GREAT PLAINS TECHNOLOGY CENTER
COURSE OF STUDY

Career Cluster:	Architecture and Construction (AC)	
Career Pathway:	Construction (AC003)	
Program:	Residential Carpentry (AC0030039)	
Program Hours:	Secondary Students:	1050 Hours
	Adult Students:	1050 Hours
Instructor:	Name:	Bryan Smith
	Office Number:	(580) 335-5525 or 800-460-5525
	E-Mail Address:	bjsmith@greatplains.edu
Academic Credit:	Secondary Students:	3 high school credits per year
	Adult Students:	Transcript
Prerequisites:	None	

Program Description:
The residential carpentry program consists of a combination of frame carpentry and cabinetmaking. Students will be able to perform all course work related to the basic residential framing, cabinetmaking, safety practices, carpentry tools and equipment uses/operations. Students will receive "hands-on" experience on various community service projects.

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

Upon achieving the goals of this program, students will:

- Become competent in the basic skills of the occupation.
- Become qualified for further related education and/or entry into the job market.
- Work as a team member.
- Pass at least one Occupational State of Oklahoma certification test.
- Become qualified for further related education and/or enter the job market.
- Demonstrate independence in using problem solving and critical thinking techniques in completing all work assignments.
- Develop the ability to work with limited supervision.
- Accept and abide by the rules and regulations established by the school and/or place of employment.

Related Career Opportunities:

- Residential Carpenter
- Drywall Installer and Finisher
- Cabinetmaker
- Frame Carpenter

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

- Utilize hand tools, power tools, ladders, and scaffolding in a safe, efficient manner.
- Apply basic concepts of math and measurement to perform various construction-related tasks.
- Apply proper layout and construction procedures for building projects.
- Develop an acceptable level of speed and accuracy to perform helper-level skills of the trade.
- Apply proper layout, cutting, and construction procedures for building projects.

Program Course Sequence:

- HS Student and Part-time Adult (Year One): Course Sequence I
- HS Student and Part-time Adult (Year Two): Course Sequence II

DESCRIPTION OF COURSES
SEQUENCE I

Course #	Course Name	HST	HSL	ADT	ADL
TI00766	**Construction Core**	**40**	**80**	**40**	**80**

This is an introduction to basic safety, construction math, hand tools, power tools, blueprints, rigging, communication skills and employability skills.

TI00771	**General Construction Safety & First Aid**	**10**	**20**	**10**	**20**

General construction safety including tool and equipment safety, blood borne pathogens, CPR, PPE, confined space entry, hazardous materials, and right to know.

TI00216	**Building Materials, Fasteners, and Adhesives**	**5**	**10**	**5**	**10**

This is an introduction to building materials used in construction. This includes lumber, sheet materials, engineered wood products, structural concrete, and structural steel.

TI00923	**Plan Reading and Elevations**	**10**	**20**	**10**	**20**

This is an introduction to basic blueprint reading and connected to the information contained in the CORE curriculum.

TI00921	**Floor Systems**	**10**	**20**	**10**	**20**

This is an introduction to layout and framing wood floors using common lumber and engineered materials.

TI00408	**Wall and Ceiling Framing**	**20**	**40**	**20**	**40**

This is an introduction to steps taken in layout and framing walls and ceilings. This will include rough-in doors, window openings, construction of corners, and partition T's, bracing walls, ceilings and applying sheathing.

TI00223	**Roof Framing**	**10**	**20**	**10**	**20**

This course is an introduction to types of roofs, layout instructions for rafters in gable roofs, hip roofs and valley intersections, stick-built, and truss-built roofs.

TI00407	**Stairs**	**5**	**10**	**5**	**10**

This course is an introduction to types of wooden stairs used in residential and commercial construction, and layout procedures for stairs, cutting out stringers, installing and finishing stairs.

TI00662 Residential Plans & Drawing Interpretation 5 10 5 10
This course is an introduction to interpreting residential and commercial plans and construction drawings. This course includes information to explain the plans format, how to read the dimensions, and how to estimate materials.

TI00492 Concrete and Reinforcing Materials 5 10 5 10
This course is an introduction to the properties, characteristics and uses of cement, aggregates, and other materials, types of concrete, estimating concrete volume, testing methods, and concrete reinforcement.

TI00763 Roofing Applications 20 40 20 40
This course is an introduction to common materials used in residential and light commercial roofing, safety practices and application methods, installation of shingles, roll roofing, shakes, tiles, metal and membrane roofs, and installation of roof vents.

TI00102 Thermal & Moisture Protection 5 10 5 10
This is an introduction to the procedures in determining the appropriate thermal and moisture protection required to complete the project/job.

TI00224 Exterior Finishing 15 30 15 30
This course is an introduction to types of exterior siding, siding used in residential construction and its installation procedures, use of wood, metal and vinyl siding, and installation of metal and vinyl guttering and downspouts.

TI00406 Installation of Interior Doors 5 10 5 10
This is an introduction to the skills required to properly install all types of interior doors and hardware.

TI00802 Workforce Staging 0 30 0 30
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.

Sequence I Subtotal Hours:	**Theory**	**Lab**	**Total**
High School Student:	165	360	525
Adult Student:	165	360	525

DESCRIPTION OF COURSES
SEQUENCE II

Course #	**Course Name**	**HST**	**HSL**	**ADT**	**ADL**

TI01497 Windows and Exterior Doors 10 20 10 20
In this course students are introduced to the special terms associated with window and door installation. Students learn about the various kinds of windows and exterior doors and the important installation practices related to them.

TI00078 Residential Exterior Trim & Roof 20 40 20 40
This course is an introduction to roof safety, roofing materials, flashing and step flashing, valley lap and cuts, roof cap, fascia, soffit, freezes board, brick mold, exterior doors and windows.

TI00096 Metal Stud Framing 15 30 15 30
This is an introduction to the required methods for installing stud walls using metal framing materials.

TI00404 Drywall Installation 15 30 15 30
This is an introduction to the skills required to install drywall in residential and commercial applications.

TI00402 Drywall Finishing 15 30 15 30
This is an introduction to the skills required to install drywall in residential and commercial applications.

TI00409 Windows, Doors, Floors & Ceiling Trim 10 20 10 20
This is an introduction to various types of trim used in finish work. This course will cover the proper methods for selection, cutting, and attaching trim to provide a quality finish.

TI00711 Fundamentals of Cabinetmaking 10 20 10 20
This course is an introduction to measurement, basic math, fractions, square and board footage, geometry and algebra, blueprint reading, scales and dimensions, details and specifications, lumber and engineered material identification and grading, and plywood identification and grading.

TI00653 Cabinet Design/Planning & Estimating 10 20 10 20
This course is an introduction to component identification, standard cabinet dimensions, standard cabinet configuration, designing cabinets using functional design standards, symmetry and style, hardware, and estimating materials used for a cabinet system.

TI00654 Basic Cabinet Construction 20 40 20 40
This course is an introduction to calculating materials to create cut lists, proper use of tools and fasteners, wall cabinet construction, base cabinet construction, and specialty cabinet construction.

TI00383 Cabinet Installation 10 20 10 20
This is an introduction to the skills required in the selection and installation of base and wall cabinets and countertops.

TI00655 Interior Doors & Trim 10 20 10 20
This course is an introduction to identifying materials and hardware; estimating material needed to trim a room, install interior doorjamb, hang doors, lock and trim, install pre-hung door and install case opening, install pocket door, install bi-fold door, install window trim, mortise and hinge door frame and door, identify doors from blueprints, install closet shelves and rods, install various trim and molding, and install miscellaneous hardware.

TI00060 Counter Tops & Laminates Construction 10 20 10 20
This course is an introduction to designing counter-tops to function, constructing and installing counter-tops, choosing the correct laminate (function), estimating materials, preparing surfaces, applying laminates, and patching and repair.

TI00061 Basic Finishing Techniques 5 10 5 10

This course is an introduction to safe handling of materials, bio-hazard disposal procedures, preparation (sanding, filling, priming), methods of application (brush, spray, etc.), types of finishes (stain, paints, lacquer, varnish), clean up, and maintenance of equipment and stripping and refinishing.

TI00712 Advanced Cabinet Construction 15 30 15 30

This course is an introduction to materials used in cabinets and store fixtures, blueprint reading for cabinets and fixtures, planning, cutting out and constructing European cabinets, installing hardware and guides used in European and store fixtures.

Sequence II Subtotal Hours:	**Theory**	**Lab**	**Total**
High School Student:	175	350	525
Adult Student:	175	350	525

Program Total:	**Theory**	**Lab**	**Total**
High School Student:	340	710	1050
Adult Student:	340	710	1050

* High school students may complete this program in an adult enrollment status if necessary. Please see your instructor or counselor for details.

Evaluation Policy:

Employability Grades (100 points per week; 50% 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 (30% 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 lecture and "hands on" projects.
- The student must demonstrate the ability to apply safety to all aspects of the construction field.
- It is recommended that the student meet with the teacher and their parents at least once per semester.
- 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. Dues are paid by the superintendent.
- 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.

Student Behavior Includes:

- Safety glasses must be worn at all times when in the shop area.
- Name badges must be worn at all times.
- Follow all rules and regulations of 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)
- National Occupational Competency Testing Institute (NOCTI)

Certification Outcomes:

Tier 2 – Certifications Endorsed by Industry Organizations
- ODCTE: Cabinetmaker Trainee (3101)
- 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:
High School Students are not required to purchase textbooks or supplemental materials.

Textbooks:

National Center for Construction Education and Research (NCCER). Construction Technology. 3rd ed. 0-13-609951-3. Upper Saddle River: Pearson Prentice Hall, 2009

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.