CATALOG DESCRIPTION

An introduction to the basics of turfgrass management. Emphasis on plant growth, identification and characteristics of the major cold and warm season turfgrasses, such as blue grasses, ryegrasses, bentgrass, fescues, bermuda grass and zoysia grass. Establishment procedures and mowing practices are covered.

PREREQUISITES

None

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)

Upon completion of this course, the student will be able to:
1. Identify the species of turfgrasses used in this region of the country.

2. Describe fertility requirements and growth habits of the various species.

3. Identify the various weeds that persist in the turf environment and their control.

4. Identify the diseases and the causal organisms that affect turfgrass.

5. Identify the insects and the damage they cause on turf in the area.

6. Distinguish proper pesticides used to control #3-5, and use the proper application, calibration and safety techniques when applying these pesticides.

7. Chart the elements and define their forms that are essential to the growth of turfgrass. Also list the environmental and soil factors involved in the availability of each nutrient.

8. Describe management practices involved in the establishment and general maintenance of turfgrass.

9. Explain the basic principles of proper irrigation management.

10. Identify the soil factors that influence the growth of turfgrass.

11. Compare the effects of the environment on the growth of turfgrass.

GENERAL EDUCATION OUTCOMES (ESO)

Specify which general education outcomes, if any, are substantially addressed by the course. Numbers in parentheses identify the Expected Student Outcomes linked to the specific General Education Outcome.

PROGRAM-LEVEL OUTCOMES
CAREER AND TECHNICAL EDUCATION PROGRAM OUTCOMES

Specify which Career and Technical program outcomes, if any, are substantially addressed by the course by completing the “Career and Technical Education template” to show the relationship between course and program outcomes to assessment measures.

1. Student will demonstrate skills necessary to identify and recommend ornamental plant materials appropriate for use in regional landscaping, including some native to Missouri.

2. Students will develop and demonstrate the ability to communicate clearly and effectively with others.

3. Students will apply essential math skills and use formulas appropriate in landscape projects.

4. Students will increase familiarity with appropriate resources to advance knowledge and network within their field of employment or as entrepreneurs.

CLASS-LEVEL ASSESSMENT MEASURES

Student accomplishment of expected student outcomes will be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Identification quizzes (1, 3, 4, 5, 10, 11)
2. Written reports (2, 7, 8, 9)
3. Exams (6, 10, 11)
Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Introduction of Turfgrass Management
   A. History of turf
   B. The turfgrass industry and careers in the industry
   C. Turf quality
   D. Turfgrass management

II. Growth and Development
   A. Grass germination
   B. Seedling development, leaf formation, and stems
   C. Tillering, roots, and inflorescence
   D. Seasonal growth variation, bioenergetics and metabolism
   E. Antioxidants and phytohomornes

III. Turfgrass Species
   A. Turfgrass climatic adaptation
   B. Characterization of turfgrasses
   C. Turfgrass leaf anatomy and morphology
   D. Criteria for selecting turfgrass species

IV. The Turfgrass Environment
   A. Atmospheric environment
   B. Edaphic environment
   C. Biotic environment

V. Primary Cultural Practices
   A. Mowing
   B. Fertilization
   C. Irrigation
   D. Sprayer and spreader calibration

VI. Supplementary Cultural Practices
   A. Cultivation, and rolling
   B. Topdressing and matting
   C. Wetting agents, turf colorants
   D. Plant growth regulators and biostimulants
VII. Pest Management
   A. Common and chemical names of pesticides used in turf management
   B. Control of weeds, disease, insects and nematodes
   C. Controlling large animal pests

VIII. Propagation
   A. Site preparation and renovation
   B. Turfgrass selection, planting and post-planting culture
   C. Temporary winter turfs and spring transitions
   D. Cultural intensity, growth and limiting factors