Southwest Wisconsin TECHNICAL COLLEGE

1800 Bronson Blvd., Fennimore, WI 53809 | 608.822.3262 | Toll Free: 800.362.3322 | www.swtc.edu

Building Trades—Carpentry Program

Course Curriculum

Semester 01 (Tuition: $2,620)

Course #	Course Title	Credits
31-408-308	Construction Safety and Health	1

Credits: 1 Lecture Hours: 36
This course introduces students to construction safety principles associated with OSHA, the "Focus Four Hazards" that include fall hazards, caught-in-between hazards, struck-by hazards and electrical hazards. Students will learn to properly utilize personal protective equipment, fall protection, scaffold and ladders, and other construction safety related equipment to help avoid health hazards and injury. Students will have the opportunity to earn the OSHA 10-hour certification credential.

31-475-312	Introduction to Building Trades	1

Credits: 1 Lecture Hours: 18 Lab Hours: 18
Introduces the learner to the fundamental building materials and methods of residential construction. Students will practice safe operation of hand tools and power tools. Various types of joining methods and general shop safety practices will be covered. Students will apply building trades skills by completing a small wood working project.

31-475-313	Site Layout, Foundations, and Formwork	2

Credits: 2 Lecture Hours: 18 Lab Hours: 54
Students will be introduced to building elevations, measuring and layout methods using a builder's level, laser level, and total station. The construction applications of concrete and concrete forms for footings, foundation walls, and flat work will be analyzed.

31-475-314	Floor and Wall Framing	3

Credits: 3 Lecture Hours: 36 Lab Hours: 72
Students will learn to recognize and apply the materials, methods, and procedures required to frame walls and flooring systems. The safe operation of hand tools and portable power tools will be executed as students measure and layout floor and wall framing.

31-475-315	Blueprint Reading	2

Credits: 2 Lecture Hours: 18 Lab Hours: 54
This course introduces students to blueprint reading and the basic components, including the various types, symbols, and abbreviations. Students will practice analyzing and reading various types of working drawings, detailed drawings, elevations, and floor plans used in residential construction.

31-475-316	Roof Systems	2

Credits: 2 Lecture Hours: 18 Lab Hours: 54
Students will evaluate and apply the principles of roof framing, truss layout, and dormer framing. Various types of roof shapes and pitches are examined. Types of underlayment and the proper installation are explored and

practiced. Various connectors and fasteners are utilized. Multiple types of roofing materials and proper installation methods are introduced including wood, architectural metal, and asphalt.

31-475-317 Exterior Finishes 2

Credits: 2 Lecture Hours: 18 Lab Hours: 54
Students will explore and apply methods and materials used in residential structures including: soffit and fascia installation, various types of siding installation and various types of trim. Proper types of fasteners and methods of fastening will also be covered.

31-804-305 Applied Mathematics 2

Credits: 2 Lecture Hours: 72
Students compute with rational numbers. They make and convert various measurements. Students use formulas to solve problems. They compute dimensions of geometric shapes. Students use statistical tools to represent and analyze data. They analyze various financial situations. Students use basic right triangle trigonometry to solve problems. In each topic area, students solve application problems.

15

Semester 02 (Tuition: $2,270)

Course #	Course Title	Credits
31-475-318	Residential Estimating	2

Credits: 2 Lecture Hours: 18 Lab Hours: 54
Students will apply quantity survey and quantity take-off methods of residential estimating through the study and interpretation of construction plans and specifications. Material pricing and projections will be conducted using residential estimating forms, spreadsheet planning tools, and estimating software. Prerequisites: Blueprint Reading (31-475-315), Roof Systems (31-475-316), and Exterior Finishes (31-475-317)

31-475-319 Building Science and Sustainability 1

Credits: 1 Lecture Hours: 18 Lab Hours: 18
Students will explore innovative construction design techniques focused on energy efficient and sustainable conservation practices. Alternative energy systems will be analyzed and differentiated in applied learning lab activities. Prerequisites: Blueprint Reading (31-475-315), Roof Systems (31-475-316), and Exterior Finishes (31-475-317)

31-475-320 Insulation, Drywall Installing, and Finishing 2

Credits: 2 Lecture Hours: 18 Lab Hours: 54
Students will explore and apply best practices in construction insulation methods. Fiberglass, loose-fill, dense pack, batt insulation, rigid polystyrene (EPS) (XPS) (ISO), and spray foam applications will be covered. Drywall installation and finishing will be discussed and practiced in the lab. Methods of patching, repairing, and applying a decorative finish will be covered. Prerequisites: Blueprint Reading (31-475-315), Roof Systems (31-475-316), and Exterior Finishes (31-475-317)

31-475-321 Cabinet Construction and Installation 1

Credits: 1 Lecture Hours: 18 Lab Hours: 18
Students will be introduced to cabinet design and construction methods used in cabinet making and installation. Installation of specialty cabinetry hardware, drawer and case construction and installation will be covered. Prerequisites: Blueprint Reading (31-475-315), Roof Systems (31-475-316), and Exterior Finishes (31-475-317)

31-475-322 Interior Finishes and Stair Construction 3

Credits: 3 Lecture Hours: 36 Lab Hours: 72
This course introduces students to the materials and techniques used to finish the interior of a residential home. Students will apply installation techniques in a base, casing, crown molding, and complete a stair balustrade and hand rail. Prerequisites: Blueprint Reading (31-475-315), Roof Systems (31-475-316), and Exterior Finishes (31-475-317)

31-475-323 Windows, Doors, and Hardware Installation 2

Credits: 2 Lecture Hours: 18 Lab Hours: 54
Students will follow the proper installation techniques for interior and exterior doors and window installation. The various types and installation of door hardware will be analyzed and applied. Prerequisites: Blueprint Reading (31-475-315), Roof Systems (31-475-316), and Exterior Finishes (31-475-317)

31-801-310 Workplace Communication 2

Credits: 2 Lecture Hours: 72
Students apply oral, written, listening, and non-verbal skills to workplace situations. Students discover how to use communication as the key to solving workplace problems, resolving conflicts, working as members of a team, and effectively giving and receiving criticism. Students develop an understanding of diversity in the workplace, harassment issues, and the impact of substance abuse on the job.

13

Total Credits: 28

Estimated Total Tuition*: $4,890

Tools/Equipment: $300

Additional cost for uniforms.