

# MAJOR IN SOIL AND CROP SCIENCES, PLANT BIOTECHNOLOGY, GENETICS, AND BREEDING CONCENTRATION

## Requirements Effective Fall 2019

### Freshman

|                      |   | AUCC | Credits   |
|----------------------|---|------|-----------|
| AGRI 192 or 292      | Orientation to Agricultural Systems<br>Transfer Seminar |      | 1         |
| CHEM 111             | General Chemistry I (GT-SC2)                            | 3A   | 4         |
| CHEM 112             | General Chemistry Lab I (GT-SC1)                        | 3A   | 1         |
| CHEM 113             | General Chemistry II                                    |      | 3         |
| CHEM 114             | General Chemistry Lab II                                |      | 1         |
| CO 150               | College Composition (GT-CO2)                            | 1A   | 3         |
| LIFE 102             | Attributes of Living Systems (GT-SC1)                   | 3A   | 4         |
| LIFE 103             | Biology of Organisms-Animals and Plants (GT-SC1)        | 3A   | 4         |
| MATH 124             | Logarithmic and Exponential Functions (GT-MA1)          | 1B   | 1         |
| MATH 125             | Numerical Trigonometry (GT-MA1)                         | 1B   | 1         |
| MATH 126             | Analytic Trigonometry (GT-MA1)                          | 1B   | 1         |
| MATH 155             | Calculus for Biological Scientists I (GT-MA1)           | 1B   | 4         |
| SOCR 100             | General Crops   |      | 4         |
| <b>Total Credits</b> |   |      | <b>32</b> |

### Sophomore

|   |   |    |              |
|---|---|----|--------------|
| Select one from the following:  |   |    | 3            |
| AGRI 116/IE 116   | Plants and Civilizations (GT-SS3)                         | 1C |              |
| AGRI 270/IE 270   | World Interdependence-Population and Food (GT-SS3)        | 1C |              |
| AREC 202  | Agricultural and Resource Economics (GT-SS1)              | 3C | 3            |
| CHEM 245  | Fundamentals of Organic Chemistry                         |    | 4            |
| CHEM 246  | Fundamentals of Organic Chemistry Laboratory              |    | 1            |
| FSHN 125 or 150   | Food and Nutrition in Health<br>Survey of Human Nutrition |    | 2-3          |
| 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            |
| SOCR 330  | Principles of Genetics                                    |    | 3            |
| SPCM 200  | Public Speaking   |    | 3            |
| 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            |
| <b>Total Credits</b>  |   |    | <b>32-33</b> |

### Junior

|        |                            |  |   |
|--------|----------------------------|--|---|
| BC 351 | Principles of Biochemistry |  | 4 |
| BZ 310 | Cell Biology               |  | 4 |

|   |  |          |              |
|---|--|----------|--------------|
| JTC 300   | Strategic Writing and Communication (GT-C03)                                 | 2        | 3            |
| STAT 301 or 307   | Introduction to Applied Statistical Methods<br>Introduction to Biostatistics |          | 3            |
| Select eight credits from the following:  |  |          | 8            |
| BC 463  | Molecular Genetics   |          |              |
| BSPM 450  | Molecular Plant-Microbe Interaction  |          |              |
| BSPM 451  |  |          |              |
| BZ 346  | Population and Evolutionary Genetics   |          |              |
| BZ 476/BZ 576   | Genetics of Model Organisms  |          |              |
| HORT 401  | Medicinal and Value-Added Uses of Plants                                     |          |              |
| HORT 424/SOCR 424   | Topics in Organic Agriculture  |          |              |
| HORT 451  | Vegetable Crop Management  |          |              |
| HORT 453  | Principles of Fruit Crop Management  |          |              |
| MIP 300   | General Microbiology   |          |              |
| MIP 450   | Microbial Genetics   |          |              |
| Select two groups from the following:   |  |          | 6            |
| Group A:  |  |          |              |
| BSPM 302  | Applied and General Entomology   |          |              |
| BSPM 303C   | Entomology Laboratory: Agricultural  |          |              |
| Group B:  |  |          |              |
| BSPM 308  | Ecology and Management of Weeds  |          |              |
| Group C:  |  |          |              |
| BSPM 361  | Elements of Plant Pathology  |          |              |
| Electives <sup>1</sup>  |  |          | 3            |
| <b>Total Credits</b>  |  |          | <b>31</b>    |
| <b>Senior</b>   |  |          |              |
| BZ 440  | Plant Physiology   |          | 3            |
| SOCR 486  | Practicum  | 4C       | 1            |
| SOCR 492  | Preparing for Impact--Your Career Journey                                    | 4A       | 1            |
| Select one from the following:  |  |          | 3            |
| HORT 460/SOCR 460   | Plant Breeding and Biotechnology   | 4A,4B,4C |              |
| SOCR 430  |  | 4A,4B,4C |              |
| Soil and Crop Electives   |  |          | 8            |
| Select a minimum of 8 credits from the following suggested courses:   |  |          |              |
| SOCR 344  | Crop Development Techniques  |          |              |
| SOCR 350  | Soil Fertility Management  |          |              |
| SOCR 370  | Climate-Smart Irrigation Principles  |          |              |
| SOCR 377  | Geographic Information Systems in Agriculture                                |          |              |
| SOCR 410  | Seed Processes: Storage and Deterioration                                    |          |              |
| SOCR 412  | Seed Processes: Separation and Conditioning                                  |          |              |
| SOCR 421  | Agroecosystem Management   |          |              |
| SOCR 455  | Microbiomes of Soil Systems  |          |              |
| SOCR 475  | Global Challenges in Plant and Soil Science                                  |          |              |
| SOCR 495  | Independent Study  |          |              |
| 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> ) |  |          | 3B           |
| Electives <sup>1</sup>  |  |          | 5-6          |
| <b>Total Credits</b>  |  |          | <b>24-25</b> |
| <b>Program Total Credits:</b>   |  |          | <b>120</b>   |

<sup>1</sup> Select enough elective credits to bring the program total to 120, with a minimum of 42 upper division credits.