# Nursery and Landscape Course No. 18067 Credit: 1.0

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| --- | --- | --- | --- |
| **Student name:** |  | **Graduation Date:** |  |

Pathways and CIP Codes: **Plant Science and Industry Operations (01.1101).**

Course Description: Course provides instruction that incorporates plant science, soil and media mixtures, plant identification and optimal environments, and landscape design. These courses emphasize applying such knowledge & skill to the design, establishment, and maintenance of lawns, parks, open space & similar environments

Directions:The following competencies are required for full approval of this course. Check the appropriate number to indicate the level of competency reached for learner evaluation.

**RATING SCALE:**

4. Exemplary Achievement: Student possesses outstanding knowledge, skills or professional attitude.

3. Proficient Achievement:Student demonstrates good knowledge, skills or professional attitude. Requires limited supervision.

2. Limited Achievement:Student demonstrates fragmented knowledge, skills or professional attitude. Requires close supervision.

1. Inadequate Achievement:Student lacks knowledge, skills or professional attitude.

0. No Instruction/Training:Student has not received instruction or training in this area.

## Benchmark 1: Nursery and Landscape Industry and Careers

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 1.1 | Identify career opportunities in the nursery and landscaping industry. |  |
| 1.2 | Apply for a job for an Green industry related career. |  |

## Benchmark 2: Characteristics and factors of selecting landscape plants

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 2.1 | Identify the differing growth patterns of turf grasses , ornamental grasses, ground covers, bedding plants, shrubs & trees. |  |
| 2.2 | Describe the effects of soil types on landscape plants. |  |
| 2.3 | Describe the effects of soil pH on landscape plants. |  |
| 2.4 | Describe the effects of slope on landscape plants. |  |
| 2.5 | Describe the effects of wind on landscape plants. |  |
| 2.6 | Determine the size, shape & color of landscape plants. |  |
| 2.7 | Determine the plant hardiness zones of landscape plants. |  |
| 2.8 | Determine the economic value of landscape plants. |  |

## Benchmark 3: Identification of landscape plants & turf grasses

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 3.1 | Identify the basic structural features of trees, shrubs, ground covers, vines, perennials, & turf grasses. |  |
| 3.2 | Identify the distinguishing characteristics of evergreens. |  |
| 3.3 | Identify the distinguishing characteristics of turf grasses. |  |
| 3.4 | Identify selected trees, shrubs, ground covers, vines, perennials & turf grasses. |  |

## Benchmark 4: Maintenance & usage of tools & materials used in landscaping operations

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 4.1 | Identify and maintain hand tools and equipment. |  |
| 4.2 | Identify, maintain, and safely use power tools. |  |
| 4.3 | Calibrate and adjust landscape equipment. |  |
| 4.4 | Identify common landscape materials and their usage. |  |

## Benchmark 5: Installation and maintenance of landscape plants

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 5.1 | Transplant a bare-root, container-grown, grow bags or B and B plants. |  |
| 5.2 | Stake, guy and wrap a newly-planted tree. |  |
| 5.3 | Identify reasons, techniques and timing for the pruning process. |  |
| 5.4 | Prune landscape plants. |  |
| 5.5 | Fertilize landscape. |  |
| 5.6 | Determine water needs of specific situations. |  |

## Benchmark 6: Installation and maintenance of turf grass

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 6.1 | Determine method of propagation. |  |
| 6.2 | Describe and demonstrate the procedures for installing turf grasses. |  |
| 6.3 | Determine fertilizer needs. |  |
| 6.4 | Determine watering needs. |  |
| 6.5 | Determine mowing practices & procedures. |  |
| 6.6 | Determine renovation practices & procedures. |  |
| 6.7 | Interpret seed label information. |  |
| 6.8 | Calculate % pure seed and cost/pound pure live seed. |  |
| 6.9 | Determine planting rate, date, depth, and mulching needed. |  |
| 6.10 | Conduct soil samples for soil tests. |  |

## Benchmark 7: Installing a landscape bed

### Competencies

| **#** | **Description** | **RATING** |
| --- | --- | --- |
| 7.1 | Prepare, amend & install the soil bed. |  |
| 7.2 | Calculate plant spacing. |  |
| 7.3 | Select & apply bedding materials. |  |
| 7.4 | Select & apply landscape edging. |  |
| 7.5 | Evaluate and modify landscape bed for proper drainage. |  |

## Benchmark 8: Landscape Site Evaluation

### Competencies

| **#** | **Description** | **RATING** |
| --- | --- | --- |
| 8.1 | Analyze a landscape site (utilities, slope, soil type, existing features, etc.). |  |
| 8.2 | Draw a base map. |  |
| 8.3 | Conduct customer criteria. |  |

## Benchmark 9: Landscape design

### Competencies

| **#** | **Description** | **Rating** |
| --- | --- | --- |
| 9.1 | Identify and explain the four elements of landscape design. |  |
| 9.2 | Effectively use design symbols in a landscape plan. |  |
| 9.3 | Implement the use of natural and manufactured enrichments in a landscape plan. |  |
| 9.4 | Identify the five principles of design. |  |
| 9.5 | Apply both the principles and elements of design to create a landscape design. |  |
| 9.6 | Select plants for specific purposes in the landscape design. |  |
| 9.7 | Select materials & hard goods for specific purposes in the landscape design. |  |
| 9.8 | Complete a scaled blueprint of landscape design. |  |

## Benchmark 10: Pesticide & Fertilizer Safety & Usage

### Competencies

| **#** | **Description** | **rating** |
| --- | --- | --- |
| 10.1 | Describe the mode of action of various pesticide formulations. |  |
| 10.2 | Accurately interpret a pesticide label for information about use, effectiveness, and safe handling. |  |
| 10.3 | Identify safety precautions that should be followed when using pesticides. |  |
| 10.4 | Select, mix and apply pesticides to landscape plants. |  |

## Benchmark 11: Plant Pest Control

### Competencies

| **#** | **Description** | **Rating** |
| --- | --- | --- |
| 11.1 | Identify pests & physiological problems associated with landscape plants. |  |
| 11.2 | Describe the components of an Integrated Pest Management Control Program. |  |
| 11.3 | Demonstrate safe handling, storage, and application of chemicals. |  |

## Benchmark 12: Woody Plant Propagation

### Competencies

| **#** | **Description** | **Rating** |
| --- | --- | --- |
| 12.1 | Perform propagation by cuttings: |  |
|  | * Herbaceous stem cutting |  |
|  | * Softwood stem cutting |  |
|  | * Semi-hardwood cutting |  |
|  | * Deciduous hardware cutting |  |
|  | * Evergreen hardwood cutting |  |
| 12.2 | Perform propagation by grafting: |  |
|  | * Cleft graft |  |
|  | * Whip & tongue graft |  |
|  | * Splice graft |  |
|  | * Approach graft |  |
|  | * Side graft |  |
| 12.3 | Perform propagation by budding: |  |
|  | * T-Bud |  |
|  | * Patch bud |  |
|  | * Chip bud |  |

## Benchmark 13: Nursery Production Practices

### Competencies

| **#** | **Description** | **Rating** |
| --- | --- | --- |
| 13.1 | Prepare rooted cuttings for potting. |  |
| 13.2 | Root prune nursery stock. |  |
| 13.3 | Prune & train nursery stock. |  |
| 13.4 | Identify and select nursery stock. |  |
| 13.5 | Select & divide nursery stock. |  |
| 13.6 | Design & layout a nursery field. |  |
| 13.7 | Selection & evaluation of nursery stock for harvest. |  |

## Benchmark 14: Hardscapes & Water Features

### Competencies

| **#** | **Description** | **Rating** |
| --- | --- | --- |
| 14.1 | Install Retaining wall systems by: |  |
|  | * Landscape timbers/railroad ties |  |
|  | * Native stones/rock |  |
|  | * Concrete block |  |
| 14.2 | Install patios & walkways by: |  |
|  | * Concrete pavers/brick |  |
|  | * Flagstones |  |
|  | * Concrete |  |
|  | * Gravel/mulch |  |
|  | * Install fences & arbors |  |
|  | * Install low voltage landscape lighting |  |
|  | * Identify & select water plants |  |
|  | * Design & install ponds & water gardens |  |
|  | * Select & install pumps, fountains, bubbler heads |  |

## Benchmark 15: Irrigation

### Competencies

| **#** | **Description** | **Rating** |
| --- | --- | --- |
| 15.1 | Design & layout an irrigation system. |  |
| 15.2 | Identify & select irrigation parts & supplies. |  |
| 15.3 | Interpret irrigation plans. |  |
| 15.4 | Adjust and maintain irrigation systems. |  |
| 15.5 | Calculate matched precipitation. |  |
| 15.6 | Install irrigation systems: |  |
|  | * Popups |  |
|  | * Rotors |  |
|  | * Drips |  |
|  | * Mist |  |
|  | * Soaker |  |

## Benchmark 16: Customer Relations & Business Practices

### Competencies

| **#** | **Description** | **Rating** |
| --- | --- | --- |
| 16.1 | Schedule & conduct customer interview. |  |
| 16.2 | Design & implement a sales presentation. |  |
| 16.3 | Understand & utilize common business documents. |  |
| 16.4 | Demonstrate professional ethics. |  |

## Benchmark 17: Math in Nursery/Landscape

### Competencies

| **#** | **Description** | **Rating** |
| --- | --- | --- |
| 17.1 | Understand & calculate math basic applications: |  |
|  | * Square inches per square foot |  |
|  | * Square feet per square yard |  |
|  | * Square feet per cubic yard |  |
|  | * Square feet per acre |  |
| 17.2 | Select and determine amount and cost of hardscape materials for a landscape plan. |  |
| 17.3 | Determine & calculate a landscape design budget for the customer. |  |
| 17.4 | Calculate the price of a landscape design. |  |
| 17.5 | Develop a cost estimate for a landscape design. |  |
| 17.6 | Calculate chemical & fertilizer ratios. |  |

Benchmark 18: General Safety Practices

Competencies

| # | DESCRIPTION | RATING |
| --- | --- | --- |
| 18.1 | Recognize hazardous materials & situations. |  |
| 18.2 | Demonstrate general safety procedures. |  |
| 18.3 | Demonstrate safe handling of chemicals. |  |
| 18.4 | Demonstrate safe handling of tools & equipment. |  |
| 18.5 | Demonstrate basic first aid. |  |

I certify that the student has received training in the areas indicated.

Instructor Signature:

For more information, contact:

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[pathwayshelpdesk@ksde.org](mailto:pathwayshelpdesk@ksde.org)



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