

**Bachelor of Science in Agriculture**  
**Major: Sustainable Plant Systems**  
**Specialization: Turfgrass Science**

*Students learn to manage and maintain turf as they gain knowledge in plant biology, soil and turfgrass science.  
Students in this major will complete a minimum of 121 hours outlined as follows.*

| General Education Requirements  |  |              |
|---|--|--------------|
| Requirement   | Course Options   | Hours        |
| GE Launch Seminar   | <b>GENED 1201</b>  | 1            |
| Writing and Information Literacy                                      | <b>Student Choice</b>  | 3            |
| Mathematical & Quantitative Reasoning/Data Analysis                   | Major requirement: <b>MATH 1130, 1148, 1150, 1151, or 1156</b> * (or <i>Student Choice – see below</i> ) | 4-5          |
| Literary, Visual and Performing Arts                                  | <b>Student Choice</b>  | 3            |
| Historical & Cultural Studies   | <b>Student Choice</b>  | 3            |
| Natural Science   | Major requirement: <b>BIOLOGY 1113</b> * (or <i>Student Choice – see below</i> )                         | 4            |
| Social & Behavioral Sciences  | Major requirement: <b>AEDECON 2001</b> or <b>ECON 2001.01</b> * (or <i>Student Choice – see below</i> )  | 3            |
| Race, Ethnic and Gender Diversity                                     | <b>Student Choice</b>  | 3            |
| Theme: <b>Citizenship for a Diverse &amp; Just World</b> <sup>a</sup> | <b>Student Choice</b>  | 4-6          |
| Theme: <b>Student Choice</b> <sup>a</sup>                             | <b>Student Choice</b>  | 4-6          |
| GE Reflection   | <b>GENED 4001</b>  | 1            |
| <b>Credit Hours:</b>  |  | <b>33-38</b> |

\* Indicates a pre/corequisite course for this major that also satisfies this GE category. If a student makes an alternative selection in this GE category, **they must also complete this course.**

| B.S. in Agriculture Degree Requirements |   |              |
|---|---|--------------|
| Requirement                             | Course Options                              | Hours        |
| College & Department Survey             | <b>FAES 1100 (0.5) &amp; HCS 1100 (0.5)</b> | 1            |
| Oral Expression                         | <b>AGRCOMM 3130</b> or <b>COMM 2110</b>     | 3            |
| Additional Science                      | <b>CHEM 1110, 1210, or 1220</b>             | 5            |
| Internship                              | <b>FAES 3191 &amp; HCS 4191.01</b>          | 2            |
| Minor Equiv. <sup>b</sup>               | See pg. 2                                   | 15-18        |
| <b>Credit Hours:</b>                    |   | <b>26-29</b> |

<sup>a</sup> Students complete either a 4-credit course or two 3-credit courses in each of two General Education Theme areas: Citizenship for a Diverse & Just World (required), and the student's choice of available GE Themes. If any major-required courses are identified as a GE Theme course, one course in each GE Theme area may double count in the GE and major hours. Theme courses are identified with a ❖ symbol.

<sup>b</sup> Students in this program complete a group of courses called a minor equivalent. Declaring an additional minor is not required.

<sup>c</sup> Only up to 6 credits of any combination of 4193, 4998, 4999, or 4999H can count towards major electives.

<sup>d</sup> Review prerequisites.

|                                   |              |
|-----------------------------------|--------------|
| General Education                 | <b>33-38</b> |
| Degree Requirements               | <b>26-29</b> |
| Major                             | <b>53-54</b> |
| Open Electives                    | <b>0-9</b>   |
| <b>Minimum Total Credit Hours</b> | <b>121</b>   |

| Major Coursework                                      |  |              |
|---|--|--------------|
| Course  | Title  | Hours        |
| <b>HCS 2202</b>                                       | Form and Function in Cultivated Plants                       | 4            |
| <b>HCS 2204</b>                                       | Ecology of Managed Plant Systems ❖                           | 3            |
| <b>HCS 2205</b>                                       | Ecology of Managed Plant Systems Lab                         | 1            |
| <b>HCS 2260</b>                                       | Data Analysis and Interpretation for Decision Making         | 3            |
| <b>HCS 2270</b>                                       | Historical Perspectives on Golf Course Design and Management | 2            |
| <b>HCS 3310</b>                                       | Crop Responses to the Environment                            | 3            |
| <b>HCS 3370</b>                                       | Sports Turf Management                                       | 2            |
| <b>HCS 3420</b>                                       | Seed Science   | 3            |
| <b>HCS 3470</b>                                       | Introduction to Turfgrass Management                         | 3            |
| <b>HCS 4504</b>                                       | Advanced Golf and Turf Operations (Capstone)                 | 3            |
| <b>HCS 4570</b>                                       | Turfgrass Management and Science                             | 3            |
| <b>HCS 5422</b>                                       | Biology & Management of Weeds and Invasive Plants            | 3            |
| <b>HCS 5670</b>                                       | Golf Courses and the Environment                             | 2            |
| <b>ENR 3000</b>                                       | Soil Science   | 3            |
| <b>ENTMLGY 4600</b>                                   | Intro to Insect Science                                      | 1            |
| <b>ENTMLGY 5608</b>                                   | Turfgrass Insect and Mite Pests                              | 2            |
| <b>PLNTPTH 3001</b>                                   | General Plant Pathology                                      | 3            |
| <b>PLNTPTH 3002</b>                                   | General Plant Pathology Lab                                  | 2            |
| <b>Major Electives: Select 7-8 credit hours from:</b> |  |              |
| <b>HCS 2340.01</b>                                    | Woody Ornamental Plants                                      | 3            |
| <b>HCS 2340.02</b>                                    | Herbaceous Ornamental Plants                                 | 3            |
| <b>HCS 2501</b>                                       | Basic Club Design and Repair                                 | 1            |
| <b>HCS 3220</b>                                       | Crop Origins and Diversity                                   | 2            |
| <b>HCS 3320</b>                                       | Plant Propagation  | 3            |
| <b>HCS 3380</b>                                       | Latino Workforce in Land Based Industries                    | 2            |
| <b>HCS 3488.01</b>                                    | Professional Development in Hort. And Crop Science           | 1-3          |
| <b>HCS 4193</b>                                       | Individual Studies <sup>c</sup>                              | 1-3          |
| <b>HCS 4520</b>                                       | Medicinal Plants   | 2            |
| <b>HCS 4998</b>                                       | Undergraduate Research <sup>c</sup>                          | 1-12         |
| <b>HCS 4999</b>                                       | Research with Distinction <sup>c</sup>                       | 1-6          |
| <b>HCS 4999H</b>                                      | Honors Research with Distinction <sup>c</sup>                | 1-6          |
| <b>HCS 5097.01-04 &amp; 5797.01-04</b>                | Study Abroad Predeparture & Study Abroad                     | 4            |
| <b>HCS 5325</b>                                       | Plant Genetics   | 3            |
| <b>HCS 5602</b>                                       | Ecology of Agriculture                                       | 3            |
| <b>HCS 5621</b>                                       | Physiology of Cultivated Plants                              | 3            |
| <b>HCS 5622</b>                                       | Biochemical Processes in Cultivated Plants                   | 3            |
| <b>HCS 5625<sup>d</sup></b>                           | Applied Plant Biotechnology                                  | 2            |
| <b>HCS 5825<sup>d</sup></b>                           | Plant Breeding   | 2            |
| <b>Credit Hours:</b>                                  |  | <b>53-54</b> |

| Minor Equivalent (15-18 hours)                            |   |   |
|---|---|---|
| Select 15-18 credits from <u>one</u> of the groups below: |   |   |
| Group A: Management                                       |   |   |
| AEDECON 3101  | Principles of Agribusiness Management               | 3 |
| AEDECON 3102  | Principles of Agribusiness Marketing                | 3 |
| AEDECON 3160  | Human Resource Management in Small Business         | 3 |
| AGSYSMT 2240  | Basic Metal Fabrication for Agriculture             | 3 |
| AGSYSMT 3232  | Engines and Power Transmission                      | 3 |
| AGSYSMT 4580  | Precision Agriculture                               | 2 |
| AGSYSMT 5560  | UAS and Remote Sensing in Agriculture               | 3 |
| BUSMHR 2210   | Personal Leadership & Team Effectiveness            | 3 |
| BUSML 3150  | Foundations of Marketing                            | 3 |
| CONSCI 2910   | Consumer Problems and Perspectives                  | 3 |
| CSHSPMG 3910  | Customer Experience Management                      | 3 |
| ENR 3001  | Soil Science Laboratory                             | 1 |
| ENR 5272  | Turfgrass Soils                                     | 2 |
| ENR 5279  | Urban Soils and Ecosystem Services                  | 3 |
| ENTMLGY 5500  | Biological Control of Arthropod Pests               | 3 |
| ENTMLGY 5600  | Integrated Pest Management                          | 3 |
| ENTMLGY 5800  | Pesticide Science                                   | 3 |
| PLNTPTH 5130  | Turf Diseases and Integrated Turf Health Management | 4 |
| PLNTPTH 5603  | Plant Disease Management                            | 3 |
| Group B: Research   |   |   |
| CHEM 2310   | Introductory Organic Chemistry                      | 4 |
| BIOCHEM 4511  | Introduction to Biological Chemistry                | 4 |
| EEOB 3310.01 -or- 3310.02                                 | Evolution   | 4 |
| EEOB 3410   | Ecology   | 4 |
| ENR 5268  | Soils and Climate Change                            | 3 |
| GEOG 5900   | Weather, Climate, & Global Warming                  | 3 |

### **Policies and General Requirements for Degree**

- A minimum of 121 total credit hours. Remedial coursework (English 1109; EDUTL 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1010; Mathematics 1040, 1050, 1073, 1074, 1075) do not count toward the 121-hour minimum requirement for the BS degree.
- A minimum of 30 semester hours of credit earned through regular course enrollment at this University, and regular course enrollment in the last semester in the College of Food, Agricultural, and Environmental Sciences.
- A cumulative point-hour ratio of at least 2.00 on all coursework completed at The Ohio State University as well as at least a 2.00 in the major.
- If a major-required course or major elective is a GE Theme course, two 3-4 cr courses (no more than one per theme area) is permitted to double count in the GE and major hours. GE Theme courses are indicated with a ❖ symbol.
- Students are encouraged to participate in education abroad opportunities. Consult with your advisor for how education abroad credit applies to your degree or consider the CFAES Global Option.
- Students must complete a minimum of 40 hours in major/major supporting coursework with at least 12 hours taken from the academic unit(s) offering the major at OSU in the baccalaureate program.
- Courses required in the major (including major supporting courses and major electives) may **not** be taken pass/non-pass.
- Coursework taken as open electives may include a maximum of 4 credit hours of physical activity courses (all 1139-1197 courses), and a maximum of 4 credit hours of campus music organizations.
- A college maximum of six hours of individual studies courses (x193) can be applied toward graduation; some majors may have a lower maximum.
- Students of CFAES must complete an internship of 1-2 hours as a requirement for degree. Any additional internship credit hours may count towards major hours (consult with your advisor). A college maximum of six hours of internship credit can be applied toward graduation; some majors may have a lower maximum.
- A maximum of three credits of 3488 can be applied toward graduation although some majors may have a lower maximum. A cumulative point-hour ratio of 2.0 is required to register for 3488 credit.
- Credit hours for 4999 ("with Research Distinction") and 4999H ("with Honors Research Distinction") are repeatable to maximum of six hours.
- **An application for degree must be submitted online at least two semesters prior to the intended graduation term. Application found at: <https://students.cfaes.ohio-state.edu/academics/undergraduate/graduation>**

### **Policies and General Requirements for Minors/Minor Equivalent**

- The minor/minor equivalent must contain a minimum of 12 credit hours distinct from the major and/or additional minors (i.e., if a minor requires more than 12 credit hours, a student is permitted to overlap those hours beyond 12 with the major or with another minor).
- A 2.00 cumulative point-hour ratio is required in the minor/minor equivalent with a minimum C- grade for any course to be listed in the minor or minor equivalent (includes transfer credit).
- For programs requiring a minor: minors should be declared by the time students complete 60 hours.
- A student is permitted to count up to 6 credit-hours of transfer and/or EM credit in the minor or minor equivalent.
- Coursework graded Pass/Non-Pass cannot count in the minor. No more than 3 credit-hours of course work graded S/U may count toward the minor. Maximum of 3 credit-hours of xx93 are allowed to count in the minor.

**4-Year Course Plan  
B.S. in Agriculture  
Major: Sustainable Plant Systems  
Specialization: Turfgrass Science**

This model plan of study is presented as a suggested path to graduate in four years. It is intended to be a useful guide; however, each student is unique and should review the Degree Requirements for their catalog year and work with their advisor to develop an individualized course plan that best fits their personal academic background and goals.

NOTE: This sheet should not be used in isolation. To graduate in a timely manner, students must consult their academic advisor on a regular basis.

| Freshman Year  | Autumn Semester                                    |   |              | Spring Semester                                   |   |              |
|--|--|---|--------------|---|---|--------------|
| Benchmarks   | Course/Requirement                                 | Course Name                                   | Hours        | Course/Requirement                                | Course Name   | Hours        |
| -Complete Math requirement<br>-Complete at least one science<br>-Complete GE WIL   | FAES 1100  | College Survey                                | .5           | CHEM 1110, 1210, or 1220                          | General Chemistry   | 5            |
|  | HCS 1100   | Dept Survey                                   | .5           | GE Hist. & Cultural Studies                       |   | 3            |
|  | GE Math  | See options                                   | 4-5          | GE WIL  |   | 3            |
|  | HCS 2204 ❖ <sup>b</sup> & 2205                     | Ecology of Managed Plant Systems❖ & Lab       | 4            | HCS 2202  | Form and Function in Cultivated Plants                              | 4            |
|  | GE Lit, Vis and Perf Arts                          |   | 3            | GENED 1201  | GE Launch Seminar   | 1            |
|  | Minor Equiv./Open Elective                         |   | 2-3          |   |   |              |
| <b>Hours: 31</b>   |  | <b>Total:</b>                                 | <b>15</b>    |   | <b>Total:</b>   | <b>16</b>    |
| Sophomore Year   | Autumn Semester                                    |   |              | Spring Semester                                   |   |              |
| Benchmarks   | Course/Requirement                                 | Course Name                                   | Hours        | Course/Requirement                                | Course Name   | Hours        |
| -Complete three science courses by the end of this year<br>-Begin to consider an internship location                           | HCS 2270   | Historical Perspectives on Golf Course Design | 2            | HCS 3310  | Crop Responses to Environ.  | 3            |
|  | GE Nat Sci: BIOLOGY 1113                           | Energy Transfer and Development               | 4            | HCS 3470  | Introduction to Turfgrass Management                                | 3            |
|  | Major Elective                                     |   | 2-3          | HCS 2260  | Data Analysis   | 3            |
|  | GE R.E. & G. Diversity                             |   | 3            | GE SBS: AEDECON 2001                              | Prin. of Food & Res. Econ.  | 3            |
|  | Minor Equiv. Elective                              |   | 2-3          | GE Theme Choice #1 <sup>b</sup>                   |   | 3-4          |
| <b>Hours: 60</b>   |  | <b>Total:</b>                                 | <b>14</b>    |   | <b>Total:</b>   | <b>15-16</b> |
| Junior Year  | Autumn Semester                                    |   |              | Spring Semester                                   |   |              |
| Benchmarks   | Course/Requirement                                 | Course Name                                   | Hours        | Course/Requirement                                | Course Name   | Hours        |
| -Apply to graduate<br>-Complete internship by end of the summer<br>-Half of major hours to be completed by the end of the year | GE Theme Choice #2 <sup>b</sup> (or Open Elective) |   | 3            | HCS 3370  | Sports Turf Management  | 3            |
|  | GE Citizenship #1 <sup>b</sup>                     |   | 3-4          | ENR 3000  | Soil Science  | 3            |
|  | PLNTPH 3001 & 3002                                 | General Plant Pathology & Lab                 | 5            | AGRCOMM 3130                                      | Oral Expression   | 3            |
|  | HCS 3420   | Seed Science                                  | 3            | ENTMLGY 4600 & 5608                               | Intro to Insect Science (1)<br>Turfgrass Insect Pest Management (2) | 3            |
|  |  |   |              | GE Citizenship #2 <sup>b</sup> (or Open Elective) |   | 3            |
| <b>Hours: 90</b>   |  | <b>Total:</b>                                 | <b>14-15</b> |   | <b>Total:</b>   | <b>15</b>    |
| Summer   | Conduct Internship (Enroll in FAES 3191)           |   |              |   |   |              |
| Senior Year  | Autumn Semester                                    |   |              | Spring Semester                                   |   |              |
| Benchmarks   | Course/Requirement                                 | Course Name                                   | Hours        | Course/Requirement                                | Course Name   | Hours        |
| -Meet graduation requirements<br>-Meet with a Career Services Advisor  | HCS 4191   | Internship                                    | 2            | HCS 4504  | Capstone  | 3            |
|  | HCS 5422   | Biology & Mgmt of Weeds                       | 3            | Major Elective                                    |   | 4            |
|  | Minor Equiv/Open Elective                          |   | 3            | Minor Equiv. Elective                             |   | 4            |
|  | ENR 5270   | Soil Fertility                                | 3            | HCS 4570  | Turfgrass Mgmt & Science  | 3            |
|  | Minor Equiv. Elective                              |   | 3            | HCS 5670  | Golf Courses and the Environment                                    | 2            |
|  | GENED 4001   | GE Reflection                                 | 1            |   |   |              |
|  |  | <b>Total:</b>                                 | <b>15</b>    |   | <b>Total:</b>   | <b>16</b>    |
| <b>Total credit hours for Bachelor of Science Degree:</b>  |  |   |              |   |   | <b>121</b>   |

<sup>a</sup> One possible course from approved GE list or major requirement that has multiple options, as outlined in corresponding Degree Requirements document.

<sup>b</sup> Students complete either a 4-credit course or two 3-credit courses in each of two General Education Theme areas: Citizenship for a Diverse & Just World (required), and the student's choice of available GE Themes. If any major-required courses are identified as a GE Theme course, one course in each GE Theme area may double count in the GE and major hours. Theme courses are identified with a ❖ symbol.

## 4-Year Completion Checklist

| Freshman Year   | Autumn Semester           |   |  | Spring Semester           |  |   |
|---|---------------------------|---|--|---------------------------|--|---|
| <b>Benchmarks</b>   | <b>Course/Requirement</b> | ✓ |  | <b>Course/Requirement</b> |  | ✓ |
| <input type="checkbox"/> Complete Math requirement                                  | FAES 1100                 |   |  |                           |  |   |
|   | HCS 1100                  |   |  |                           |  |   |
| <input type="checkbox"/> Complete at least one science                              |                           |   |  |                           |  |   |
| <input type="checkbox"/> Complete GE WIL  |                           |   |  |                           |  |   |
| <b>Hours:</b> _____   | <b>Notes:</b>             |   |  | <b>Notes:</b>             |  |   |
| Sophomore Year  | Autumn Semester           |   |  | Spring Semester           |  |   |
| <b>Benchmarks</b>   | <b>Course/Requirement</b> | ✓ |  | <b>Course/Requirement</b> |  | ✓ |
| <input type="checkbox"/> Declare minor  |                           |   |  |                           |  |   |
| <input type="checkbox"/> Complete three science courses by the end of this year     |                           |   |  |                           |  |   |
| <input type="checkbox"/> Begin to consider an internship location                   |                           |   |  |                           |  |   |
| <b>Hours:</b> _____   | <b>Notes:</b>             |   |  | <b>Notes:</b>             |  |   |
| Junior Year   | Autumn Semester           |   |  | Spring Semester           |  |   |
| <b>Benchmarks</b>   | <b>Course/Requirement</b> | ✓ |  | <b>Course/Requirement</b> |  | ✓ |
| <input type="checkbox"/> Apply to graduate  |                           |   |  |                           |  |   |
| <input type="checkbox"/> Complete internship by end of the summer                   |                           |   |  |                           |  |   |
| <input type="checkbox"/> Half of major hours to be completed by the end of the year |                           |   |  |                           |  |   |
| <b>Hours:</b> _____   | <b>Notes:</b>             |   |  | <b>Notes:</b>             |  |   |
| Senior Year   | Autumn Semester           |   |  | Spring Semester           |  |   |
| <b>Benchmarks</b>   | <b>Course/Requirement</b> | ✓ |  | <b>Course/Requirement</b> |  | ✓ |
| <input type="checkbox"/> Meet graduation requirements                               |                           |   |  |                           |  |   |
| <input type="checkbox"/> Meet with a Career Services Advisor                        |                           |   |  |                           |  |   |
| <b>Hours:</b> _____   | <b>Notes:</b>             |   |  | <b>Notes:</b>             |  |   |

**Total credit hours for Bachelor of Science Degree: 121**

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