

# MAJOR IN SOIL AND CROP SCIENCES, AGRONOMIC PRODUCTION MANAGEMENT CONCENTRATION

## Requirements Effective Fall 2019

No new students are being admitted into this concentration.

### Freshman

		AUCC	Credits
AGRI 192 or 292	Orientation to Agricultural Systems Transfer Seminar		1
AREC 202	Agricultural and Resource Economics (GT-SS1)	3C	3
BZ 120	Principles of Plant Biology (GT-SC1)	3A	4
CHEM 107	Fundamentals of Chemistry (GT-SC2)	3A	4
CHEM 108	Fundamentals of Chemistry Laboratory (GT-SC1)	3A	1
CO 150	College Composition (GT-CO2)	1A	3
MATH 117	College Algebra in Context I (GT-MA1)	1B	1
MATH 118	College Algebra in Context II (GT-MA1)	1B	1
MATH 124	Logarithmic and Exponential Functions (GT-MA1)	1B	1
SOCR 100	General Crops		4
Historical Perspectives ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives</a> )		3D	3
Electives			4
<b>Total Credits</b>			<b>30</b>

### Sophomore

BZ 223	Plant Identification		3
LAND 220/LIFE 220	Fundamentals of Ecology (GT-SC2)	3A	3
PH 110	Physics of Everyday Phenomena (GT-SC2)	3A	3
PHIL 110	Logic and Critical Thinking (GT-AH3)	3B	3
SOCR 240	Introductory Soil Science		4
SPCM 200	Public Speaking		3
Diversity and Global Awareness ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-global-awareness">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-global-awareness</a> )		3E	3
Electives			8
<b>Total Credits</b>			<b>30</b>

### Junior

BZ 440	Plant Physiology		3
BZ 441	Plant Physiology Laboratory		2
Select one from the following:			3
BUS 300	Business Writing and Communication (GT-CO3)	2	
CO 300	Writing Arguments (GT-CO3)	2	
CO 301B	Writing in the Disciplines: Sciences (GT-CO3)	2	
JTC 300	Strategic Writing and Communication (GT-CO3)	2	
SOCR 330	Principles of Genetics		3
SOCR 350	Soil Fertility Management		3
SOCR 351	Soil Fertility Laboratory		1
SOCR 370	Climate-Smart Irrigation Principles		2

Select one course from the following:			3
STAT 201	General Statistics (GT-MA1)	1B	
STAT 301	Introduction to Applied Statistical Methods		
STAT 307	Introduction to Biostatistics		
Agricultural and Resource Economics Elective <sup>1</sup>			3
Department Electives (select from list below)			6
Arts and Humanities ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities</a> )			3
<b>Total Credits</b>			<b>32</b>

**Senior**

BSPM 302	Applied and General Entomology		2
BSPM 303C	Entomology Laboratory: Agricultural		1
BSPM 308	Ecology and Management of Weeds		3
BSPM 361	Elements of Plant Pathology		3
Select two courses from the following:			6-7
SOCR 320	Sustainable Forage Management for Livestock		
SOCR 322	Principles of Microclimatology		
SOCR 430			
SOCR 440	Pedology		
SOCR 455	Microbiomes of Soil Systems		
SOCR 460/HORT 460	Plant Breeding and Biotechnology		
SOCR 371	Irrigation of Field Crops		1
SOCR 377	Geographic Information Systems in Agriculture		3
SOCR 421	Agroecosystem Management	4A,4B,4C	4
SOCR 486 or 487	Practicum Internship		1
SOCR 492	Preparing for Impact--Your Career Journey	4A	1
Agricultural and Resource Economics Elective <sup>1</sup>			3
Department Electives (select from list below)			0-4
<b>Total Credits</b>			<b>28-32</b>

**Program Total Credits: 120**

**Department Electives**

Soil and Crop Sciences electives are required for the Agronomic Production Management Concentration. Choose any combination of the following suggested courses to meet this requirement.

Code	Title	Credits
BC 463	Molecular Genetics	3
BSPM 450	Molecular Plant-Microbe Interaction	3
BSPM 451		3
BZ 346	Population and Evolutionary Genetics	3
BZ 441	Plant Physiology Laboratory	2
BZ 476/BZ 576	Genetics of Model Organisms	3
FSHN 125	Food and Nutrition in Health	2
FSHN 150	Survey of Human Nutrition	3
HORT 401	Medicinal and Value-Added Uses of Plants	3
HORT 424/SOCR 424	Topics in Organic Agriculture	3

HORT 451	Vegetable Crop Management	3
MIP 300	General Microbiology	3
MIP 450	Microbial Genetics	3
SOCR 200	Seed Anatomy and Identification	1
SOCR 201	Seed Development and Metabolism	1
SOCR 300	Seed Purity Analysis	2
SOCR 301	Seed Germination and Viability	2
SOCR 410	Seed Processes: Storage and Deterioration	1
SOCR 412	Seed Processes: Separation and Conditioning	1

<sup>1</sup> Select from department list of Agricultural and Resource Economics Electives.

**Major Completion Map**

**Freshman**

<b>Semester 1</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
Select one course from the following:					1
AGRI 192	Orientation to Agricultural Systems				
AGRI 292	Transfer Seminar				
BZ 120	Principles of Plant Biology (GT-SC1)			3A	4
CO 150	College Composition (GT-CO2)			1A	3
MATH 117	College Algebra in Context I (GT-MA1)	X		1B	1
MATH 118	College Algebra in Context II (GT-MA1)	X		1B	1
MATH 124	Logarithmic and Exponential Functions (GT-MA1)	X		1B	1
SOCR 100	General Crops				4
<b>Total Credits</b>					<b>15</b>
<b>Semester 2</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
AREC 202	Agricultural and Resource Economics (GT-SS1)			3C	3
CHEM 107	Fundamentals of Chemistry (GT-SC2)	X		3A	4
CHEM 108	Fundamentals of Chemistry Laboratory (GT-SC1)			3A	1
Historical Perspectives ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives</a> )				3D	3
Electives					4
CO 150 and AUCC 1B (Quantitative Reasoning) must be completed by the end of Semester 2.				X	
<b>Total Credits</b>					<b>15</b>

**Sophomore**

<b>Semester 3</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
BZ 223	Plant Identification				3
LAND 220/ LIFE 220	Fundamentals of Ecology (GT-SC2)			3A	3
PH 110	Physics of Everyday Phenomena (GT-SC2)			3A	3
Diversity and Global Awareness ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-global-awareness">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-global-awareness</a> )				3E	3
Elective					3
<b>Total Credits</b>					<b>15</b>
<b>Semester 4</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
PHIL 110	Logic and Critical Thinking (GT-AH3)			3B	3
SOCR 240	Introductory Soil Science	X			4
SPCM 200	Public Speaking				3
Electives					5
<b>Total Credits</b>					<b>15</b>

**Junior**

<b>Semester 5</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
Select one course from the following:					3
BUS 300	Business Writing and Communication (GT-CO3)			2	
CO 300	Writing Arguments (GT-CO3)			2	
CO 301B	Writing in the Disciplines: Sciences (GT-CO3)			2	
JTC 300	Strategic Writing and Communication (GT-CO3)			2	
SOCR 330	Principles of Genetics	X			3
SOCR 350	Soil Fertility Management				3
SOCR 351	Soil Fertility Laboratory				1
Agricultural and Resource Economics Elective (See List on Concentration Requirements Tab)					3

Department Elective (See List on Concentration Requirements Tab)					3
<b>Total Credits</b>					<b>16</b>
<b>Semester 6</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
BZ 440	Plant Physiology				3
BZ 441	Plant Physiology Laboratory				2
SOCR 370	Climate-Smart Irrigation Principles				2
Select one course from the following:					3
STAT 201	General Statistics (GT-MA1)			1B	
STAT 301	Introduction to Applied Statistical Methods				
STAT 307	Introduction to Biostatistics				
Arts and Humanities ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities</a> )					3
Department Elective (See List on Concentration Requirements Tab)					3
<b>Total Credits</b>					<b>16</b>
<b>Senior</b>					
<b>Semester 7</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
BSPM 302	Applied and General Entomology	X			2
BSPM 303C	Entomology Laboratory: Agricultural	X			1
BSPM 308	Ecology and Management of Weeds	X			3
SOCR 371	Irrigation of Field Crops	X			1
SOCR 377	Geographic Information Systems in Agriculture	X			3
SOCR 421	Agroecosystem Management	X		4A,4B,4C	4
SOCR 492	Preparing for Impact–Your Career Journey	X		4A	1
<b>Total Credits</b>					<b>15</b>
<b>Semester 8</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
BSPM 361	Elements of Plant Pathology	X			3
Select two courses from the following:					6-7
SOCR 320	Sustainable Forage Management for Livestock				
SOCR 322	Principles of Microclimatology				
SOCR 430					
SOCR 440	Pedology				
SOCR 455	Microbiomes of Soil Systems				
SOCR 460/ HORT 460	Plant Breeding and Biotechnology				
Select one course from the following:					1
SOCR 486	Practicum				
SOCR 487	Internship				
Agricultural and Resource Economics Elective (See List on Concentration Requirements Tab)					3
Department Elective (See List on Concentration Requirements Tab)					0-4
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.					
<b>Total Credits</b>					<b>13-17</b>
<b>Program Total Credits:</b>					<b>120-124</b>