

**GREAT PLAINS TECHNOLOGY CENTER
COURSE OF STUDY**

<u>Career Cluster:</u>	Architecture and Construction (AC)
<u>Career Pathway:</u>	Construction (AC003)
<u>Program:</u>	Carpentry Level II (AC0030002)
<u>Program Hours:</u>	Adult Students: 1050 Hours
<u>Instructor:</u>	Name: Clayton Snodgrass Office Number: (580) 250-5620 E-Mail Address: csnodgrass@greatplains.edu
<u>Academic Credit:</u>	Adult Students: Transcript
<u>Prerequisites:</u>	Carpentry Level I

Program Description:

Move beyond the basics of residential construction in this second level carpentry course. Carpentry Level II combines on-the-job training with advanced construction theory and hands-on skills in order to prepare students to work as a professional in both residential and commercial job sites. Carpentry Level II is more work-based than theory, so the instructor will focus on continuously assessing the level and quality of the students' skill attainment throughout this training. The students will receive constructive feedback and many opportunities to hone their skills, especially while they build a house on site or do live construction projects for both internal and external customers. Project planning, scheduling, estimating, and management are all aspects of becoming a Construction Crew Leader; therefore, improving critical thinking, effective communication, and teamwork, as it relates to dealing with supervisors, co-workers and customers, will also be a main focus of this training as students prepare to transition from job-related training to industry work. Students will have the opportunity to compete in the Career and Technology SkillsUSA student organization competition in either framing or cabinet making at the regional, state and national levels.

Program Goals:

Students enrolled in this program will be given the opportunity to develop the skills and attitudes needed to successfully enter the residential or commercial construction trades field according to their personal choice, ability, and resourcefulness.

Upon achieving the goals of this program, students will:

- Become competent in the advanced skills of this trade
- Become qualified for continuing job related education and/or entry into the workforce
- Work as a valued team member utilizing effective communication, critical thinking and independent problem solving skills
- Pass at least one Tier 2 certification test
- Develop the ability to work with limited supervision

Related Career Opportunities:

- Construction Crew Leader

- Residential Carpenter
- Commercial Carpenter
- Construction Laborer
- Drywall Installer and Finisher
- Trim Carpenter
- Cabinetmaker
- Joiner
- Roofer
- Frame Carpenter
- Finish Carpenter

Program Objectives:

After successful completion of this program, the student will be able to:

- Read and follow work diagrams, schematic drawings, technical manuals and code books
- Apply basic concepts of math and measurement to perform various construction-related tasks
- Plan and apply proper layout, cutting, and construction procedures for building projects
- Sketch construction drawings and be able to modify them as necessary
- Make accurate estimates of time and material costs for projects
- Communicate effectively and work well with supervisors, co-workers and customers

DESCRIPTION OF COURSES

<u>Course #</u>	<u>Course Name</u>	<u>ADT</u>	<u>ADL</u>	<u>Total</u>
TI00993	Construction Drawings	20	40	60
<p>The fundamental principles of construction drawings are presented in theory and then developed in the classroom shop through a wide variety of assignments and hands-on projects which both focus on developing basic identification, interpretation and application of construction drawings, symbols, abbreviations, components and dimensioning. Emphasis is placed on reading, interpreting, and understanding construction drawings for various residential and commercial buildings. Students will learn foundational concepts including: different types of drawings (civil, architectural, structural, mechanical, plumbing/piping, electrical and fire protection) as well as measurement and scale. An examination of the building codes and standards applicable to building construction and inspection processes will be integrated in this course.</p>				
TI00407	Stairs	60	120	180
<p>This course is an introduction to the various types of stairs and the common building code requirements of both internal and external stairs used in residential and commercial construction. Training will cover the techniques for measuring and calculating the rise, run and stairwell opening. Proper techniques in laying out stringers, fabricating and installing basic stairways will be emphasized. This course will also cover the materials and techniques required in finishing wooden staircases and other applications used in commercial stair construction. An examination of the building codes and standards applicable to building construction and inspection processes will be integrated in this course.</p>				
TI00712	Advanced Cabinets	70	140	210
<p>The goal of this hands-on course is to develop basic cabinetmaking skills. The use of fine woodworking tools and materials, and various joinery techniques will be utilized. The student will focus on accuracy of layout, detailed familiarization with planes, chisels and sharpeners, as well as portable and stationary power tool use. Students will build their own cabinet(s); the joinery will include carcass, face frame,</p>				

dovetail drawer and raised panel door construction techniques. While hand tool use will be encouraged, options for using power tools in various operations will be demonstrated. Estimating the cost necessary to complete cabinetmaking projects by figuring the costs of materials and labor using pertinent formulas will be taught. An examination of the building codes and standards applicable to building construction and inspection processes will be integrated in this course.

TI01591 Advanced Millworks 25 50 75

This advanced hands-on course emphasizes the craftsmanship and fine woodworking involved in finishing high-end residential and commercial projects. Training will include design and construction of mantels and fireplace designs, custom shelving and closets, custom moldings, built-up arches and ornamental columns. The student will be able to demonstrate the skills and work habits necessary to complete tasks in a safe manner and to adapt previously learned skills to complete more complex highly detailed carpentry tasks. An examination of the building codes and standards applicable to building construction and inspection processes will be integrated in this course.

TI01681 Commercial Carpentry 80 160 240

This course will introduce the students to the techniques required to identify correct framing materials, tools and building methods necessary to layout and to install commercial metal stud framing. Metal stud framing construction procedures, drywall application and attachments of various types of trim will be applied. Students will be able to describe the types and grades of steel framing materials by learning how to select and install metal framing for interior walls, exterior non-load bearing walls and partitions. The students will expand their knowledge of basic drywall installation and finishing by learning and applying the skills and safe practices required to work as a commercial drywall installer and finisher. Emphasis will be placed on applying the proper techniques to achieve the desired aesthetics and finishes. This course identifies the materials used for various types of suspended ceilings, ceiling tiles, pan-type ceilings and drywall grid systems. The principles of suspension layout, suspension methods and attachment procedures will be presented. Advanced shapes such as domes and stepped soffits will be covered. This course covers the methods of researching building codes for specific residential and commercial building projects. Upon completion, students should be able to determine the code constraints governing residential and construction projects. An examination of the building codes and standards applicable to building construction and inspection processes will be integrated in this course.

TI00802 Workforce Staging 15 30 45

This course is designed to be delivered as an integrated component within the courses taken by the individual student. The course is designed for the development of leadership, personal development and employability skills.

TI00791 Workforce Induction 80 160 240

This course is a formalized mentorship based instructional process for the purpose of accelerating the learner's skill development and individual transition into the workforce. The training necessary to understand and apply the principles of project planning, scheduling, estimating, management and supervising employees will be introduced. Content and specific application of specialized skill development is driven and determined by each student's respective career objective(s) and/or industry opportunities available to him or her.

Program Total:	Theory	Lab	Total
Adult Student:	350	700	1050

Evaluation Policy:

Employability Grades (100 points per week; 40% of final grade)

The employability skills grade is based on 20 points per day (which may include: attitude, attendance, safety, punctuality, cooperation, participation, clean-up, class preparation, school/classroom rules, and time management). Points will be deducted if these responsibilities are not met at the instructor's discretion. Students will be allowed to make up unearned employability points for **excused** absences only. Full credit will be given for assignments/tests that have been made up due to excused absences only (see Student Handbook).

Performance Grades (40% of final grade)

- Live projects
- Performance or skill tests
- Homework
- Written Assignments

Test Grades (20% of final grade)

- Test grades will be based on a 100-point scale.
- Test grades include written and/or skills tests.
- A test will be given for each unit of instruction.
- Tests are to be taken as a unit is completed.
- Tests must be completed within allotted time.

Final Grade (9 Weeks Period)

9-weeks grade will be calculated by averaging grades in each category and summing each category according to their assigned weight. Progress reports will be sent to home schools at six and twelve-week intervals each semester as required or requested. Grades are accessible on-line at <http://sonisweb.greatplains.edu/studsect.cfm>

Grading Scale:

The grading scale as adopted by the Board of Education is as follows:

A	=	90 – 100
B	=	80 – 89
C	=	70 – 79
D	=	60 – 69
F	=	Below 60
W	=	Withdrawn
I	=	Incomplete
N	=	No Grade (Refer to Student Handbook)

Make-Up Work Policy:

All Make-Up Work Is The Responsibility Of The Student. Make-up work will be handled as specified in the Student Handbook. Please be sure to read and understand all student policies, especially make-up of assignments, tests and employability due to absences. Students should always arrange for any make-up work with the instructor as per the Student Handbook. Students should keep track of his or her progress and grades.

Attendance Policy:

For specific information related to attendance and tardiness refer to the Student Handbook. Students should keep a written record of their absences and tardiness.

Course Requirements and Expectations:

The general course requirements and expectations include:

- Teaching methods consist of both lecture and “hands on” projects.
- The student must demonstrate the ability to apply safety to all aspects of the construction field.
- All students must adhere to the policies and procedures in the GPTC Student Handbook.
- SkillsUSA is the student organization for the residential construction carpentry field. This club offers an outstanding opportunity to develop leadership and social skills. Students are highly encouraged to participate. The dues, \$10.00 are paid by the student.
- It is highly recommended that the student have purchased or attained the required tools and equipment for employment as a carpenter. Possessing a valid driver’s license will also benefit the student and is recommended.
- The required class dress is a program t-shirt with jeans or shorts and work boots or shoes. T-shirts cost \$10.00 each and are paid for by the student.

Student Behavior Includes:

- Wear safety glasses at all times when in the shop area.
- Wear the designated program t-shirt, work boots or shoes at all times while in class.
- Wear the student name badge at all times.
- Follow the proper procedure if you are absent, tardy or have a school activity.
- Abide by the rules in the student handbook, as well as those established inside the classroom.
- Follow all rules and regulations of the Great Plains Technology Center.

NOTE: For additional information or questions regarding the GPTC School policies and procedures, please refer to the Student Handbook and/or the Instructor.

Industry Alignments:

- National Center for Construction Education and Research (NCCER)
- National Association of Home Builders (NAHB)
- Association of General Contractors (AGC)

Certification Outcomes:

Tier 2 – Certifications Endorsed by Industry Organizations

- ODCTE: Construction Trainee (3001)
- ODCTE: Finish Carpenter (3003)
- ODCTE: Frame Carpenter (3005)

CIP Code and SOC Code Crosswalk:

- CIP Code – 46.0201
- SOC Code – 47-2031.01

Instructional Materials:

Students are not required to purchase textbooks or supplemental materials.

Textbooks:

National Center for Construction Education and Research (NCCER). Cabinetmaking. 0-13-103264-6. Saddle Hill: Pearson Prentice Hall, 2003.

National Center for Construction Education and Research (NCCER). Carpentry Level I: Carpentry Fundamentals Trainee Guide. 4th ed. 0-13-229268-8. Saddle Hill: Pearson Prentice Hall, 2006.

National Center for Construction Education and Research (NCCER). Carpentry Level II: Framing and Finishing Trainee Guide. 4th ed. 0-13-614410-1. Saddle Hill: Pearson Prentice Hall, 2007.

National Center for Construction Education and Research (NCCER). Core Curriculum; Introductory to Craft Skills. 4th ed. 0-13-608636-5. Saddle Hill: Pearson Prentice Hall, 2009.

Umstatted, William D., Charles W. Davis, and Patrick A. Molzahn. Modern Cabinetmaking. 5th ed. 978-1-63126-071-1. Tinley Park: Goodheart-Willcox, 2014.

Wagner, Willis H., and Howard Bud Smith. Modern Carpentry. 11th ed. 978-1-59070-648-0. Tinley Park: Goodheart-Willcox, 2007.