

# TURFGRASS SCIENCE AND MANAGEMENT, A.S.

**Begin Campus:** World Campus

**End Campus:** World Campus

## Program Description

The Turfgrass Science and Management (2TSM) major prepares graduates for the Bachelor of Science in Turfgrass Science (TURF) program or direct entry into the work place. The primary objective of this major is to train current/future turfgrass facility managers in communicative and mathematical skills, and initiate student mastery of technical aspects unique to management of turfgrass systems.

Graduates of this program are qualified to support golf course, landscape, and athletic field maintenance operations; production of sod commodities; equipment sales and service; and technical research programs. Graduates may also apply their credits to pursue completion of Baccalaureate programs such as Environmental Resource Management, Recreation, Parks, and Tourism Management, and Turfgrass Science (TURF). Students who plan to continue in the TURF degree program should meet with their advisers regarding entrance to major and other requirements.

## What is Turfgrass Science and Management?

The Turfgrass Science and Management major provides an integrated program of study that includes basic and applied plant sciences, business management courses, and an internship to prepare students for careers as decision makers in golf course, sports field, and landscape construction and management.

### 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

Students must have a minimum 2.0 GPA to change to this Associate degree after admission to the University.

## 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 Associate in Science degree in Turfgrass Science and Management, a minimum of 61 credits is required:

Requirement	Credits
General Education	21
Electives	3
Requirements for the Major	52

**15 of the 21 credits for General Education are included in the Requirements for the Major. This includes: 6 credits of GN courses; 3 credits of GQ courses; 3 credits of GWS courses; 3 credits of GH 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/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44>).

Code	Title	Credits
<b>Prescribed Courses</b>		
BIOL 11	Introductory Biology I	3
ENGL 15	Rhetoric and Composition	3
MATH 21	College Algebra with Analytic Geometry with Applications I	3
PHIL 103W	Ethics	3
<i>Prescribed Courses: Require a grade of C or better</i>		
CHEM 202	Fundamentals of Organic Chemistry I	3
ENT 317	Turfgrass Insect Pest Management	3
SOILS 101	Introductory Soil Science	3
TURF 230	Turfgrass Pesticides	1
TURF 235	The Turfgrass	3
TURF 238	Turf and Ornamental Weed Control	3
TURF 295	Internship	3

### Additional Courses

*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 9 credits from department professional agriculture list	9
Select 9 credits from department professional management and economics list <sup>1</sup>	9

<sup>1</sup> 3 of the 9 credits must be from bolded sub-list

## 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 associate degree 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/associate-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):** 3 credits
- **Writing and Speaking (GWS):** 3 credits

### Knowledge Domains

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

**Note:** Up to six credits of Inter-Domain courses may be used for any Knowledge Domain requirement, but when a course may be used to satisfy more than one requirement, the credits from the course can be counted only once.

### Exploration

- **Any General Education course (including GHW and Inter-Domain):** 3 credits

## University Degree Requirements

### Cultures Requirement

3 credits of United States (US) or International (IL) cultures coursework are required and may satisfy other requirements

### 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 60 degree credits must be earned for an associates degree. The requirements for some programs may exceed 60 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

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/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80>)). For more information, check the Suggested Academic Plan for your intended program.

## Program Learning Objectives

- Students will be able to identify, establish and maintain grasses
- Students will be able to explain proper management practices and cultural operations.

- Students will understand the fundamentals of plant and soil sciences required to interpret and make scientific decisions related to managing turfgrass under various conditions.
- Accurately comprehend and draw appropriate inferences from numeric data and quantitative models.
- Devise methods of inquiry to distinguish cause and effect, and to solve relevant problems in turf grass management.
- 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
- Students will demonstrate their written, oral, and interpersonal communication skills needed to become a successful turfgrass manager
- Students will develop personnel and business management skills required to manage a diverse staff and budgetary limitations

## 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/policies-and-rules-for-undergraduate-students/32-00-advising-policy/>)

### University Park

#### Dianne Petrunak

Academic Adviser  
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University Park, PA 16802  
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### World Campus

#### Penn State World Campus

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301 Outreach Building  
University Park, PA 16802  
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advising@outreach.psu.edu

## Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2023-24 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 (*Note: the archive only contains suggested academic plans beginning with the 2018-19 edition of the Undergraduate Bulletin*).

## Turfgrass Science and Management, A.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 <sup>‡†</sup>	3 CHEM 110 or 101 <sup>*</sup>	3
MATH 21 <sup>‡†</sup>	3 SOILS 101 <sup>*†</sup>	3
BIOL 11 <sup>†</sup>	3 TURF 230 <sup>*</sup>	1
TURF 235 <sup>*</sup>	3 TURF 307	3
General Education Course	3 Supporting Course (Professional Agriculture)	3
	Supporting Course (Professional Management)	3
	<b>15</b>	<b>16</b>

### Second Year

Fall	Credits Spring	Credits
ENT 317 <sup>*</sup>	3 TURF 238 <sup>*</sup>	3
CHEM 202 <sup>*</sup>	3 PHIL 103W <sup>†</sup>	3
TURF 295 <sup>*</sup>	3 Supporting Course (Professional Management)	3
Supporting Course (Professional Agriculture)	3 General Education Course	3
Supporting Course (Professional Management)	3 Elective	3
	<b>15</b>	<b>15</b>

### Total Credits 61

\* 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) and Knowledge Domains (GHW, GN, GA, GH, GS) requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

## 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 MANAGEMENT PROGRAM (<https://plantscience.psu.edu/research/centers/turf/>)

## Contact University Park

DEPARTMENT OF PLANT SCIENCE  
102 Tyson Building  
University Park, PA 16802  
814-865-2571  
dmp6@psu.edu

<https://plantscience.psu.edu/>

## World Campus

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<https://www.worldcampus.psu.edu/degrees-and-certificates/penn-state-online-turfgrass-science-and-management-associate-in-science-degree>  
(<https://www.worldcampus.psu.edu/degrees-and-certificates/penn-state-online-turfgrass-science-and-management-associate-in-science-degree/>)