

Common Course Outline

HORT 150

Horticulture Mechanics

3 Semester Hours

The Community College of Baltimore County

Description

Horticulture Mechanics

Develops basic mechanical skills in the areas most generally required by many grounds maintenance, landscaping, and ornamental horticulture businesses; covers hand tool/power tool use, power equipment operation and service/repair, tractor operation and service/repair, basic welding, basic plumbing, basic electrical, and tool fitting.

Prerequisite: (RDNG 051 or LVR 1), (MATH 081 or LVM 1)

Overall Course Objectives

Upon completion of this course the student will be able to:

- A. explain the importance of proper safety practices as they relate to horticulture enterprises.
- B. demonstrate proper safety procedures with hand/power tools, tractors, equipment and accessories.
- C. discuss how to establish a safe attitude among workers toward their work.
- D. demonstrate the proper use of measuring, cuttings, fastening, smoothing, tapping/threading and engine tools.
- E. identify and use fasteners.
- F. demonstrate the operation of portable saws, portable drill, drill press, impact wrenches, and stationary/portable grinders.
- G. explain the operation of the arc welder.
- H. identify the proper welding rod for a specific job.
- I. demonstrate running a bead.
- J. demonstrate weaving and padding.
- K. demonstrate cutting and piercing.
- L. demonstrate the joining of metal.
- M. identify plumbing fixtures and fittings.
- N. demonstrate cutting and joining pipes.
- O. demonstrate the repair/replacement of water faucets and valves.
- P. select electrical cable, wire, controls, and fixtures.
- Q. demonstrate wiring a simple electrical circuit.
- R. demonstrate adding to an existing circuit.
- S. install an electrical motor.
- T. replace belts and pulleys.
- U. demonstrate reconditioning and maintenance of hand tools.
- V. demonstrate reconditioning and maintenance of horticulture tools.
- W. develop a basic tool inventory for a typical horticultural enterprise.
- X. determine factors to be used in selecting and purchasing tools.

- Y. discuss the difference in the size and use of tractors.
- Z. identify the different types of tractor power units.
- AA. discuss the difference in transmissions.
- BB. identify the different types of tractor power drives.
- CC. explain the differences between hitches.
- DD. demonstrate the procedure for pre-operational check of tractors and power equipment.
- EE. demonstrate how to operate, adjust and service tools and equipment.
- FF. trouble shoot and make minor repairs to tractor systems.
- GG. trouble shoot and make minor repairs to small engines.
- HH. demonstrate driving and maneuvering tractors.
- II. communicate with hand signals.
- JJ. interpret blueprints and plans.
- KK. identify symbols and read a scale rule.
- LL. develop and implement a preventative maintenance program.

Major Topics

1. Economic Social Concerns with Job Safety
2. Safe Operation, Maintenance, and Storage of Hand and Power Tools
3. Safe Operation, Maintenance, and Storage of Power Equipment, Tractors, and Accessories
4. Basic Welding Theory, Tools, and Equipment
5. Perform Basic Welding, Plumbing, and Electrical Skills
6. Careful Consideration in Selecting Tools and Equipment for Purchase
7. Develop and Implement a Tool and Equipment Service/Maintenance Program
8. Hand Signals used when Operating Equipment
9. Troubleshoot and make Minor Repairs to Equipment, Tractors, and Accessories
10. Calibrate Land Preparation, Seeding, Spreading, and Spraying Equipment

Course Requirements

Grading/exams: Grading procedures will be determined by the individual faculty member, but will include the following:

1. 3 Written Exams
2. Quizzes
3. Weekly Lab Exercises
4. Attendance and Participation
5. 2 Saturday Class Practicals