TURFGRASS SCIENCE, B.S.

Seven Penn State campuses are scheduled for closure after Spring 2027: DuBois, Fayette, New Kensington, Mont Alto, Shenango, Wilkes-Barre, and York. New students are not being admitted at these campuses.

Begin Campus: Any Penn State Campus

End Campus: University Park, World Campus

Program Description

This major provides an integrated program of study that includes basic and applied sciences, business management courses and an internship to prepare students for careers in turfgrass management and related areas. By carefully selecting supporting courses and electives, students can adapt the program to meet a variety of professional interests and educational needs.

Employment opportunities include golf course maintenance, professional lawn care, grounds maintenance, sod production, sales and service, athletic field maintenance, and research technician.

With appropriate selection of science courses, students can prepare for graduate study leading to careers in teaching, research, and extension.

What Is Turfgrass Science?

Turfgrass Science is the study of the grasses, soil, water, plant pests and the environment required for these plants to thrive. This discipline studies how the many turfgrasses around the world can be managed to provide environmentally beneficial, high-quality, safe, playing surfaces for sports, golf courses, residential, and grounds areas.

You Might Like This Program If...

- You enjoy working outdoors
- You want to be part of the sports industry
- You want to use your technical expertise to solve problems related to plants and the environment
- You have a sense of accomplishment seeing your work appreciated by others

Entrance to Major

A student wishing to transfer into the Turfgrass Science program must have completed CHEM 101 or CHEM 130 or CHEM 110 and received a grade of C or better in each course prior to declaring the major.

World Campus

Direct Admission to the Major

Incoming first-year students who meet the program admission requirements are admitted directly into the major. Admission restrictions may apply for change-of-major and/or change-of-campus students.

For more information about the admission process for this major, please send a request to the college, campus, or program contact (listed in the Contact tab).

Degree Requirements

For the Bachelor of Science degree in Turfgrass Science, a minimum of 120 credits is required:

Requirement	Credits
General Education	45
Electives	1
Requirements for the Major	92

18 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 3 credits of GWS courses; 6 credits of GQ courses; 9 credits of GN courses.

Requirements for the Major

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/).

Code	Title	Credits
Prescribed Courses		
Prescribed Courses: Require a grade of C or better		
AGBM 106	Agribusiness Problem Solving	3
CHEM 202	Fundamentals of Organic Chemistry I	3
ENT 317	Turfgrass Insect Pest Management	3
MATH 21	College Algebra with Analytic Geometry with Applications I	3
PPEM 412	Turfgrass Disease Management	3
SOILS 101	Introductory Soil Science	3
STAT 200	Elementary Statistics	4
TURF 230	Turfgrass Pesticides	1
TURF 235	The Turfgrass	3
TURF 238	Turf and Ornamental Weed Control	3
TURF 307	Golf Course Irrigation and Drainage	3
TURF 425	Turfgrass Cultural Systems	3
TURF 434	Turfgrass Edaphology	3
TURF 435	Turfgrass Nutrition	4
TURF 436W	Case Studies in Turfgrass Management	3
TURF 490	Colloquium	1
TURF 495	Internship	3
Additional Courses		
BIOL 11 & BIOL 12	Introductory Biology I and Introductory Biology II	4
or BIOL 110	Biology: Basic Concepts and Biodiversity	
BIOL 127	Introduction to Plant Biology	3
or HORT 101	Horticultural Science	
ENGL 202C	Effective Writing: Technical Writing	3
or ENGL 202D	Effective Writing: Business Writing	
METEO 3	Weather Revealed: Introductory Meteorology	3
or METEO 101	Understanding Weather Forecasting	
Additional Courses: Require a grade of C or better		
CHEM 101	Introductory Chemistry	3
or CHEM 110	Chemical Principles I	
or CHEM 130	Introduction to General, Organic, and Biochemistry	
Supporting Courses and Related Areas		
Select 12 credits from department professional agriculture list		12

Select 15 credits from department professional management and economics list	15

General Education

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (https://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program/) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

Foundations (grade of C or better is required and Inter-Domain courses do not meet this requirement.)

- **Quantification (GQ):** 6 credits
- **Writing and Speaking (GWS):** 9 credits

Breadth in the Knowledge Domains (Inter-Domain courses do not meet this requirement.)

- **Arts (GA):** 3 credits
- **Health and Wellness (GHW):** 3 credits
- **Humanities (GH):** 3 credits
- **Social and Behavioral Sciences (GS):** 3 credits
- **Natural Sciences (GN):** 3 credits

Integrative Studies

- **Inter-Domain Courses (Inter-Domain):** 6 credits

Exploration

- **GN,** may be completed with Inter-Domain courses: 3 credits
- **GA, GH, GN, GS, Inter-Domain courses.** This may include 3 credits of World Language course work beyond the 12th credit level or the requirements for the student's degree program, whichever is higher**:** 6 credits

University Degree Requirements

First Year Engagement

All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

Cultures Requirement

6 credits are required and may satisfy other requirements

- United States Cultures: 3 credits
- International Cultures: 3 credits

Writing Across the Curriculum

3 credits required from the college of graduation and likely prescribed as part of major requirements.

Total Minimum Credits

A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

Quality of Work

Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

Limitations on Source and Time for Credit Acquisition

The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/)). For more information, check the Suggested Academic Plan for your intended program.

Program Learning Objectives

- **Data Interpretation:** Accurately comprehend and draw appropriate inferences from numeric data and quantitative models.
- **Problem Solving in Turfgrass Management Situations:** Devise methods of inquiry to distinguish cause and effect, and to solve relevant problems in turfgrass management.
- **Proficiency in Communication:** Students will demonstrate their written, oral, and interpersonal communication skills needed to become a successful turfgrass manager.
- **Proficiency in Turf Cultural Practices:** Demonstrate proficiency in principles and practices of the primary turf grass cultural practices including mowing, fertilization, and irrigation and the secondary practices including cultivation, pest management, and soil modification.
- **Proficiency in Turfgrass Establishment and Management:** Describe the principles and practices of producing, establishing, and managing the primary turfgrass species and cultivars. Students will be able to explain and demonstrate turfgrass establishment and management, including mowing, fertilization, irrigation, and other cultural operations including pest control.

Academic Advising

The objectives of the university's academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee's unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/32-00-advising-policy/)

University Park

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Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2026-27 academic year. To access previous years' suggested academic plans, please visit the archive (https://bulletins.psu.edu/undergraduate/archive/) to view the appropriate Undergraduate Bulletin edition.

Turfgrass Science, B.S. at University Park Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits	Spring	Credits
SOILS 101*†	3	ENGL 15, 30H, or ESL 15‡†	3
CHEM 110 or 130*#	3	CHEM 202*	3
MATH 21‡†	3	METEO 3 or 101†	3
PLANT 150S	2	Supporting Course (Professional Management and Economics)	3
General Education Course	3	General Education Course	3
	14		**15**

Second Year

Fall	Credits	Spring	Credits
BIOL 110	4	TURF 230*	1
TURF 235*	3	ENT 317*	3
STAT 200‡†	4	Supporting Course	3
BIOL 127 or HORT 101†	3	General Education Course	3
General Education Course (GHW)	1.5	General Education Course (GHW)	1.5
		General Education Course	3
	15.5		**14.5**

Third Year

Fall	Credits	Spring	Credits	Summer	Credits
TURF 238*	3	TURF 435*	4	TURF 495*	1
TURF 434*	3	CAS 100, CAS 100A, CAS 100B, or CAS 100C‡†	3		
TURF 307*	3	TURF 495*	1		
Supporting Course (Professional Agriculture)	3	AGBM 106*	3		
General Education Course	3	Supporting Course (Professional Agriculture)	3		
		Elective	3		
	15		**17**		**1**

Fourth Year

Fall	Credits	Spring	Credits
PPEM 412*	3	TURF 436W*	3
TURF 425*	3	TURF 490*	1
ENGL 202C or 202D‡†	3	Supporting Course	3
TURF 495*	1	General Education Course	3
Supporting Course (Professional Agriculture)	3	Supporting Course	3
Supporting Course (Professional Management and Economics)	3		
	16		**13**

Total Credits 121

* Course requires a grade of C or better for the major
‡ Course requires a grade of C or better for General Education
# Course is an Entrance to Major requirement
† Course satisfies General Education and degree requirement

University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy Cultural Diversity Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

All incoming Schreyer Honors College first-year students at University Park will take ENGL 137H/CAS 137H in the fall semester and ENGL 138T/CAS 138T in the spring semester. These courses carry the GWS designation and satisfy a portion of that General Education requirement. If the student's program prescribes GWS these courses will replace both ENGL 15/ENGL 30H and CAS 100A/CAS 100B/CAS 100C. Each course is 3 credits.

Advising Notes:

- AGBM 101 or ECON 102 are recommended as General Education Courses that fulfill the GS requirement.
- Please consult with your academic adviser regarding the appropriate selection of elective and supporting courses. Supporting courses must be selected from an approved list.

Turfgrass Science, B.S. at Commonwealth Campuses

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits	Spring	Credits
ENGL 15, 30H, or ESL 15‡†	3	BIOL 110 or 11 ***and*** 12	4
CHEM 110 or 130*#	3	SOILS 101*†	3
MATH 21‡†	3	CHEM 202*	3
First Year Seminar	1-3	METEO 3 or 101†	3
General Education Course	3	General Education Course	3
General Education Course (GHW)	1.5		
	14.5-16.5		**16**

Second Year

Fall	Credits	Spring	Credits
CHEM 202*	3	TURF 230*	1
CAS 100‡†	3	ENGL 202C or 202D‡†	3
Supporting Course (Professional Agriculture)	3	STAT 200‡†	4
Supporting Course (Professional Management and Economics)	3	Supporting Course (Professional Management and Economics)	3
General Education Course	3	General Education Course	3
General Education Course (GHW)	1.5	General Education Course (GHW)	1.5
	16.5		**15.5**

Third Year

Fall	Credits	Spring	Credits	Summer	Credits
TURF 235*	3	TURF 435*	4	TURF 495*	1
TURF 238*	3	ENT 317*	3		
BIOL 127 or HORT 101†	3	TURF 495*	1		
Supporting Course (Professional Management and Economics)	3	AGBM 106*	3		
General Education Course	3	Supporting Course (Professional Agriculture)	3		
	15		**14**		**1**

Fourth Year

Fall	Credits	Spring	Credits
PPEM 412*	3	TURF 436W*	3
TURF 425*	3	TURF 490*	1
TURF 434*	3	Supporting Course (Professional Agriculture)	3
TURF 307*	3	Supporting Course (Professional Management and Economics)	3
TURF 495*	1	Elective	1
Supporting Course (Professional Agriculture)	3	General Education Course	3
	16		**14**

Total Credits 122.5-124.5

* Course requires a grade of C or better for the major
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# Course is an Entrance to Major requirement
† Course satisfies General Education and degree requirement

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Advising Notes:

- AGBM 101 or ECON 102 are recommended as General Education Courses that fulfill the GS requirement.
- Please consult with your academic adviser regarding the appropriate selection of elective and supporting courses. Supporting courses must be selected from an approved list.
- Students should schedule BIOL 127 in their first fall semester at University Park.
- Course offerings for SOILS 101, CHEM 202, and CMPSC 203 vary in offering patterns at Commonwealth Campus locations. Work with

your academic adviser to develop a plan for incorporating these courses (either at that campus location or at University Park).

Turfgrass Science, B.S. at World Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits	Spring	Credits
ENGL 15‡†	3	BIOL 110	4
CHEM 110 or 130*	3	CHEM 202*	3
MATH 21‡†	3	METEO 3 or 101†	3
General Education Course	3	TURF 230*	1
General Education Course	3	General Education Course	3
	15		**14**

Second Year

Fall	Credits	Spring	Credits
TURF 235*	3	Supporting Course (Professional Agriculture)	3
SOILS 101*†	3	Supporting Course (Professional Management)	3
STAT 200‡†	4	General Education Course	3
BIOL 127 or HORT 101†	3	General Education Course	3
General Education Course	3		
	16		**12**

Third Year

Fall	Credits	Spring	Credits	Summer	Credits
TURF 238*	3	TURF 434*	3	TURF 495*	3
ENT 317*	3	TURF 435*	4		
CAS 100‡†	3	TURF 307*	3		
General Education Course	3	AGBM 106*	3		
Supporting Course (Professional Agriculture)	3	Supporting Course (Professional Management)	3		
	15		**16**		**3**

Fourth Year

Fall	Credits	Spring	Credits
PPEM 412*	3	TURF 425*	3
TURF 436W*	3	Supporting Course (Professional Agriculture)	3
TURF 490*	1	Supporting Course (Professional Management)	3
ENGL 202C or 202D‡†	3	Supporting Course (Professional Management)	3
Supporting Course (Professional Agriculture)	3	Elective	3
Elective	3		
	16		**15**

Total Credits 122

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# Course is an Entrance to Major requirement
† Course satisfies General Education and degree requirement

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Advising Notes:

- AGBM 101 or ECON 102 are recommended as General Education Courses that fulfill the GS requirement.
- Please consult with your academic adviser regarding the appropriate selection of elective and supporting courses. Supporting courses must be selected from an approved list.

Career Paths

Graduates manage golf courses and professional stadium playing surfaces. Turfgrass professionals utilize grasses in conservation areas, and suburban and urban landscapes to enhance and beautify the environment. Some alumni pursue careers in agricultural enterprises that support the turfgrass industry.

MORE INFORMATION ABOUT POTENTIAL CAREER OPTIONS FOR GRADUATES OF THE TURFGRASS SCIENCE PROGRAM (https://plantscience.psu.edu/research/centers/turf)

Contact

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https://plantscience.psu.edu/research/centers/turf

World Campus

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https://www.worldcampus.psu.edu/degrees-and-certificates/penn-state-online-turfgrass-science-bachelor-of-science-degree