)

**KSC requirement 5\*** – Social and Behavioral Sciences (6 hours)

**KSC requirement 6\*** – Arts and Humanities (6 hours)

**KSC requirement 7** – Institutional Electives (6 hours)

To view course lists for each requirement, visit [k-state.edu/provost/kstate-core](http://k-state.edu/provost/kstate-core).

*\*Requires two courses from two different subject areas.*