



Building Technology

Organization Washburn Institute of Technology

Program Number 46.0401

Instructional Level Certificate

Target Population

Grades 11 & 12
Post-secondary

Description

This program prepares individuals to apply technical knowledge and skills in building technology. The knowledge and skills address maintenance of a building's function and service within both commercial and residential structures. Instruction includes basic theory and hands-on laboratory in carpentry and masonry. Upon completion, students are qualified for employment in the construction and maintenance of hospitals, motels, apartment complexes, schools, and other businesses.

Entry Requirements

WorkKeys®	Applied Math	Level 4
WorkKeys®	Reading for Information	Level 4

Assessment Plan

Assessment is an integral part of the educational process at Washburn Tech and accurate feedback is an important tool in continuously improving the institution's technical programs. Students can expect to participate in assessment activities prior to entry into programs, within specific courses and following program completion for specific fields of study.

Student Learning Outcomes

- A. Communicate effectively.
- B. Integrate technology.
- C. Learn effectively - use academics effectively.
- D. Demonstrate cooperative/teamwork skills.
- E. Apply safety.
- F. Think critically and creatively.
- G. Demonstrate responsible work ethics.

Program Outcomes

- A. Learn and apply safe work habits in the classroom and laboratory.
- B. Learn and apply basic knowledge of the use and care of hand and power tools related to this field.
- C. Maintain 90% or better attendance.
- D. Demonstrate professional and quality workmanship in the classroom and laboratory assignments.
- E. Apply essential math skills for all areas in building trades.

Course #	Course Title	Credit Hours	Required
CHC105	Introductory Craft Skills	3	Yes
IND109	OSHA 30 Hour Construction Ind Cert	2	Yes
BDT117	Carpentry I	4	Yes
MAT101	Technical Math I	3	Yes
BDT122	Floors, Walls & Ceiling Framing	4	Yes
BDT127	Windows, Doors, & Stairs	3	Yes
BDT137	Roof Framing	3	Yes
BDT142	Masonry	3	Yes

Program Course Descriptions

CHC105 Introductory Craft Skills (3 credits)

Introductory Craft Skills is required for all students entering the Carpentry program. The intent of this course is to introduce the students to the construction trades. It is very important for every student to learn the proper way to conduct themselves while in the shop or on-the-job site. This course will cover shop and job site safety, tool safety, personal protective devices, protective railings, proper storage and handling of construction materials, and construction drawings. This course will follow the NCCER modules for: Basic Safety, Introduction to Construction Math, Introduction to Hand Tools, Introduction to Power Tools, Introduction to Blueprints, Basic Rigging, Basic Communication Skills, and Basic Employability Skills.

IND109 OSHA 30 Hour Construction Industry Certification (2 credits)

Students will learn basic OSHA regulations and safety. The students will also learn how to read the OSHA manual properly. The course will stress the importance of personal protective equipment; fall protection, hazard recognition and other topics connect to on the job site safety. The course will also provide the student with an understanding of current safety regulation, established safety practices, and the impact of behavior and environment on injury prevention.

BDT117 Carpentry I (4 credits)

The intent of this course is to teach the students the history of the construction trade, building materials, different fasteners and adhesives, hand and power tools and reading plans and elevations. It also describes the apprentice program and career opportunities. The course will follow the NCCER modules for: Orientation to the Trade, Building Materials, Fasteners and Adhesives, Hand and Power Tools, and Reading Plans and Elevations.

MAT101 Technical Math I (3 credits)

This course will enable the student to gain confidence with the use of basic math, measurements, and signed numbers. The concepts learned in this course will build problem solving skills that are critical in the workplace. These concepts develop a solid foundation for success in the use of technology.

BDT122 Floors, Walls & Ceiling Framing (4 credits)

This course will cover laying out and erecting floor and wall and ceiling sections. The emphasis for this course is the understanding of precise layout of studs, sills, floor joist, and ceiling members. The student will learn how to layout partitions, door, and window openings. The student will perform the entire layout mentioned above, and know the correct symbols and names of all wall, floor, and ceiling components. The student will be introduced to the different methods used for framing buildings and floor framing with an emphasis on the platform, Balloon and post and beam framing method. The tools and materials used for this type of construction will be covered. The course will follow the NCCER modules for: Floor Systems, Wall and Ceiling Framing, and Introduction to Concrete, Reinforcing Materials and Forms.

BDT127 Windows, Doors & Stairs (3 credits)

This course will introduce the student to methods and procedures used in the selection and installation of residential windows, doors, and stairs. Students will learn the proper components of windows and doors along with basic stair layout. This course will follow the NCCER modules for Windows and Exterior doors and Basic Stair Layout.

BDT137 Roof Framing (3 credits)

Students will learn the different types of roofs used in residential and commercial construction. This course is the most demanding of the framing tasks. Unlike floor and wall construction that involve working with straight lines, roofs are sloped requiring the framer to understand and calculate precise angles. The student will learn the names of all the roof parts and how to calculate the angles to achieve a properly constructed roof. This course will follow the NCCER modules for roof framing.

BDT142 Masonry (3 credits)

This course introduces the student to the fundamentals of masonry work. The student will have the opportunity to gain practical knowledge of masonry as a trade, develop skills in the use of the tools, equipment, materials, and techniques used in masonry.

ADA Notification Statement and Disability Services:

Disability

The Americans with Disabilities Act (ADA) Office is responsible for assisting in arranging accommodations and for identifying resources at Washburn Institute of Technology for persons with disabilities. Qualified students with disabilities **MUST** self-identify by completing an application. In addition students must provide appropriate medical documentation to the ADA coordinator to be eligible for accommodations. New requests for accommodations should be submitted at least two months or more prior to the date the accommodations are needed. However, please contact the ADA office as soon as a need may arise. Depending on the accommodation request, four to eight weeks lead time may be needed for timely and effective provision of accommodations.

The ADA Office coordinates and assists in arranging accommodations it deems appropriate for eligible students on a case-by-case basis. If you are a student with a disability that may substantially limit your ability to participate in any of our classes and you believe that you will need accommodations, it is your responsibility to contact:

ADA Coordinator

Phone: 785-228-6356

Email: gloria.christian@washburn.edu

