



SPORTS TURFGRASS MANAGEMENT CERTIFICATE



How to Contact Us:

Phone: +1-706-542-3537 or
800-811-6640 (toll free in the USA)

Email: questions@georgiacenter.uga.edu

Course Learning Objectives

Chapter 1 — Turfgrass Growth, Development and Physiology

At the conclusion of this chapter, you will be able to:

- Discuss the difference between monocotyledon and dicotyledon plants
- Explain why an overall understanding of the growth and development of the turfgrass plant is important
- List the conditions necessary for seed germination
- Discuss the structure and function of roots
- Describe the three basic types of turfgrass stems
- Explain the importance of photosynthesis, respiration, and stored carbohydrates to the health and recuperative ability of the turfgrass plant

Chapter 2 — Turfgrass Identification, Adaptation, and Use

At the conclusion of this chapter, you will be able to:

- Describe the characteristics of the five climatic zones of turfgrass adaptation and list the turfgrass species used on sports fields in each zone
- Identify the major turfgrass species
- Discuss the growth, adaptation, use, establishment, and maintenance characteristics of the major cool- and warm-season turfgrasses
- Explain how turfgrass mixtures and blends can be important management tools
- List those factors that should be considered when selecting a turfgrass species for a particular site

Chapter 3 — Basic Soils

At the conclusion of this chapter, you will be able to:

- Define soil from a sports turf manager's point of view
- List the factors involved in the formation of soils
- Describe the four principal soil horizons
- Discuss the importance of soil texture and soil structure
- Explain the importance of cation exchange capacity
- Discuss the methods used for correcting soil pH, saline soils, sodic soils, and saline-sodic soils
- Explain the importance of soil organic matter
- Discuss the significance of soil macropores and soil micropores in regard to soil, water, and air



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Chapter 4 — Establishment

At the conclusion of this chapter, you will be able to:

- Explain how a sports field should be prepared for planting
- Describe the methods used to establish sports-field turfgrasses
- Explain why cool- and warm-season turfgrasses should be established at certain times of the year
- Effectively use label information to ensure that you are purchasing the highest quality seed, sod, and sprigs possible

Chapter 5 — Fertilization

At the conclusion of this chapter, you will be able to:

- Explain what mineral nutrients turfgrass plants require, what these nutrients do, and how to recognize deficiency symptoms
- Explain the parts of a fertilizer label
- List the characteristics associated with fast-release and slow-release nitrogen fertilizers and the importance of each
- Determine the fertility requirements of turfgrasses
- Explain how rates, frequency, and timing of application influence the success of a fertilization program
- Describe the different ways fertilizers are applied to turfgrass areas
- Explain how to avoid fertilizer burn on turfgrasses
- Discuss the pros and cons of fertilizer/pesticide combination products
- Make calculations necessary to buy and apply fertilizers
- Calibrate both rotary and drop-type fertilizer spreaders

Chapter 6 — Mowing

At the conclusion of this chapter, you will be able to:

- Explain why mowing is the most basic practice in turfgrass management
- Explain how the physiology and growth of turfgrasses are affected by mowing
- List the factors that determine the best cutting heights for turfgrasses
- Explain how the one-third rule is used to determine mowing frequency
- Describe how sports fields are striped to create attractive patterns
- Discuss the advantages and disadvantages of reel and rotary mowers
- Explain the importance of using or recycling grass clippings
- Describe growth regulators and how they can reduce the need for mowing
- Discuss the advantages and disadvantages of the most commonly used growth regulators

Chapter 7 — Water Management and Irrigation

At the conclusion of this chapter, you will be able to:

- Discuss how turfgrasses utilize water
- Explain why proper irrigation is one of the most challenging aspects of turfgrass management
- List the factors that must be considered when planning a turfgrass irrigation program
- Recognize the visual symptoms exhibited by turfgrasses under water stress
- Discuss methods to measure soil water content
- Explain how pan evaporation measurements can be used to determine irrigation amount
- Test an irrigation system to determine its delivery rate and distribution uniformity
- Discuss what cultural practices affect water use rates and drought hardiness
- Explain why syringing is used in turfgrass management
- Explain how wetting agents are used in turfgrass culture
- Discuss methods to conserve water

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Chapter 8 — Sports Turf Cultivation

At the conclusion of this chapter, you will be able to:

- Describe the characteristics of a compacted soil
- Explain the methods used to relieve soil compaction
- Define thatch and explain how it is best controlled
- Determine how frequent core cultivation should be done
- List the benefits and disadvantages of core cultivation
- Discuss other cultivation options
- Explain the process of topdressing and why it is beneficial

Chapter 9 — Weeds

At the conclusion of this chapter, you will be able to:

- Explain why weeds are a problem in turfgrasses
- Discuss how good turfgrass cultural and sanitary practices help to prevent weed infestations
- Describe methods used to control turfgrass weeds
- Explain how herbicide classification relates to use
- Explain how to control broadleaf weeds, annual and perennial weedy grasses
- Outline a basic weed control program for sports fields
- Identify features of common turfgrass weeds

Chapter 10 — Insects

At the conclusion of this chapter, you will be able to:

- Describe the two types of developmental changes that occur in insects
- Explain how insects damage turf
- Identify the characteristics and life cycles of insects that attack turfgrass
- Diagnose turfgrass injury caused by insects
- Detect the presence of injury-causing insects in turf
- Discuss the principles of insect pest control in turf
- Describe the factors that influence the effectiveness of an insecticide
- Discuss the benefits and limitations of biorational insecticides
- Discuss cultural practices that can be used to suppress insects and reduce the damage they cause

Chapter 11 — Diseases

At the conclusion of this chapter, you will be able to:

- Explain how disease-causing fungi infect plants and how the infection is spread
- Diagnose the major diseases that affect turfgrasses
- Identify the symptoms, signs, affected turfgrasses, associated conditions, and possible control measures for the major diseases of turfgrass
- Explain how nematodes damage turfgrasses and how they can be controlled
- Discuss why the environment, host, and pathogen are critical factors in developing a turfgrass disease control program

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Chapter 12 — Pesticides

At the conclusion of this chapter, you will be able to:

- Discuss the six basic methods of pest control
- Define the term Apesticide® correctly
- Describe the characteristics of various pesticide formulations
- Explain how to select the proper pesticide formulation
- Describe the information found on a pesticide label and why it is important
- Define LD₅₀ and LC₅₀ and how they are used to determine pesticide toxicity
- Describe the symptoms of pesticide exposure
- Discuss the three ways pesticides move in the environment
- Explain how to handle, mix, and apply pesticides safely
- Use the proper procedures for storing and disposing of pesticides
- Explain what precautions and procedures should be followed when faced with a pesticide spill
- Describe the various types and uses of pesticide application equipment
- Discuss the basic principles of integrated pest management
- Discuss some of the common misconceptions regarding pesticides
- Calculate the area of various turf sites
- Calibrate different types of pesticide application equipment
- Calculate pesticide rates

Chapter 13 — Sports Field Construction and Renovation

At the conclusion of this chapter, you will be able to:

- Understand the importance of soil amendments to field performance
- Discuss the three basic types of sports-field construction
- Discuss some specific aspects of construction needs for football, soccer, baseball, and softball
- Identify sports-field renovation options

Chapter 14 — Special Sports Field Management Practices

At the conclusion of this chapter, you will be able to:

- Mark off the boundaries of basic sports playing fields
- Maintain skinned surfaces on baseball/softball fields
- Protect a field for non-sporting events
- Overseed a sports field

Chapter 15 — Diagnosing Common Sports Turf Problems

At the conclusion of this chapter, you will be able to:

- Identify the basic growth-limiting factors of sports fields
- Identify soil characteristics and how they influence turf growth
- Identify turf management factors that affect turf growth
- Know the importance of record keeping for diagnosing turf problems

Chapter 16 — Turfgrasses and the Environment

At the conclusion of this chapter, you will be able to:

- Explain how turfgrass helps remove pollutants from the air
- Discuss how turfgrass provides oxygen and helps to combat the greenhouse effect at the same time
- Explain how turfgrass controls soil erosion
- Explain how turfgrass aids to purify and conserve water
- Illustrate how turfgrass helps to control temperature
- Discuss how turfgrass improves soil fertility
- Explain why natural turf is superior to artificial turf as a playing field surface
- Explain how turfgrass improves our physical and emotion well being

Enroll Anytime. Register Now!

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