Construction Technology Course Outline/Syllabus

Instructor: Mr. James Henderson Kennedy High School

COURSE DESCRIPTION

Students have hands-on opportunities to learn all phases of basic residential construction, including carpentry, drywall, electrical, flooring, painting, plumbing, roofing, masonry, welding, and reading blueprints. During the first part of the course, students learn about construction safety, foundations, framing, and proper use of tools. Then students have the opportunity to make practical application of their classroom studies on a construction project. Projects may include building sawhorses, scale model houses, storage sheds, remodeling (on or off-site), simulated bathroom construction, and other projects (Play Houses) as available.

This competency-based course prepares students for entry-level positions in the construction industry. Integrated throughout the course are career technical education standards which include basic academic skills, communication, career planning, technology, problem solving, safety, responsibility, ethics, teamwork, and technical knowledge.

STUDENT PERFORMANCE OBJECTIVES

Upon successful completion of the course, students will:

- 1) Understand and apply measurement systems in the planning and layout process used in the residential construction industry.
- 2) Demonstrate the safe and appropriate use of hand tools common to the construction industry, such as hammers, torches, pliers, wire cutters, pipe cutters, saws, chisels, and wrenches
- 3) Demonstrate safe and appropriate use of power tools common to the construction industry, such as band saw, saber saw, miter compound saw, radial arm saw, table saw, jig saw, cut-off saw, reciprocating saw, portable drill, drill press, planer, roto hammer, router, jointer, belt sander, and finishing sanders
- 4) Practice occupational safety on the construction site, whether classroom or job site
- 5) Demonstrate competency in the mathematics used in measuring and estimating the materials needed for a job
- 6) Demonstrate communication, teamwork, and leadership skills in project development
- 7) Demonstrate familiarity with skills in the following areas: carpentry, electrical wiring, plumbing, masonry, plastering
- 8) Identify different building materials and types of wood used in construction
- 9) Understand the process of building layout, foundations, and framing
- 10) Understand the career pathways available in the construction trades, including further training and apprenticeship opportunities

- c. Explain proper methods of tool maintenance and storage
- d. Demonstrate safe handling of the following tools:
 - 1) Measuring and layout tools
 - 2) Saws and blades
 - 3) Planning, smoothing, and shaping tools
 - 4) Drilling and boring tools
 - 5) Fastening tools
 - 6) Prying tools
 - 7) Gripping and damping tools

5. Power tools

- a. Recognize common power tools
- b. Explain the function and operation of the principal power tools
- c. Identify the parts of common power tools
- d. Demonstrate safe handling of the power tools

Wall and ceiling framing

Identify the main parts of a wall frame

Show how rough openings are handled in wall construction

Explain plate and stud layout

Describe the construction and erection of wall sections and partitions

List the materials commonly used for sheathing

Demonstrate the process of ceiling frame construction

Estimate materials required for wall frames, ceiling frames, and sheathing

Electrical wiring

Define basic electrical terms

Explain what is included in an electrical wiring system

List the tools, devices, and materials required to do electrical wiring in a residential building

Demonstrate understanding of basic circuit theory

Use approved methods for simple wiring installation tasks

Perform simple electrical troubleshooting

Plumbing systems

Cite codes that govern the installation of plumbing systems

List necessary plumbing tools and explain how to use them

Describe the different types of materials used in plumbing systems

Explain the proper design and installation of basic plumbing system

Read plumbing prints

Cite safety measures that plumbers must observe

METHODS, STRATEGIES AND TECHNIQUES

A variety of strategies and techniques are used to instruct the students, including:

Direct

injury, and the teacher/instructor is there to inform how to stay safe. So please listen to your teacher/instructor instructions and directions. Failure to help clean shop nill lead to an õFö grade or the lonering of {our grade for course.

Student Work Skills and Finish Work

60% of studentøs grade is finished projects if applicable to that quarter grading. Grading Rubric will be supplied before shop work begins.

Grading Percentage

100%	-90%	Α
89%	-80%	B
79%	-70%	С
69%	-60%	D
59%-Lower		\mathbf{F}