GREAT PLAINS TECHNOLOGY CENTER
COURSE OF STUDY

Career Cluster: Architecture and Construction (AC)

Career Pathway: Construction

Local Program: Construction Trades (AC00300108)

Program Hours: Secondary Students: 500 Hours
Adult Students: 500 Hours

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Academic Credit: Secondary Students: 3 high school credits per year
Adult Students: Transcript

Prerequisites: None

Program Description:
Construction Trades will introduce students to the fundamental principles of construction and prepare them for any entry level construction job. Focus will be given to the proper safety, identification, and use of tools and equipment. Students in this program will be introduced to construction fields of carpentry, masonry and plumbing. Construction Trades combines classroom instruction with hands-on training as well as collaboration with other programs on real-world projects. As part of the hands-on training in this program, students will work on a modular house that will be sold in an auction when completed. The proper use of construction equipment, selection of materials, estimating, measuring, blueprint reading, and building code interpretation will be stressed along with the employability skills needed to work well with a construction crew. Students will have the opportunity to join the Career Tech SkillsUSA student organization and compete 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 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 construction trades.
- Become qualified for further related education and/or entry into the job market.
- Work as a team member.
- Pass at least one certification test.
- 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:

- Maintenance Technician
- Mason
- Framer
- Drywall and Ceiling Tile Installer
- Carpenter
- Roofer
- Tiler/Flooring Installer

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.

DESCRIPTION OF COURSES

Course #	Course Name	Theory	Lab	Total
TI02469	**General Construction Safety and First Aid**	**30**	**60**	**90**

In this course, students learn skills needed for a safe construction environment. Students will learn OSHA compliance, hazard recognition, and fall protection as well as first aid techniques, including CPR, AED application, and wound care tailored to construction scenarios.

TI00657	**Introduction to Masonry**	**10**	**20**	**30**

Students will gain a foundational understanding of masonry principles, techniques, and materials. Students will learn bricklaying, blockwork, and stonemasonry including tools, safety practices, and construction standards.

TI00111	**Introduction to Plumbing**	**10**	**20**	**30**

This course provides an introduction to the fundamental principles of plumbing, providing hands-on experience and theoretical knowledge. Students will learn plumbing codes, systems, tools, and materials, while gaining skills in pipe installation, maintenance, and repair.

TI00766	**Introduction to Carpentry and Construction (*8952)**	**40**	**120**	**160**

This course provides a foundational understanding of carpentry principles, tools, and techniques. Through hands-on live work, students will learn plan reading, flooring systems, framing, and interior and exterior finishing.

TI01018	**Operating a Construction Business**	**30**	**60**	**90**

In this course, students will gain skills related to the strategic, financial, and operational aspects of running a successful construction business. Students will learn business planning, project estimation, budgeting, professionalism, and client management.

TI002570	**Tools and Measurements**	**20**	**50**	**70**

This course introduces essential tools, equipment, and measurement techniques used in the construction industry.

TI02253 Site Maintenance **10 20 30**

This course introduces students to the principles and practices for maintaining an efficient and safe construction site. Students will learn preventive equipment maintenance and site cleanliness, ensuring the longevity of tools and machinery and safety of site. Students will also learn basic exterior finishing skills such as grounds maintenance including landscaping and turf management.

Program Total:	**Theory**	**Lab**	**Total**
High School Student:	150	350	500
Adult Student:	150	350	500

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	F	=	Below 60
B	=	80 – 89	W	=	Withdrawn
C	=	70 – 79	I	=	Incomplete
D	=	60 – 69	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.
- 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. 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:

Certifications Administered/Proctored by Instructor

- OSHA 10-Hour Construction 5303
- First Aid/CPR/AED – Adult-Pediatric 5310
- Forklift Certification 2410
- Core Construction 3060 (NCCER)

CIP Code and SOC Code Crosswalk:

- CIP Code – 46.0415(Building Construction Technology)
- SOC Code – 47-1011.00 (First-Line Supervisors of Construction Trades and Extraction Workers)

OCAS program codes:

- 9098 – Introduction to Construction Technology

Instructional Materials: *Students are not required to purchase textbooks or supplemental materials.*

Textbooks: