

The following courses are required for all Agronomy students graduating in the Agroecology Option. This option provides the scientific foundation for understanding and managing agricultural systems with ecological and environmental perspectives. Students may pursue graduate study or careers in sustainable agriculture, including advising alternative farmers or monitoring conservation plans for federal or state environmental agencies.

**AGRONOMIC SCIENCES** (30.5 credits)

AGRON 105	Leadership Experience	R	F, S, SS
AGRON 110	Prof. Dev. in Agronomy: Orientation	0.5(1-0)	F
AGRON 114	Principles of Agronomy	3(2-3 to 4)	F, S
AGRON 154	Fundamentals of Soil Science	3(2-2 to 4)	F, S
AGRON 206	Introduction to Meteorology	3(3-0)	F, S
AGRON 210	Prof. Dev. in Agronomy: Career Planning	1(1-0)	F, S
AGRON 230	Crop Structure-Function Relationships	3(3-0)	F, S
AGRON 310	Prof. Dev. in Agronomy: Internship	R	F, S, SS
AGRON 354	Soils and Plant Growth	3(3-0)	F, S
AGRON 354L	Soils and Plant Growth Laboratory	1(0-3)	F, S
AGRON 392	Systems Analysis in Crop and Soil Mgt	3(2-3)	F, S
AGRON 410	Prof. Dev. in Agronomy: Senior Forum	1(1-0)	F, S
AGRON 450	Issues in Sustainable Agriculture	3(3-0)	F
AGRON 497	Agroecology Summer Field Course	3	SS

**Plus 3 elective credits** to be chosen in Agronomy with no more than 2 credits total from Agron 331, 370, 490, 491, and 496 allowed to meet the 3-credit requirement and Agron 320 will only be used as a biological requirement. (A minimum of 15 credits in Agronomy must be earned at Iowa State.)

**MATHEMATICAL SCIENCES** (6 credits)

MATH 140	College Algebra	3(3-1)	F, S, SS
STAT 104	Introduction to Statistics	3(2-2)	F, S, SS
Demonstration of computer proficiency or take a course in Computer Science (See adviser for procedures to meet requirement)			

**ECONOMICS AND BUSINESS** (6 credits)

ECON 101	Principles of Microeconomics	3(3-0)	F, S, SS
ECON 380	Environmental and Resource Economics	3(3-0)	F, S

**COMMUNICATIONS** (12.5 credits)

ENGL 104	First-Year Composition I	3(3-0)	F, S, SS
ENGL 105	First-Year Composition II	3(3-0)	F, S, SS
LIB 160	Library Instruction	0.5(1-0)	F, S
SP CM 212	Fundamentals of Public Speaking	3(3-0)	F, S, SS
OR			
AG EDS 311	Pres. & Sales Strat. for Ag. Audiences	3(3-0)	F, S
OR			
ENGL 309	Report and Proposal Writing	3(3-0)	F, S
OR			
ENGL 314	Technical Communication	3(3-0)	F, S, SS

**NATURAL SCIENCES** (18-22 credits)

BIOL 211 & 211L	Principles of Biology I & Lab	4(3-3)	F, S
BIOL 212 & 212	Principles of Biology II & Lab	4(3-3)	F, S
BIOL 312	Ecology	3(2-3)	F, SS

Select at least 3 of the following courses:

AGRON 320	Genetics, Agriculture, and Biotechnology	3(3-0)	F, S
AGRON 360	Environmental Soil Science	3(2-3)	S
AGRON 402	Watershed Hydrology and Surficial Processes	4(3-3)	F, SS
BIOL 474	Plant Ecology	3(3-0)	S, SS
ENSCI 483	Environmental Biogeochemistry	4(3-2)	S
ENT 376	Fund. of Entomology & Pest Management	3(2-3)	F, S
HORT 424	Sustainable/Environmental Horticulture Syst.	2(2-0)	F
MICRO 201	General Microbiology	2(2-0)	F, S
PI P 408	Principles of Plant Pathology	3(2-3)	F

**PHYSICAL SCIENCES** (15-16 credits)

CHEM 163 & 163L	General Chemistry & Laboratory	5(4-3)	F, S, SS
CHEM 231 & 231L	Elementary Organic Chem. & Lab.	4(3-3)	F, S, SS
OR			
BBMB 221	Structure/Reactions in Biochemical Processes	3(3-0)	F, S
GEOL 100	The Earth	3(3-0)	F, S, SS
PHYS 106	The Physics of Common Experience	4(4-2)	F, S
OR			
PHYS 111	General Physics	4(4-2)	F, S, SS

**HUMANITIES, ETHICS, AND SOCIAL SCIENCE** (15 credits)

SOC 130	Rural Institutions and Organizations	3(3-0)	F, S
SOC 325	Agriculture in Transition	3(3-0)	S
Three credits each in U.S. diversity, international perspectives, and humanities (all courses must be from approved lists).			

**ELECTIVE CREDITS** (20-25 credits)

128 total credits required for graduation