

# SEED SCIENCE

Administered by the Departments of Agricultural and Biosystems Engineering, Agronomy, Horticulture, and Plant Pathology.

Seed Science must be taken as a secondary major in conjunction with a primary major. The seed science program is designed for students with career interests in one or more aspects of the seed industry. Areas of study focus on seeds including production, conditioning, pathology, physiology, quality control, marketing, and seed plant designs.

## Student Learning Outcomes

Upon graduation, students should be able to:

1. Demonstrate understanding of the science and principles of seed production systems, including seed quality assessment and conditioning, and clearly communicate the importance of seeds to our society.
2. Articulate the opportunities in the seed industry for seed-related careers.
3. Apply seed science and technology knowledge for solving seed quality and production problems encountered in the seed industry.

## CURRICULUM IN SEED SCIENCE (SECONDARY MAJOR)

**Total Degree Requirement: 128 cr.**

**COMPLETE COMMUNICATION AND LIBRARY REQUIREMENTS OF PRIMARY MAJOR AND 3 CR. FROM THE FOLLOWING:**

ENGL 3020	Business Communication	3
ENGL 3090	Proposal and Report Writing	3
ENGL 3120	Communicating Science and Public Engagement	3
ENGL 3140	Technical Communication	3
SPCM 3120	Business and Professional Speaking	3

### BIOLOGICAL SCIENCES: 7 CR.

BIOL 2110 & 2110L	Principles of Biology I and Principles of Biology Laboratory I	4
or BIOL 2120 & 2120L	Principles of Biology II and Principles of Biology Laboratory II	
AGRON 3200 or BIOL 3130	Genetics, Agriculture and Biotechnology Principles of Genetics	3

### PHYSICAL SCIENCES: 8-9 CR.

CHEM 1630 & 1630L	College Chemistry and Laboratory in College Chemistry	5
or CHEM 1770 & 1770L	General Chemistry I and Laboratory in General Chemistry I	

One of the following:

AGRON 2590	Organic Compounds in Plants and Soils	3
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BBMB 2210	Structure and Reactions in Biochemical Processes	3
CHEM 2310 & 2310L	Elementary Organic Chemistry and Laboratory in Elementary Organic Chemistry	4

### MATHEMATICAL SCIENCES 6 CR.

MATH 1400	College Algebra	3
or MATH 1500	Discrete Mathematics for Business and Social Sciences	
Statistics course		3

### AGRICULTURAL SCIENCES: 28-29 CR.

AGRON 1810	Introduction to Crop Science	3
or HORT 2210	Principles of Horticulture Science	
AGRON 1820	Introduction to Soil Science	3
AGRON 2060	Introduction to Weather and Climate	3
AGRON 2170 or AGRON 331C	Weed Identification Crops Practicum	1-2
AGRON 3160	Crop Structure-Function Relationships	3
or HORT 3210	Horticulture Physiology	
AGRON 3540	Soils and Plant Growth	3
9 credits from AGRON, HORT, or TSM (6 credits at 3000-4000 level)		9

### ECONOMICS AND BUSINESS: 9 CR.

ECON 1010	Principles of Microeconomics	3
Six credits from the following:		6
ACCT 2840	Financial Accounting	
ECON 1020	Principles of Macroeconomics	
ECON 2300	Farm Business Management	
ECON 2340	Small Business Management	
ECON 2350	Introduction to Agricultural Markets	
ECON 2360	Agricultural Selling	
ECON 3340	Entrepreneurship in Agriculture	
MGMT 3700	Managing Organizations	
MKT 3400	Principles of Marketing	

### SEED SCIENCE: 16 CR.

AGRON 3170	Principles of Weed Science	3
AGRON 3380	Seed Science and Technology	3
AGRON 4210	Introduction to Plant Breeding	3
ENT 3760	Fundamentals of Entomology and Pest Management	3
PLP 4080	Principles of Plant Path	3

One of the following:

AGRON 3110	Professional Internship in Agronomy (seed related)	1
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AGRON 4910	Seed Science Internship Experience	1-2
HORT 3910	Horticultural Management Experience	1

**HUMANITIES: 3 CR.**

3 cr. from approved humanities list: <http://www.cals.iastate.edu/student-services/humanities> (<http://www.cals.iastate.edu/student-services/humanities/>)

**SOCIAL SCIENCES: 3 CR.**

3 cr. from approved social sciences list: <http://www.cals.iastate.edu/student-services/social-sciences> (<http://www.cals.iastate.edu/student-services/social-sciences/>)

**ETHICS: 3 CR.**

3 cr. from approved ethics list: <http://www.cals.iastate.edu/student-services/ethics> (<http://www.cals.iastate.edu/student-services/ethics/>)

**REMAINING CREDITS (STUDENT CHOICE).**

Because seed science is a secondary major, the courses taken by the student during the first year will vary, depending on the primary major (see typical program for the primary major).