

SPORTS FIELD MANAGEMENT ASSOCIATION

# Turfgrass Science

CERTIFICATION



CERTIFICATION BLUEPRINT

## CERTIFICATION EXAM OVERVIEW

The Sports Field Management Association Turfgrass Science Certification confirms that individuals have the essential knowledge and skills for the turfgrass industry. The certification exam, hosted on the iCEV Testing Platform, consists of 100 questions. It evaluates understanding of the benefits of turfgrass, turfgrass cultural practices, turfgrass environment, and playing surface preparation. The exam must be proctored in a controlled environment. Proctoring guidelines can be found at [www.icevonline.com/proctoring-guidelines](http://www.icevonline.com/proctoring-guidelines).

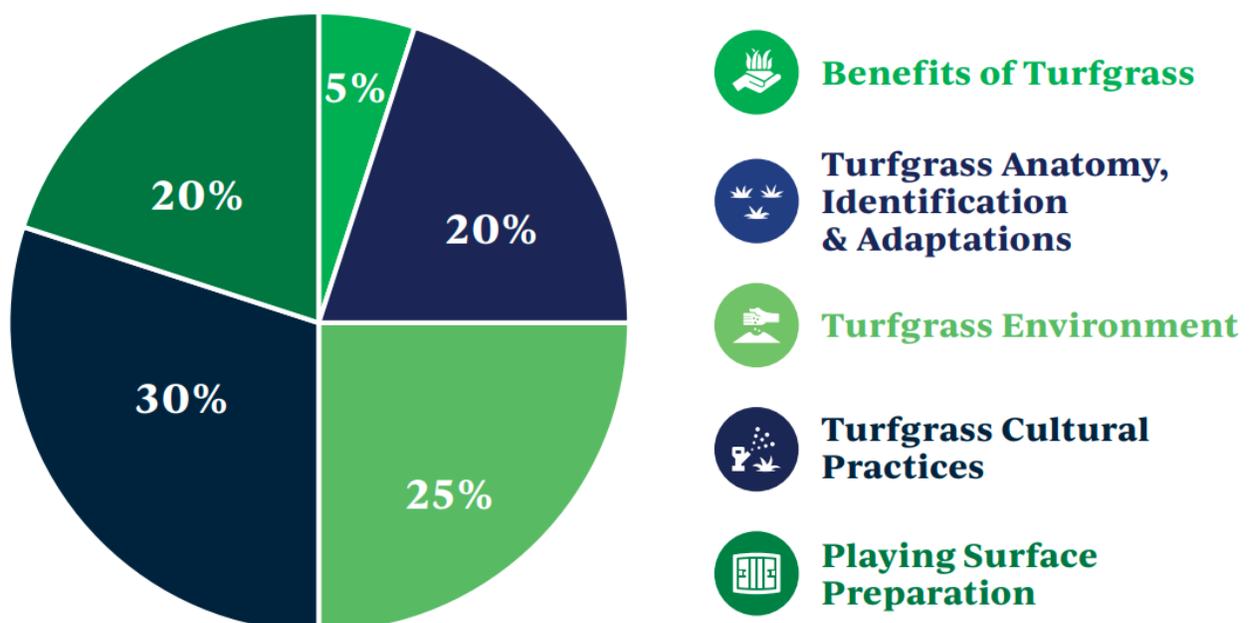
More information about the certification and testing platform can be found at: <https://www.icevonline.com/turfgrass>.

## ABOUT THE SPORTS FIELD MANAGEMENT ASSOCIATION

The Sports Field Management Association is a non-profit, professional association for men and women who manage outdoor sports fields worldwide. Since 1981, SFMA has been providing education and practical knowledge in the art and science of sports field management. SFMA's mission is to advance professionalism in sports field management and safety through education, awareness programs and industry development.

Learn more at: <https://www.sportsfieldmanagement.org/turfgrass-science-certification/>

## INDUSTRY STANDARDS OVERVIEW



# LEARNING OBJECTIVES & INDUSTRY STANDARDS

## 1. Benefits of Turfgrass

### 1.1 Benefits of Turfgrass

- 1.1.1 To summarize how turfgrass is beneficial to the environment, community and economy

## 2. Turfgrass Anatomy, Identification & Adaptations

### 2.1 Turfgrass Anatomy & Adaptations

- 2.1.1 To identify terminology related to the growth and development of a turfgrass area
- 2.1.2 To analyze the anatomical structure of turfgrass
- 2.1.3 To understand turfgrass development
- 2.1.4 To examine climatic adaptations for turfgrass

### 2.2 Turfgrass Identification

- 2.2.1 To define turfgrass terminology
- 2.2.2 To identify the characteristics of warm- and cool-season turfgrass species
- 2.2.3 To analyze the growth habit of warm- and cool-season turfgrass species
- 2.2.4 To understand the criteria for selecting certain turfgrass species

## 3. Turfgrass Environment

### 3.1 Turfgrass Growth Requirements

- 3.1.1 To identify physiological processes turfgrasses undergo, such as photosynthesis, respiration and transpiration
- 3.1.2 To define growth requirements for turfgrass species

### 3.2 Soil Basics: Types

- 3.2.1 To analyze the various soil types
- 3.2.2 To describe soil structures
- 3.2.3. To identify a soil's horizontal or vertical dimensions across locations
- 3.2.4 To understand the impacts of soil of turfgrass systems

### 3.3 Soil Basics: Physical Properties

- 3.3.1 To analyze soil texture and structure
- 3.3.2 To define bulk density, porosity and drainage
- 3.3.3 To examine water relationships
- 3.3.4 To investigate how to modify soil profiles

- 3.4 Soil Basics: Chemical Properties
  - 3.4.1 To understand soil acidity and alkalinity
  - 3.4.2 To analyze how soil pH is influenced
  - 3.4.3 To investigate cation exchange capacity
  - 3.4.4 To examine irrigation water quality concerns
  - 3.4.5 To evaluate phytotoxic chemicals
  - 3.4.6 To explore the various nutrients needed for plant uptake
- 3.5 Choosing a Proper Growing Medium
  - 3.5.1 To summarize how to choose a proper growing medium for turfgrass

## 4. Turfgrass Cultural Practices

- 4.1 Turfgrass Management: Practices
  - 4.1.1 To understand turfgrass establishment from various methods
  - 4.1.2 To analyze irrigation management techniques
  - 4.1.3 To summarize the management techniques of mowing, aeration and topdressing
- 4.2 Turfgrass Management: Controls
  - 4.2.1 To summarize nutrient management in a turfgrass system
  - 4.2.2 To understand various fertilizers and herbicides used for turfgrass management controls
  - 4.2.3 To define an Integrated Pest Management system
- 4.3 Turfgrass Management: Weeds
  - 4.3.1 To identify common weeds found in turfgrass
  - 4.3.2 To understand the characteristics of a weed's biology
  - 4.3.3 To examine the reasons for weed invasions
  - 4.3.4 To distinguish ways to control weeds in turfgrass systems
- 4.4 Turfgrass Management: Insects
  - 4.4.1 To examine insect management steps
  - 4.4.2 To understand insect development
  - 4.4.3 To define an insect's lifecycle and biology
  - 4.4.4 To identify various insect pests
  - 4.4.5 To distinguish ways to control insect pests in turfgrass systems
- 4.5 Turfgrass Management: Diseases
  - 4.5.1 To define symptoms and signs of diseases
  - 4.5.2 To understand the disease pyramid
  - 4.5.3 To examine the various areas a disease occurs on a turfgrass system
  - 4.5.4 To identify various disease pests
  - 4.5.5 To distinguish ways to control disease pests in turfgrass systems

#### 4.6 Turfgrass Management: Equipment and Tools

4.6.1 To identify, store and maintain turfgrass hand tools and power equipment

4.6.2 To understand the function of equipment and tools used in turfgrass management

4.6.3 To demonstrate safety precautions while working with tools and equipment

## 4. Playing Surface Preparation

### 5.1 Understanding Playing Surfaces

5.1.1 To examine natural, synthetic and hybrid turfgrass systems

5.1.2 To evaluate desirable aspects of playing surfaces and specific turfgrass species

5.1.3 To understand irrigation management for a playing surface

### 5.2 Playing Surface Preparation

5.2.1 To examine the preparation practices related to rectangular, softball and baseball fields

5.2.2 To investigate the preparation practices associated with golf courses

5.2.3 To explore the processes of logo painting and field marking on playing surfaces

### 5.3 Playing Surface Management

5.3.1 To analyze the management practices for natural turfgrass playing surfaces

5.3.2 To examine the management practices for synthetic turfgrass playing surfaces

### 5.4 Turfgrass Growth Journal Capstone

5.4.1 To summarize turfgrass management practices