

# PLANT AND SOIL SCIENCES: PLANT BIOTECHNOLOGY AND IMPROVEMENT, BSAG

**Requirements for Students Matriculating in or before Academic Year 2024-2025.** Learn more about University Academic Regulation 3.1 (<http://catalog.okstate.edu/university-academic-regulations/#matriculation>).

**Minimum Overall Grade Point Average: 2.00**

**Total Hours: 120**

| Code  | Title  | Hours     |
|---|--|-----------|
| <b>General Education Requirements</b>   |  |           |
| <i>English Composition</i>  |  |           |
| See Academic Regulation 3.5 ( <a href="http://catalog.okstate.edu/university-academic-regulations/#english-composition/">http://catalog.okstate.edu/university-academic-regulations/#english-composition/</a> ) |  |           |
| ENGL 1113   | Composition I  | 3         |
| or ENGL 1313  | Critical Analysis and Writing I                                  |           |
| Select one of the following:  |  | 3         |
| ENGL 1213   | Composition II   |           |
| ENGL 1413   | Critical Analysis and Writing II                                 |           |
| ENGL 3323   | Technical Writing  |           |
| <i>American History &amp; Government</i>  |  |           |
| Select one of the following:  |  | 3         |
| HIST 1103   | Survey of American History                                       |           |
| HIST 1483   | American History to 1865 (H)                                     |           |
| HIST 1493   | American History Since 1865 (DH)                                 |           |
| POLS 1113   | American Government  | 3         |
| <i>Analytical &amp; Quantitative Thought (A)</i>  |  |           |
| STAT 2013   | Elementary Statistics (A) <sup>1</sup>                           | 3         |
| <i>Humanities (H)</i>   |  |           |
| Courses designated (H)  |  | 6         |
| <i>Natural Sciences (N)</i>   |  |           |
| Must include one Laboratory Science (L) course  |  |           |
| CHEM 1314   | Chemistry I (LN) <sup>1</sup>                                    | 4         |
| Course designated (N)   |  | 3         |
| <i>Social &amp; Behavioral Sciences (S)</i>   |  |           |
| AGEC 1113   | Introduction to Agricultural Economics (S) <sup>1</sup>          | 3         |
| <i>Additional General Education</i>   |  |           |
| Courses designated (A), (H), (N), or (S)  |  | 9         |
| <b>Hours Subtotal</b>   |  | <b>40</b> |
| <b>Diversity (D) &amp; International Dimension (I)</b>  |  |           |
| May be completed in any part of the degree plan   |  |           |
| Select at least one Diversity (D) course  |  |           |
| Select at least one International Dimension (I) course  |  |           |
| <b>College Requirements</b>   |  |           |
| UNIV 1111   | First Year Seminar (or other approved first year seminar course) | 1         |
| ENTO 2993   | Introduction to Entomology (LN)                                  | 3         |
| <b>Departmental Requirements</b>  |  |           |
| Select one of the following:  |  | 3         |

|                                  |   |           |
|----------------------------------|---|-----------|
| AGCM 3103                        | Written Communications in Agricultural Sciences and Natural Resources |           |
| BCOM 3113                        | Written Communication   |           |
| BCOM 3443                        | Business Communication for International Students                     |           |
| ENGL 3323                        | Technical Writing <sup>2</sup>  |           |
| Select one of the following:     |   | 3         |
| AGCM 3203                        | Oral Communications in Agricultural Sciences & Natural Resources (S)  |           |
| SPCH 2713                        | Introduction to Speech Communication (S)                              |           |
| SPCH 3733                        | Elements of Persuasion (S) <sup>3</sup>                               |           |
| PLNT 1213                        | Introduction to Plant and Soil Systems (N)                            | 3         |
| PLNT 2041                        | Career Development in Plant and Soil Sciences                         | 1         |
| PLNT 4033                        | Applied Agricultural Meteorology                                      | 3         |
| PLNT 4080                        | Professional Internship   | 3         |
| or PLNT 4990                     | Senior Thesis in Plant and Soil Sciences                              |           |
| PLNT 4571                        | Professional Preparation in Plant and Soil Sciences                   | 1         |
| SOIL 2124                        | Fundamentals of Soil Science (N)                                      | 4         |
| SOIL 4234                        | Soil Nutrient Management  | 4         |
| Select one of the following:     |   | 3         |
| MATH 1513                        | College Algebra (A) <sup>4</sup>                                      |           |
| MATH 2103                        | Business Calculus (A)   |           |
| MATH 2144                        | Calculus I (A)  |           |
| BIOL 1113                        | Introductory Biology (N)  | 4         |
| & BIOL 1111                      | and Introductory Biology Laboratory (LN)                              |           |
| or BIOL 1114                     | Introductory Biology (LN)   |           |
| CHEM 1515                        | Chemistry II (LN) <sup>5</sup>  | 5         |
| or CHEM 1225                     | Chemical Principles II (LN)   |           |
| <b>Hours Subtotal</b>            |   | <b>41</b> |
| <b>Major Requirements</b>        |   |           |
| <i>Core Courses</i>              |   |           |
| PBIO 1404                        | Plant Biology (LN)  | 4         |
| PBIO 4463                        | Plant Physiology  | 3         |
| or PLNT 4123                     | Plant-Environment Interactions  |           |
| or HORT 4963                     | Horticulture Physiology   |           |
| PLNT 2013                        | Applied Plant Science   | 3         |
| PLNT 3012                        | Crops of Oklahoma   | 2         |
| PLNT 4013                        | Principles of Weed Science  | 3         |
| PLNT 4353                        | Plant Breeding  | 3         |
| PLNT 4933                        | Gene Editing and Genetically Modified Crops                           | 3         |
| BIOL 3023                        | General Genetics  | 3         |
| or ANSI 3423                     | Animal Genetics   |           |
| CHEM 3053                        | Organic Chemistry I   | 3         |
| or CHEM 3013                     | Survey of Organic Chemistry   |           |
| BIOC 3713                        | Biochemistry I  | 3         |
| or BIOC 3653                     | Survey of Biochemistry  |           |
| <i>Related Courses</i>           |   |           |
| Select 9 hours of the following: |   | 9         |
| BIOC 2344                        | Chemistry and Applications of Biomolecules                            |           |

|   |   |            |
|---|---|------------|
| BIOC 3723   | Biochemistry and Molecular Biology Laboratory |            |
| BIOC 3813   | Biochemistry II                               |            |
| CHEM 3153   | Organic Chemistry II                          |            |
| HORT 3113   | Greenhouse Management                         |            |
| HORT 4133   | Temperature Stress Physiology                 |            |
| HORT 4953   | Plant Growth and Development                  |            |
| MICR 2123   | Introduction to Microbiology                  |            |
| MICR 2132   | Introduction to Microbiology Laboratory       |            |
| MICR 3223   | Advanced Microbiology                         |            |
| PBIO 4005<br>or PBIO 3114                                     | Field Botany<br>Plant Taxonomy                |            |
| PLNT 2011   | Agronomic Problem Solving                     |            |
| PLP 3343  | Principles of Plant Pathology                 |            |
| SOIL 4483   | Soil Microbiology                             |            |
| ENVR 4033   | Ecology of Invasive Species                   |            |
| NREM 4033   | Ecology Of Invasive Species                   |            |
| PHYS 1014   | Descriptive Physics (N)                       |            |
| Upper-level PLNT  |   |            |
| <b>Hours Subtotal</b>   |   | <b>39</b>  |
| <b>Electives</b>  |   |            |
| Select 0 hours or hours to complete required total for degree |   | 0          |
| <b>Total Hours</b>  |   | <b>120</b> |

- Degrees that follow this plan must be completed by the end of Summer 2030.

1

College & Departmental requirements that may be used to meet General Education requirements.

2

If ENGL 3323 Technical Writing is used to satisfy ENGL 1213 Composition II above; hours in this block are reduced by 3.

3

If used as (S) course above, hours in this block reduced by 3.

4

If used as (A) course above, hours in this block reduced by 3.

5

If used as (N) course above, hours in this block reduced by 5.

## Other Requirements

- A minimum of 40 semester credit hours and 100 grade points must be earned in courses numbered 3000 or above.
- A 2.00 GPA or higher in upper-division hours.

## Additional State/OSU Requirements

- At least: 60 hours at a four-year institution; 30 hours completed at OSU; 15 of the final 30 or 50% of the upper-division hours in the major field completed at OSU.
- Limit of: one-half of major course requirements as transfer work; one-fourth of hours earned by correspondence; 8 transfer correspondence hours.
- Students will be held responsible for degree requirements in effect at the time of matriculation and any changes that are made, so long as these changes do not result in semester credit hours being added or do not delay graduation.