

## COURSE SYLLABUS

<b>LAST REVIEW</b>	Fall 2022
<b>COURSE TITLE</b>	Landscaping
<b>COURSE NUMBER</b>	BEMT 0124
<b>DIVISION</b>	Career and Technical Education
<b>DEPARTMENT</b>	BEMT
<b>CIP CODE</b>	46.0401
<b>CREDIT HOURS</b>	4
<b>CONTACT HOURS/WEEK</b>	Class: 1                      Lab: 6
<b>PREREQUISITES</b>	BEMT 0101

### COURSE DESCRIPTION

This is the basic course in landscaping. The course topics include: Environmental sustainability, landscaping tools, equipment and supplies. It will cover landscaping planning, methods, and procedures. It will also cover tool sharpening, equipment maintenance, planting and spacing. The student will study tree shade effects, heights, water conservation, soil management, lawns, mowing, sprinkler systems, fertilizing, weed control, sod placement, reseeding and ground cover. Golf course maintenance is a part of the curriculum. Twenty hours of mowing on riding equipment is required.

### PROGRAM LEARNING OUTCOMES

Students will demonstrate an adherence to safety standards and proficiency in the installation or repair of residential electrical, plumbing, HVAC, exterior building materials, roofing, irrigation systems, landscape/hardscape, concrete placement and finish, masonry install and repair.

### TEXTBOOKS

<http://kckccbookstore.com/>

### METHODS OF INSTRUCTION

A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

### COURSE OUTLINE

- I. Introduction to Landscaping
- II. Lawn Tools

- A. Sharpening Lawn Tools
  - 1. Combination Oilstone
  - 2. Oil
  - 3. Electric Grinder
  - 4. Files
- B. Sharpening Lawn Mower Blades
  - 1. Blade Removal
  - 2. Grinding
  - 3. Blade Balance
- C. Sharpening Trimming Shears
  - 1. File Method
  - 2. Blade Angle
- D. Mower Engine Maintenance
  - 1. Regular Maintenance
  - 2. Frequent Breakdown
  - 3. Oil Maintenance
  - 4. Two Stroke Engine
  - 5. Four Stroke Engine
- E. Rust Removal
  - 1. Solutions
  - 2. Hand Tools
  - 3. Power Tools
- F. Storing Tools
  - 1. For Safety
  - 2. Cutting Edges
  - 3. To reduce tool replacements
- III. Landscape Planning
  - A. Structure Location
  - B. Present Plantings
  - C. Landscape Architects
  - D. Scale Drawing
  - E. Future Planting – When Mature
  - F. Tree Size
    - 1. Tall
    - 2. Short
    - 3. Narrow
    - 4. Wide
  - G. Tree Shading Effect
    - 1. Height Summary

2. Shade Points
3. Landscape Grid
4. Graphing
- H. Landscaping With Small Plants
  1. Dwarf Type Trees
  2. Small Ornamentals
  3. Evergreens
  4. Spreading Junipers
  5. Yews
  6. Arbor Vitae
- IV. Soil Management
  - A. Troubleshooting Soil Problems
  - B. Evaluating Soil Moisture
  - C. Leaching The Soil
  - D. Cultivating The Soil
  - E. Evaluating Soil Texture
  - F. Mulches and Soil Amendments
  - G. Maintaining Compost
  - H. Test Soil pH
    1. Adjusting Soil pH
    2. Testing for Nitrogen
    3. Testing for Phosphorus
    4. Testing for Potassium
  - I. Soil Nutrients
  - J. Applying Fertilizer to the Soil
  - K. Evaluating Soil Drainage
- V. Lawns
  - A. Types
    1. Kentucky Bluegrass
    2. Perennial Ryegrass
    3. Tall Fescue
    4. Fine Fescue
    5. Bahia Grass
    6. Bermuda Grass
    7. St. Augustine Grass
    8. Centipede Grass
    9. Zoysia Grass
  - B. Troubleshooting
    1. Lawn Uneven and Thinning

2. Grass Intrusion
  3. Ground Cover Invading Lawn
  4. Scalping
  5. Turning Brown
  6. Lawn Pale
  7. Weeds
  8. Lawn and Trees
- C. Mowing and Trimming
1. Adjusting Mowing Height
  2. Trimming Edges
- D. Sprinkler Systems
1. Amount and Time
  2. Checking Water Penetration
  3. Systems, irrigation system install
- E. Fertilizing
1. Calculating Fertilizer Amounts
  2. Applying Granular Fertilizer
  3. Applying Liquid Fertilizer
- F. Weeds
1. Crabgrass
  2. Barnyard Grass
  3. Bermuda Grass
  4. Quack Grass
  5. Nutsedge
  6. Johnsongrass
  7. Removing By Hand
  8. Spot Application of Herbicides
  9. Applying Herbicide with a Paintbrush
  10. Spraying Herbicide Over Large Area
- G. Rolling Back and Removing Sod
1. Cutting the Sod Edges
  2. Rolling Back the Sod
- H. Reseeding
1. Small Patch
  2. Bare Patch with Plugs
  3. Bare Patch with Sprigs
  4. Replanting Large Areas
  5. Replanting with Sod
  6. Replanting with seed

- I. Aerating a Lawn
- J. Dethatching a Lawn
- K. Over-seeding
- VI. Ground Cover
  - A. Maintaining Healthy Ground Cover
  - B. Controlling Ground Cover
  - C. Pruning Ground Cover
  - D. Propagating Ground Cover
    - 1. By Layering
    - 2. By Dividing
  - E. Planting Ground Cover
  - F. Troubleshooting Problems
- VII. Environmental Sustainability
  - A. Environmentally safe waste disposal.
  - B. Life cycle analysis.
  - C. Recycled material.
  - D. Low VOC emissions.
  - E. New “green” materials.
  - F. New “green” methods and practices.
  - G. “Low impact” designs.
- VIII. Mowing Internship
  - A. 20 hour requirement

### **COURSE LEARNING OUTCOMES AND COMPETENCIES**

Upon successful completion of this course, the student will:

- A. Describe and identify Lawn Tool.
  - 1. Describe and demonstrate proper sharpening with an oilstone.
  - 2. Describe and perform proper sharpening with a grinder.
  - 3. Describe and demonstrate the correct uses of whetstone oil.
  - 4. Describe and demonstrate the proper sharpening by filing.
  - 5. Describe and perform a correctly sharpened angle.
  - 6. Describe and demonstrate proper rust removal technique.
- B. Describe and identify Mower Engine Maintenance.
  - 7. Describe and demonstrate proper lubrication servicing.
  - 8. Describe and perform maintenance on a two stroke engine properly.
  - 9. Identify and demonstrate how to mount a mower blade correctly.
  - 10. Describe and demonstrate how to change a spark plug correctly.
  - 11. Describe and perform maintenance on a four stroke engine correctly.
  - 12. Describe and demonstrate how to read a mower maintenance schedule.
- C. Describe and identify Landscape Planning.

13. Describe and demonstrate how to design plantings.
  14. Describe and perform root balling correctly.
  15. Describe and demonstrate correct pruning technique.
  16. Describe and demonstrate cut back methods correctly.
  17. Describe and perform winterizing methods successfully.
  18. Describe and demonstrate the term structure location.
- D. Describe and identify Soil Management.
19. Describe and demonstrate how to accurately troubleshoot soil problems.
  20. Describe and perform a soil moisture test.
  21. Describe and demonstrate a knowledge of soil types.
  22. Describe and demonstrate test soil PH.
  23. Describe and perform fertilizing properly.
  24. Describe and demonstrate a knowledge of mulches.
- E. Describe and identify lawns.
25. Describe, identify and demonstrate how to prevent grass intrusion.
  26. Describe, identify and perform a trimmer adjustment.
  27. Describe, identify and demonstrate types of grasses.
  28. Describe, identify and demonstrate the proper selection of grasses.
  29. Describe, identify and perform an airtreating properly.
  30. Describe, identify and demonstrate a knowledge of lawn diseases.
- F. Repair and install sprinkler/irrigation systems.
31. Identify and demonstrate the correct timing of watering systems.
  32. Identify and perform a moisture test.
  33. Identify and demonstrate how to set timers correctly.
  34. Describe and demonstrate how to set up a sprinkler system successfully.
  35. Describe and perform a system repair successfully.
  36. Describe and demonstrate a knowledge of watering problems correctly.
- G. Describe and identify fertilizing.
37. Describe and demonstrate how to select fertilizer.
  38. Describe and perform how to apply fertilizer.
  39. Describe and demonstrate when to apply fertilizer.
  40. Describe and demonstrate how to solve fertilizer caused problems.
  41. Describe and perform an application of granular fertilizer.
  42. Describe and identify how to mix liquid fertilizer properly.
- H. Describe and identify weeds.
43. Describe and demonstrate a knowledge of crabgrass.
  44. Describe and perform a spot application of weed killer.
  45. Describe and demonstrate types of weeds.
  46. Describe demonstrate how to safely handle weed killers.

47. Describe and perform how to apply weed killer with a paint brush.
48. Describe and demonstrate how to spray a large area.

I. Describe and identify re-seeding.

49. Describe and demonstrate how to mix a batch of seed.
50. Describe and perform plugging a bare patch.
51. Describe and demonstrate patching with sprigs.
52. Describe and demonstrate how to replant a large area.
53. Describe and perform replant with sod.
54. Describe and demonstrate how to fertilize new seedlings.

J. Describe and identify ground cover.

55. Describe and demonstrate how to maintain healthy ground cover.
56. Describe and perform thinning on ground cover.
57. Describe and demonstrate methods to propagate ground cover.
58. Describe and demonstrate layering.
59. Describe and perform planting of ground cover seed.
60. Describe and demonstrate troubleshooting techniques.

K. Describe and identify mowing internship.

61. Describe and demonstrate proper machine maintenance.
62. Describe and perform cutting of at least five acres per week for four weeks.
63. Describe and demonstrate the ability to properly use a power trimmer and blower.

L. Describe and identify environmental sustainability.

64. Describe and identify waste disposal methods for this industry according to EPA and the industry.
65. Describe and identify the process of life cycle analysis in this industry based on industry guidelines.
66. Describe and identify recycled materials by label and industry practice.
67. Identify and define "low emission" and give two examples.
68. Describe and identify new "green" materials now being introduced or currently used in this industry.
69. Describe and identify new "green" practices and methods being instituted or currently employed within this industry.
70. Describe and explain the term "low Impact" as it relates to the environment.

### **ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES**

Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

### **COLLEGE POLICIES AND PROCEDURES**

*Student Handbook*

<https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf>

*College Catalog*

<https://www.kckcc.edu/academics/catalog/index.html>

*College Policies and Statements*

<https://www.kckcc.edu/about/policies-statements/index.html>

*Accessibility and Accommodations*

<https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html>.