

Carpentry (CARP)

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CARP 99V : Special Studies

Description: See explanation under the heading of Special Studies.

CARP 120B : Basic Carpentry Skills

Credits: 3

Class Hours: 1 lecture and 4 lecture/lab

Description: This course provides an overview of the tools, materials, and safety practices currently used in the industry. The safe use, care, and maintenance of hand tools and power tools are emphasized.

Semester Offered: Fall (every odd year)

Course Student Learning Outcomes (CSLOs):

1. Utilize a tape measure to make accurate cuts.
2. Demonstrate addition and subtraction of measurements on carpentry projects.
3. Identify different types of hammers and be able to choose the proper hammer for various applications.
4. Identify lumber by size, shape, and dimensions.
5. Identify various power tools, and demonstrate proper safety operations.

CARP 120C : Applied Carpentry Skills

Credits: 8

Class Hours: 16 lecture/lab

Prerequisites: "C" or higher or concurrent enrollment in CARP 120B.

Description: This is an introductory course in carpentry technology. Students will develop basic carpentry skills required by the industry. This course will cover the use, safety, and maintenance of hand and power tools, identification and application of materials, assembly methods, and basic material takeoff.

Semester Offered: Fall (every odd year)

Course Student Learning Outcomes (CSLOs):

1. Convert various measurements into decimals and then into imperial measurements.
2. Calculate various lengths using the Pythagorean Theorem.
3. Calculate plumb and level angles using trigonometry.
4. Demonstrate the proper setup and use of a builders level.
5. Demonstrate how to safely erect and dismantle scaffolding, and identify parts of a scaffolding system.
6. Apply various mathematical equations to an actual project.

CARP 122B : Concrete Forms I

Credits: 3

Class Hours: 1 lecture and 4 lecture/lab

Description: This course focuses on the theory of concrete form construction. Topics include the study of concrete and concrete products, and the differences between concrete and cement. Students will study on the job site safety, and the safety hazards associated with working with concrete and cement.

Semester Offered: Fall (every even year)

Course Student Learning Outcomes (CSLOs):

1. Distinguish the difference between concrete and cement.
2. Explain the safety hazards of working with cement and the proper safety precautions that should be taken when working with cement.
3. Explain the safety hazards of working with concrete, and the proper safety precautions that should be taken when working with concrete.

4. Determine the proper "Personal Protective Equipment" required for various tools when working with concrete and cement.
5. Utilize a tape measure to make accurate cuts.
6. Manipulate formulas to calculate various job site requirements related to concrete.

CARP 122C : Concrete Forms II

Credits: 8

Class Hours: 16 lecture/lab

Prerequisites: "C" or higher or concurrent enrollment in CARP 122B.

Description: This course covers the theory and practice of concrete form construction, including forms for slab on grade, continuous footings, spot footings, stairs, and how to calculate the amount of concrete needed to complete a project. Other topics include: Laying out a building using the 3-4-5 method and a transit level, shooting elevations with a builders level, and how to convert various units of measurements. Safety practices in form construction are stressed.

Semester Offered: Fall (every even year)

Course Student Learning Outcomes (CSLOs):

1. Demonstrate setting up a builders level.
2. Demonstrate setting up a transit level.
3. Demonstrate reading an engineer's rod and an architect's rod, and be able to convert readings.
4. Demonstrate how to layout a building, set batter boards, and shoot elevations for a concrete foundation.
5. Calculate the amount of concrete required for a project.
6. Calculate stairs, build concrete forms for a set of stairs, and calculate the amount of concrete required to complete a project.
7. Calculate slopes of existing ramps and determine if it is ADA accessible.
8. Calculate and build ramps to be ADA compliant.

CARP 141B : Rough Framing and Exterior Finish I

Credits: 3

Class Hours: 1 lecture and 4 lecture/lab

Description: This course covers theories on home construction. It includes the techniques and skills applicable to measurements, building materials, finishes, and safety.

Semester Offered: Spring (every even year)

Course Student Learning Outcomes (CSLOs):

1. Utilize a tape measure to make accurate cuts.
2. Identify the different types of lumber used in construction.
3. Demonstrate how to conduct measurements on a construction project.
4. Identify the various finishes used on the exterior of a home.

CARP 141C : Rough Framing and Exterior Finish II

Credits: 8

Class Hours: 16 lecture/lab

Prerequisites: "C" or higher or concurrent enrollment in CARP 141B.

Description: This course studies the theories, practices, and job safety requirements related to the construction of a home's exterior. It includes the construction layout of interior and exterior stairs, truss design and layout, and the quantity and cost estimation of materials.

Semester Offered: Spring (every even year)

Course Student Learning Outcomes (CSLOs):

1. Calculate the amount of "Plates" needed for an actual project.
2. Calculate the amount of studs required for an actual project.
3. Calculate the proper types and quantities of "Simpson Ties" required per local building codes for an actual project.
4. Calculate various roof framing members. Conduct a materials list for an actual construction project.

5. Calculate finish roof materials for an actual project.
6. Calculate and construct stairs for an actual project.
7. Calculate the amount of exterior siding required for an actual project.
8. Calculate the amount of framing materials required to construct a single-family residence.
9. Construct the framing of a build and install exterior finish.

CARP 142B : Finishing I

Credits: 3

Class Hours: 1 lecture and 4 lecture/lab

Description: In this course, students are introduced to the basic concepts of finishing interior surfaces of a home. Students will learn the types of finishes appropriate to various living spaces of their home, how to measure and calculate the square footage of the different rooms of their home, and how to draw to scale various interior wall sections of their homes.

Semester Offered: Spring (every odd year)

Course Student Learning Outcomes (CSLOs):

1. Identify various finishes in your home related to flooring, walls, ceiling, and other finishes.
2. Demonstrate the ability to select and utilize the proper personal protective equipment (PPE) regarding interior finish work.
3. Demonstrate the ability to read a tape measure.
4. Demonstrate the ability to add and subtract measurements.

CARP 142C : Finishing II

Credits: 8

Class Hours: 16 lecture/lab

Prerequisites: "C" or higher or concurrent enrollment in CARP 142B.

Description: In this course, students will learn how to install various interior products in a home. This includes sheetrock, flooring, interior doors, interior door and window trim, baseboards, and other related finishes. Students will be able to calculate the amount of various products needed to complete a home.

Semester Offered: Spring (every odd year)

Course Student Learning Outcomes (CSLOs):

1. Perform a take off and estimate for various interior trim materials.
2. Perform a takeoff and estimate for kitchen and bathroom cabinets.
3. Perform a take off and estimate for Sheetrock for multiple projects.