

Agricultural Engineering

<https://ag.purdue.edu/oap/Pages/major.aspx>

128 credits required for graduation

Credits	Course number	Course Title
Departmental/Program Major Courses (126 or 125 credits)		
Required Major Courses (34 credits)		
_____ 3	ABE 20500	Computation for Engineering Systems
_____ 3	ABE 21000	Thermodynamics Principles of Engineering and Biological Systems
_____ 1	ABE 29000	Sophomore Seminar
_____ 3	ABE 30500	Physical Properties of Biological Materials
_____ 3	ABE 31400	Design of Electronic systems
_____ 4	ABE 32500	Soil and Water Resource Engineering
_____ 3	ABE 32000	Solid Modeling, Simulation and Analysis
_____ 3	ABE 33000	Design of Machine Components
_____ 3	ABE 43500	Hydraulic Control Systems for Mobile Equipment
_____ 3	ABE 45000	Finite Element Method in Design and Optimization
_____ 1	ABE 48400	Project Planning and Management
_____ 3	ABE 48600	Agricultural Engineering Design
_____ 1	ABE 49000	Professional Practice in Agricultural and Biological Engineering
Other Departmental /Program Course Requirements (92 or 91 credits) (See Advising Resources)		
_____ 2	ENGR 13100	Transforming Ideas to Innovation I
_____ 2	ENGR 13200	Transforming Ideas to Innovation II
_____ 4	CHM 11500	<u>General Chemistry (satisfies Science #2 for core)</u>
_____ 4 or 3	CS 15900	<u>General Chemistry or Programming Applications for Engineers</u>
_____ 4	MA 16500	Plane Analytic Geometry and Calculus I (satisfies Quantitative Reasoning for core)
_____ 4	MA 16600	Plane Analytic Geometry and Calculus II
_____ 4	MA 26100	Multivariate Calculus
_____ 4	MA 26200	Linear Algebra and Differential Equations
_____ 4	PHYS 17200	Modern Mechanics
_____ 3	PHYS 24100	Electricity and Optics
_____ 3	ME 27000	Basic Mechanics I
_____ 3	ME 27400	Basic Mechanics II
_____ 3	NUCL 27300	Mechanics of Materials
_____ 4	(CE 34000 and CE 34300) or ME 30900	(Hydraulics and Elementary Hydraulics Lab) or Fluid Mechanics
_____ 3	-----	Engineering Technical Selective
_____ 3	-----	Engineering Technical Selective
_____ 3	AGRY 25500	Soil Science
_____ 3	-----	Agricultural Selective
_____ 4	-----	<u>Biological Science Selective (satisfies Science #1 for core)</u>
_____ 4	-----	<u>Biological Science Selective</u>
_____ 4	ENGL 10600	English Composition (satisfies Written Communication for core) (satisfies Information Literacy Selective for core)
_____ 3	COM 11400	Fundamentals of Speech Communication (satisfies Oral Communication for core)
_____ 3	-----	<u>Written and Oral Communication Selective</u>
_____ 3	-----	<u>Economics Selective (satisfies Human Culture Behavioral/Social Science for core)</u>
_____ 3	-----	<u>UCC Humanities Selective (satisfies Human Cultures Humanities for core)</u>
_____ 2	-----	<u>Humanities or Social Science Selective</u>
_____ 3	-----	<u>Humanities or Social Science Selective</u>
_____ 3	-----	<u>Humanities or Social Science Selective (30000+ level)</u>
Electives (2 or 3 credits)		
_____ 2 or 3	-----	Elective

University Core Requirements:

Human Cultures Humanities: _____	Science, Technology, and Society: _____
Human Cultures Behavioral/Social Science: _____	Written Communication: _____
Information Literacy: _____	Oral Communication: _____
Science #1: _____	Quantitative Reasoning: _____
Science #2: _____	

College of Agriculture & University Level Requirements:

2.0 GPA required for Bachelor of Science degree.

32 Upper division credits taken from Purdue

6 credits International Understanding: _____

3 credits Multicultural Awareness: _____

3 credits of Humanities or Social Science Selective (30000+ level): _____

9 credits of Hum and/or Social Sciences outside the College of Agriculture: _____

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Credits	Course number	Course Title	Prerequisites	Credits	Course number	Course Title	Prerequisites
Fall 1st Year				Spring 1st Year			
4	CHM 11500	General Chemistry	pre/co: calculus	4 or 3*	CHM 11600 or CS 15900	General Chemistry or Programming Applications for Engineers	CHM 11500
4	ENGL 10600	English Composition		3	COM 11400	Fundamentals of Speech	
2	ENGR 13100	Transforming Ideas to Innovation I		3	ENGR 13200	Transforming Ideas to Innovation II	ENGR 13100
4	MA 16500	Plane Analytic Geometry and Calculus I	ALEKS 85+	4	MA 16600	Plane Analytic Geometry and Calculus II	MA 16500
3	-----	UCC Humanities Selective		3	PHYS 17200	Modern Mechanics	pre/co: MA 16500
17				16			
Fall 2nd Year				Spring 2nd Year			
3	ABE 20500	Computation for Engineering Systems	ENGR 13200, pre/co: PHYS 17200	3	ABE 21000	Thermodynamics Principles of Engineering and Biological Systems	CHM 11500, PHYS 17200
1	ABE 29000	Sophomore Seminar		4	MA 26200	Linear Algebra and Differential Equations	MA 26100
4	MA 26100	Multivariate Calculus	MA 16600	3	ME 27400	Basic Mechanics II	ME 27000, pre/co: MA 26200
3	ME 27000	Basic Mechanics I	PHYS 17200, pre/co: MA 26100, ENGR 13200	3	NUCL 27300	Mechanics of Materials	ME 27000
3	PHYS 24100	Electricity and Optics	PHYS 17200	4	-----	Biological Science Selective	
3	-----	Economics Selective					
17				17			
Fall 3rd Year				Spring 3rd Year			
3	ABE 30500	Physical Properties of Biological Materials	pre/co: ABE 20500	3	ABE 31400	Design of Electronic Systems	MA 26200
4	ABE 32500	Soil and Water Resource Engineering	pre/co: AGRY 25500, (CE 34000 and CE 34300) or ME 30900	3	ABE 32000	Solid Modeling, Simulation and Analysis	MA 26200, NUCL 27300, pre/co: ME 27400
3	AGRY 25500	Soil Science	CHM 11600	3	ABE 33000	Design of Machine Components	NUCL 27300, pre/co: ABE 20500
4	CE 34000 and CE 34300 or ME 30900	Hydraulics and Elementary Hydraulics Lab or Fluid Mechanics	ME 27400	4	-----	Biological Science Selective	
3	-----	Agricultural Selective		3	-----	Humanities or Social Science Selective	
17				16			
Fall 4th Year				Spring 4th Year			
3	ABE 43500	Hydraulic Control Systems for Mobile Equipment	(CE 34000 and CE 34300) or ME 30900	3	ABE 48600	Agricultural Engineering Design	ABE 48400
3	ABE 45000	Finite Element Method in Design and Optimization	MA 26200, NUCL 27300	3	-----	Engineering Technical Selective	
1	ABE 48400	Project Planning and Management	ABE 32500, ABE 33000	2	-----	Humanities or Social Science Selective	
1	ABE 49000	Professional Practice in Agricultural and Biological Engineering	ABE 29000	3	-----	Humanities or Social Science Selective (30000+ level)	
3	-----	Engineering Technical Selective		2 or 3*	-----	Elective	
3	-----	Written and Oral Communication Selective					
14				14			

128 semester credits required for Bachelor of Science degree.
2.0 GPA required for Bachelor of Science degree.

The highlighted course is considered critical; timely progress toward the degree depends upon steady progress through each course in the plan of study, but this course, in particular, should be completed by the semester indicated.

Consultation with an advisor may result in an altered plan customized for an individual student.

Official and complete prerequisite lists are in the course catalog; the incomplete listing presented here regards this program and course sequencing.