

# PST-2370: INTRODUCTION TO TURFGRASS

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## Cuyahoga Community College

**Viewing: PST-2370 : Introduction to Turfgrass**

**Board of Trustees:**

March 2022

**Academic Term:**

Fall 2022

**Subject Code**

PST - Plant Science/Landscape Tech.

**Course Number:**

2370

**Title:**

Introduction to Turfgrass

**Catalog Description:**

Study of lawn maintenance and installation including nutrient management, spraying, mowing, irrigation, selection and establishment, weed and pest identification, and diagnosis of disorders as pertains to commercial, residential, and municipal applications.

**Credit Hour(s):**

2

**Lecture Hour(s):**

1

**Lab Hour(s):**

3

**Other Hour(s):**

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## Requisites

**Prerequisite and Corequisite**

PST-1311 Deciduous Woody Landscape Plants.

## Outcomes

**Course Outcome(s):**

Analyze the structure of the turfgrass plant as it relates to growth, recommended uses, and maintenance requirements.

**Objective(s):**

1. Identify the major parts of a typical turfgrass plant.
2. Identify turfgrass maintenance strategies and practices.
3. Analyze landscape conditions and predict survivability of turfgrass.
4. Identify the cultural requirements for species of turfgrass.
5. Describe the functions of stolons and rhizomes.
6. Identify common cool season grasses.
7. Identify common warm season grasses.

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**Course Outcome(s):**

Compare and contrast methods of establishing turfgrass for lawns, athletics, and recreational uses.

**Objective(s):**

1. Identify the major impacts of soil types on turfgrass management.
  2. Describe the major factors affecting turfgrass growth and establishment.
  3. Identify the proper seasonal timing to start a new lawn using both cool-season and warm-season turfgrasses.
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**Course Outcome(s):**

Calculate the water requirements of turfgrass for lawns, athletics, and recreational uses.

**Objective(s):**

1. Compare water requirements of lawns, athletics, and recreational turfgrass.
  2. Identify sustainable turfgrass irrigation practices.
  3. Calculate water requirements for specific turfgrass applications.
  4. Identify the best irrigation system for a given lawn or landscape.
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**Course Outcome(s):**

Develop a nutrient management program specific to the turfgrass use and site.

**Objective(s):**

1. Identify nutrient requirements for specific turfgrass types.
  2. Identify proper nutrient management techniques and practices.
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**Course Outcome(s):**

Identify pests and diseases common to turfgrass.

**Objective(s):**

1. Analyze pest and disease control methods.
  2. Identify common turfgrass pests.
  3. Identify common turfgrass diseases.
  4. Explain the principles of Integrated Pest Management for turfgrass.
  5. Demonstrate knowledge of safe and legal methods of pesticide application.
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**Course Outcome(s):**

Analyze and develop proper turfgrass management practices.

**Objective(s):**

1. Identify the skills and responsibilities needed to work as a commercial turfgrass technician.
  2. Discuss turfgrass cutting, nutrient management, water requirements, and pest and disease control.
  3. Describe the types of nutrients used on lawns.
  4. Identify sustainable turfgrass management practices.
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**Course Outcome(s):**

Demonstrate accepted maintenance techniques and safe operation of turfgrass equipment.

**Objective(s):**

1. Identify the common tools used in turfgrass maintenance.
  2. Demonstrate proper turfgrass cutting, trimming, and dethatching techniques.
  3. Discuss turfgrass cutting techniques.
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**Methods of Evaluation:**

1. Quizzes
2. Midterm
3. Hands-on lab exercises
4. Final examinations

**Course Content Outline:**

1. Turfgrass industry business practices
  - a. Lawn cutting
  - b. Nutrient management
  - c. Disease and insect control
  - d. Estimation and bidding
  - e. Irrigation contracts
2. Integrated Pest Management (IPM) in turfgrass
  - a. Common arthropod pests of turfgrass
  - b. Common animal pests of turfgrass
  - c. Common disease pathogens of turfgrass
  - d. Cultural controls
  - e. Mechanical controls
  - f. Chemical controls
3. Turfgrass chemicals
  - a. Insecticides
  - b. Herbicides
  - c. Fungicides
  - d. Moluscicides
  - e. Rodenticides
4. Turf care practices
  - a. Cutting
  - b. Trimming
  - c. Dethatching
  - d. Aerating
  - e. Rolling
  - f. Chemicals
5. Turfgrass identification
  - a. Cool season grasses
  - b. Warm season grasses
6. Turfgrass weeds
  - a. Annual weeds
  - b. Perennial weeds
7. Pollution
  - a. Point sources
  - b. Non-point sources
  - c. Nitrogen, phosphorus, potassium
  - d. Petroleum based products
  - e. Buffer strips
  - f. Site clean up
  - g. Laws and regulations
8. Sustainable turfcare practices
  - a. No-mow turf species
  - b. Prairie grasses
  - c. Micro irrigation
  - d. Low emission equipment
  - e. Organic turf care practices

**Resources**

Emmons, Robert D. *Turfgrass Science and Management*. 5th ed. Delmar Cengage, 2015.

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Nick E. Christians, Aaron J. Patton, and Quincy D. Law. *Fundamentals of Turfgrass Management*. 5th ed. Hoboken, New Jersey: John Wiley and Sons, Inc., 2016. October 2016.

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Alfred Turgeon and John Kaminski. *Turfgrass Management Edition 1.0*. 1. Turfpath LLC, 2019. <https://turfpath.com/book/>

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Richard H. Uva, Joseph C. Neal, and Joseph DiTomaso. *Weeds of the Northeast*. 2nd ed. Cornell University Press, 2022. <https://www.cornellpress.cornell.edu/book/9781501755729/weeds-of-the-northeast/#bookTabs=4>

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Patricia J. Vittum. *Turfgrass Insects of the United States and Canada*. 3rd ed. Comstock Publishing Associates, 2020. <https://www.cornellpress.cornell.edu/book/9781501747953/turfgrass-insects-of-the-united-states-and-canada/#bookTabs=4>

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Top of page

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