# Scope & Sequence

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| Course Name: Turf Grass Management **TSDS PEIMS Code:** 13001950 | | | **Course Credit:** .5  **Course Requirements:** grades 10-12.  **Prerequisites:** None. |
| **Course Description:** Turf Grass Management is designed to develop an understanding of turf grass management techniques and practices. | | | |
| **NOTE:** This is a suggested scope and sequence for the course content. This content will work with any textbook or instructional materials. If locally adapted, make sure all TEKS are covered. | | | |
| **Total Number of Periods**  **Total Number of Minutes**  **Total Number of Hours** | 88 periods  3,960 minutes  66 hours\* | \*Schedule calculations based on 175/180 calendar days. Scope and sequence allows additional time for guest speakers, student presentations, field trips, remediation, extended learning activities, etc. | |
| **Unit Number, Title, and Brief Description** | **# of Class Periods\***  (assumes 45-minute periods)  Total minutes per unite | **TEKS Covered**  **130.22 (c) Knowledge and skills** | |
| **Unit 1: Career Exploration in the Turf Grass Management Industry**  Students will learn about careers in various areas in the turf grass management industry, the personal skills needed to obtain one of these jobs and how skills needed for success have changed over time. Students will understand the importance of time management, the importance of effective communication and appropriate interaction in the workplace as well as understand the importance of a first impression. This unit will culminate in an experiential activity designed to allow the students to create a resume and cover letter with a job description and to participate in a mock job interview with a panel of possible employees. | 5 periods  225 minutes | (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:  (A) identify career development and entrepreneurship opportunities in the field of turf grass management;  (B) apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in turf grass management;  (C) examine licensing, certification, and legal requirements to maintain compliance with industry requirements;  (D) demonstrate knowledge of personal and occupational health and safety practices in the industry;  (E) identify employers' expectations and appropriate work habits; and  (F) demonstrate characteristics of good citizenship such as advocacy, stewardship, and community leadership. | |
| **Unit 2: Supervised Agricultural Experience (SAE)**    This unit, students will be able to define and describe Supervised Agricultural Experience (SAE) programs. Students will be able to explain how SAE’s are a vital part of the Agriculture Education Program by participating in local CTSO activities such as FFA as well as engage in a required SAE project. Students will be able to identify key partners in developing a successful SAE. Through involvement in an SAE, students will learn expected workplace behavior, develop specific skills within the industry, and will be given the opportunity to apply academic and occupational skills in the workplace. | 10 periods  450 minutes | (2) The student develops a supervised agriculture experience program. The student is expected to:  (A) plan, propose, conduct, document, and evaluate a supervised agriculture experience program as an experiential learning activity;  (B) apply proper record-keeping skills as they relate to the supervised agriculture experience;  (C) participate in youth leadership opportunities to create a well-rounded experience program; and  (D) produce and participate in a local program of activities using a strategic planning process. | |
| **Unit 3: Site Analysis**    Analyzing site location is an important part of the design process. In this unit, students will learn that there are many factors that need to be considered when establishing a site for turf grass. Students will gain a deeper understanding of soil characteristics such as soil texture for drainage and pH for nutrient requirement purposes. They will also take into consideration environmental factors such as climate and sun exposure as well as existing structures, utilities and easements to name a few. At the end of this unit, students will develop a site assessment checklist and develop a site preparation plan. | 10 periods  450 minutes | (3) The student identifies the environmental, aesthetic, and financial benefits of turf grass in residential, commercial, and athletic settings. The student is expected to:  (A) assess sites for environmental factors that impact turf grass establishment and management such as soil type, soil pH, and elevation differences;  (B) develop a site assessment checklist; and  (C) develop a site preparation plan. | |
| **Unit 4: Turf Grass Establishment**  In this unit, students will learn to identify the most common cool and warm season grasses used in the industry. Students will also learn to identify the common weeds found in turf grasses and be able to determine the time of the year in which they can be found. The students will also explain different turf grass establishment methods as well as timing of installation. The students will gain knowledge of cultural practices used in establishing turf areas such as grading for water movement and aeration methods. As a culminating activity, the students will select a commercial, residential or athletic setting in a nearby area and create a turf grass establishment plan for the site. The students must take into consideration type of turf grass to be used, method of establishment and other establishment factors learned in the site analysis unit. | 20 periods  900 minutes | (4) The student identifies and implements common cultural and physiological requirements for cool and warm season turf grass establishment. The student is expected to:  (A) identify turf grass varieties and cultivars that fulfill site requirements;  (B) identify pests and pathogens of turf grasses;  (C) identify common weeds found in turf grasses;  (D) determine the importance of site grading for water movement;  (E) determine the importance of soil compaction on turf grass establishment;  (F) reduce impact of compaction using aeration methods;  (G) compare establishment procedures such as seeding, sodding, sprigging, and hydromulching; and  (H) explain the importance of turf grass installation timing. | |
| **Unit 5: Turf Grass Maintenance**  In this unit, students will explore the common maintenance practices for maintaining turf grasses. Students will learn key factors about mowing techniques such as understanding the height and frequency of the desired cut. They will relate these principles to different scenarios such as residential and golf course turf management. Students will also learn to conduct a soil sample as well as interpret the results. The students will gain knowledge in pest and weed management and be able to explain pesticide labels as well as the safety data sheets associated with the chemical. As a culminating activity, have students discuss mowing heights and frequencies for different areas of a hole on a golf course. | 20 periods  900 minutes | (5) The student identifies and implements common cultural and physiological requirements for cool and warm season turf grass maintenance. The student is expected to:  (A) explain and demonstrate mowing heights;  (B) explain the principle of mowing frequency;  (C) compare residential, commercial, and athletic turf maintenance needs;  (D) determine turf grass irrigation requirements;  (E) analyze and address thatch accumulation in turf grass;  (F) analyze nutritional needs of turf grass;  (G) develop fertilization plans that address turf grass needs and environmental concerns;  (H) examine Integrated Pest Management in assessing an insect, pathogen, or weed problem;  (I) use turf grass pesticide application techniques and equipment properly; and  (J) explain turf grass pesticide labeling and safety data sheets. | |
| **Unit 6: Turf Grass Management Business Procedures**  This unit introduces students to the basics of turf grass business management procedures. Students will learn how to identify prospective customers, analyze site, materials, labor and other key factors needed to have a successful turf management business. As a culminating activity, students will select a residential, commercial or athletic site and prepare a cost estimate, contract and maintenance schedule for the site. The students will share their information with the class. | 10 periods  450 minutes | (6) The student performs turf grass management business procedures. The student is expected to:  (A) assess the needs of prospective clients;  (B) analyze material, labor, and business costs related to turf grass sites;  (C) develop and analyze service contracts and maintenance schedules;  (D) prepare a cost estimate for establishing a turf grass site, including materials and labor; and  (E) prepare a cost estimate for maintaining a turf grass site, including materials and labor. | |
| **Unit 7: Turf Grass Equipment**  Students will learn the most common hand tools and equipment used in the turf grass industry. Specific focus will be on maintenance of hand tools and equipment as well as the costs associated with purchasing and upkeep of the equipment. Students will also gain understanding of the components of irrigation systems used in the industry. Students will practice correct storage and maintenance of turf grass equipment. | 13 periods  585 minutes | (7) The student manages turf grass maintenance equipment. The student is expected to:  (A) identify, store, and maintain turf grass hand tools and power equipment;  (B) analyze the costs associated with turf grass hand tools and power equipment; and  (C) analyze components of turf grass irrigation systems. | |