Fall 2015

Environmental and Natural Resources Engineering

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

128 credits required for graduation

	Credits	Course number	Course Title
Departmental/Program Major Courses (126 credits)			
Required Major Courses (28 credits)			
_____	3	ABE 20500	Computation for Engineering Systems
_____	3	ABE 21000	Thermodynamics Principles of Engineering and Biological Systems
_____	1	ABE 29000	Sophmore 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 33000	Design of Machine Components
_____	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 (98 credits) (See Advising Resources)			
_____	4	CHM 11500	General Chemistry (satisfies Science #1 for core)
_____	4	CHM 11600	General Chemistry (satisfies Science #2 for core)
_____	4	MA 16500	Plane Analytic Geometry and Calculus I (satifies 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
_____	2	ENGR 13100	Tranforming Ideas to Innovation I
_____	2	ENGR 13200	Tranforming Ideas to Innovation II
_____	4	(CE 34000 and CE 34300) or ME 30900	(Hydraulics and Elementary Hydraulics Lab) or Fluid Mechanics
_____	3	ME 27000	Basic Mechanics I
_____	3	ME 27400	Basic Mechanics II
_____	3	NUCL 27300	Mechanics of Materials
_____	3	_____	Engineering Technical Selective
_____	3	_____	Engineering Technical Selective
_____	3	_____	ENRE Technical Selective
_____	3	_____	ENRE Technical Selective
_____	3	AGRY 25500	Soil Science
_____	3	_____	Agricultural Selective
_____	4	_____	Biological Science Selective
_____	4	_____	Biological Science Selective
_____	4	ENGL 10600	First-Year Composition (satisfies Written Communication for core) (satisfies Information
_____	3	COM 11400	Fundamentals of Speech Communication (satisfies Oral Communication for core)
_____	3	_____	Written and Oral Communication Selective
_____	3	_____	Economics Selective (satisfies Human Culture Behavioral/Social Science for core)
_____	3	_____	UCC Humanities Selective (satisfies Human Cultures Humanities for core)
_____	2	_____	Humanities or Social Science Selective
_____	3	_____	Humanities or Social Science Selective
_____	3	_____	Humanities or Social Science Selective (30000+ level)
Electives (2 credits)			
_____	2	_____	Elective

University Core Requirements:

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

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 Hum or Social Sciences 30000+ level: _____
9 credits of Hum and/or Social Sciences outside the College of Agriculture: _____ _____

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

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Credits	Course number	Course Title	Prerequisites
	Fall 1st Year		
4	CHM 11500	General Chemistry	pre/co: calculus
4	ENGL 10600	First-Year Composition	
2	ENGR 13100	Tranforming Ideas to Innovation I	
4	MA 16500	Plane Analytic Geometry and Calculus I	ALEKS 85+
3	_____	UCC Approved Humanities Selective	
17			
	Spring 1st Year		
4	CHM 11600	General Chemistry	CHM 11500
3	COM 11400	Fundamentals of Speech	
2	ENGR 13200	Transforming Ideas to Innovation II	ENGR 13100
4	MA 16600	Plane Analytic Geometry and Calculus II	MA 16500
4	PHYS 17200	Modern Mechanics	pre/co:MA 16500
17			
	Fall 2nd Year		
3	ABE 20500	Computation for Engineering Systems	ENGR 13200, pre/co:PHYS 17200
1	ABE 29000	Sophmore Seminar	
4	MA 26100	Multivariate Calculus	MA 16600
3	ME 27000	Basic Mechanics I	PHYS 17200, pre/co: MA 26100, ENGR 13200
3	PHYS 24100	Electricity and Optics	PHYS 17200
3	_____	Economics Selective	
17			
	Spring 2nd Year		
3	ABE 21000	Thermodynamics Principles of Engineering and Biological Systems	CHM 11500, PHYS 17200
4	MA 26200	Linear Algebra and Differential Equations	MA 26100
3	ME 27400	Basic Mechanics II	ME 27000, pre/co: MA 26200
3	NUCL 27300	Mechanics of Materials	ME 27000
4	_____	Biological Science Selective	
17			
	Fall 3rd Year		
3	ABE 30500	Physical Properties of Biological Materials	ABE 20500
4	ABE 32500	Soil and Water Resource Engineering	pre/co: AGRY 25500, (CE 34000 and CE 34300) or ME 30900
3	AGRY 25500	Soil Science	CHM 11600
4	(CE 34000 and CE 34300) or ME 30900	Hydraulics and Elementary Hydraulics Lab or Fluid Mechanics	ME 27400
3	_____	Humanities or Social Science Selective	
17			
	Spring 3rd Year		
3	ABE 31400	Design of Electronic Systems	MA 26200
3	ABE 33000	Design of Machine Components	NUCL 27300, pre/co: ABE 20500
3	_____	ENRE Technical Selective	
4	_____	Biological Science Selective	
3	_____	Agricultural Selective	
16			
	Fall 4th Year		
3	ABE 45000	Finite Element Method in Design and Optimization	MA 26200, NUCL 27300
1	ABE 48400	Project Planning and Management	ABE 32500, ABE 33000
1	ABE 49000	Professional Practice in Agricultural and Biological Engineering	ABE 29000
3	_____	ENRE Technical Selective	
3	_____	Engineering Technical Selective	
3	_____	Written or Oral Communication Selective	
14			
	Spring 4th Year		
3	ABE 48600	Agricultural Engineering Design	ABE 48400
3	_____	Engineering Technical Selective	
2	_____	Humanities or Social Selective	
3	_____	Humanities or Social Selective (30000+)	
2	_____	Elective	
13			

128 semester credits required for Bachelor of Science degree.
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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.