SOUTH DAKOTA STATE UNIVERSITY

Bachelor of Science
Major: Agricultural and Biosystems Engineering
2024-2025 Sample 4-Year Plan
Total Degree Requirements: 130 credits

Student _____ **Student ID#** _____ **Student Phone #** _____

Advisor _____ **Minimum GPA** 2.00 **Minor/Career Interest(s)** _____

Students are not limited to this plan; it is meant to be used as a guide for planning purposes in consultation with your advisor. The sample schedule is one possible path to completing your degree within four years. For official program requirements, please refer to the Undergraduate Catalog.

FIRST YEAR

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
ABE 101	Introduction to Agricultural and Biosystems Engineering		1	F	
BIOL 103/L	Biology Survey II and Lab		2+1		
GE 101	Introduction to Engineering and Technical Professions		1		
MATH 123	Calculus I (SGR #5)	p. Placement or MATH 115, 120	4		
SGR #2	Oral Communication (SGR #2)		3		
SGR #3	Social Sciences (SGR #3)	ECON 201 recommended	3		
		Total Credit Hours	15		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
ABE 132	Engineering Tools for ABE		1	S	
CHEM 112/L	General Chemistry I and Lab	p. MATH 114 or higher	3+1		
GE 121	Engineering Design Graphics I	c. MATH 103 or higher or math placement	1		
MATH 125	Calculus II	p. MATH 123	4		
SGR #1	Written Composition (SGR #1)	p. Placement	3		
SGR #4	Arts and Humanities (SGR #4)		3		
		Total Credit Hours	16		

SECOND YEAR

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
ABE 234	Digital Tools for Agricultural and Biosystems Engineering		3		
EM214	Statics	p. MATH 123	3		
GE 123	Computer Aided Drawing	p. GE 121	1		
MATH 225	Calculus III	p. MATH 125	4		
PHYS 207/L	Fundamentals of Physics I and Lab (SGR #6)	p. MATH 123	3+1		
		Total Credit Hours	15		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
ABE 222	Project Development for ABE		1	S	
EM 215	Dynamics	p. EM 214	3		
MATH 321	Differential Equations	p. MATH 125	3		
PHYS 209/L	Fundamentals of Physics II and Lab (SGR #6)	p. PHYS 207 or PHYS 211	3+1		
SGR #3	Social Sciences (SGR #3)		3		
SGR #4	Arts and Humanities (SGR #4)		3		
		Total Credit Hours	17		

Information Subject to Change. This is not a contract.

p. = Course Prerequisite, c.= Course Corequisite
Semester: F = Fall, S = Spring, SU = Summer

THIRD YEAR

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
ABE 314/L	Ag Power and Machines and Lab	p. EM 215	3+1	F	
ABE 343/L	Engineering Properties of Biological Materials and Lab		3	F	
EE 300/L	Basic Electrical Engineering I and Lab	p. MATH 125 and PHYS 209 or 213	3	F	
EM 321	Mechanics of Materials	p. EM 214	3		
ME 314	Thermodynamics	p. PHYS 211 and MATH 125	3	F	
		Total Credit Hours	16		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
ABE 444/L	Unit Operations of Biological Materials Processing/Lab	Senior standing or consent	3+1	S	
CHEM 108/L	Organic and Biochemistry and Lab	p. CHEM 112	4+1		
ENGL 277	Technical Communications (SGR #1)	p. ENGL 101	3		
TECH ELECTIVE*	Please choose electives from chosen emphasis (see comments)		3		
TECH ELECTIVE*	Please choose electives from chosen emphasis (see comments)		3		
		Total Credit Hours	18		

Summer

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
ABE 494 or ABE 496 or ABE 498	Internship or Field Experience or Undergraduate Research/Scholarship		2		
		Total Credit Hours	2		

FOURTH YEAR

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
ABE 411	Design Project III	p. Senior Standing	2	F	
ABE 434/L	Natural Resources Engineering and Lab	c. EM 331	3+1	F	
ABE 463/L	Instrumentation for Agricultural and Biological Systems and Lab	p. EE 300	2+1	F	
EM 331	Fluid Mechanics	p. EM 215, recommend fall section	3		
TECH ELECTIVE*	Please choose electives from chosen emphasis (see comments)		4		
		Total Credit Hours	16		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
ABE 324/L	Ag Structures and Indoor Environment and Lab	p. ME 314 and EM 331	3	S	
ABE 422	Design Project IV	p. Senior standing	2	S	
STAT 281, STAT 381 or MATH 331	Introduction to Statistics, Intro to Probability & Statistics or Advanced Engineering Mathematics	p. MATH 103 or higher p. MATH 125 p. MATH 321	3		
TECH ELECTIVE*	Please choose electives from chosen emphasis (see comments)		4		
TECH ELECTIVE*	Please choose electives from chosen emphasis (see comments)		3		
		Total Credit Hours	15		

COMMENTS/NOTES

Students from all academic majors can pursue graduation with Fishback Honors College distinction. View the Honors program requirements.

*Select Emphasis from Catalog – Food and Biomaterials, Power and Machinery, Structures and Environment, or Water and Natural Resources.