

# Course Syllabus 2020/2021

## Construction Trades

### INSTRUCTOR

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### CLASS MEETING TIMES

2019- 2020 Class Schedule	8/21/19 - 5/31/20
Monday – Friday	8:00 am – 10:30 am <b>OR</b>
Monday – Friday	12:00 am – 2:30 pm

### TEXTBOOKS

Glencoe, (2016). *Carpentry and Building Construction*, McGraw Hill Education.,  
8787 Orion Place Columbus, OH 43240.  
ISBN: 978-0-02-140244-1

### OTHER RESOURCES

The students will be exposed to, but not limited to the following resources.

- Textbook
- Workbook
- Math exploration relating to business and construction
- Math related to construction estimating
- Newspaper and magazines
- Video
- PowerPoint presentation
- Overheads
- Computers
- Field trips
- Guest Speakers
- Building manuals or manufacturer literature
- Lecture

### REQUIRED MATERIALS

Online 10-hour OSHA Safety Course, textbook (will be completed bi-yearly)

### COURSE DESCRIPTION

The construction building trades program is designed to prepare students for employment in the construction trades. When students have completed this class, they are prepared to join the workforce as laborers, apprentices, and possible trades people and/or they are prepared to go on to a college, university, or trade school to further their education. Eventually, a student's goal may be business ownership in an area of construction trades.

Students learn to use the equipment and technology as it applies to site clearing, building layout, excavation, foundations, framing, roofing, siding, and finish work for a new home. The students will be involved with various construction projects in a lab setting. Safety is strictly emphasized. Prior industrial arts course work is helpful and substantial math skills are needed.

## **OBJECTIVES**

### **Segment 1 - Safety, Health, and Environment**

- Complete OSHA 10 hour
- Examine Material Safety Data Sheets
- Describe personal safety at any type of job site

### **Segment 2 – Industry Overview**

- Describe methods used to facilitate smooth workflow by recognizing relationships between trades people/professionals
- Identify permits and licenses required during residential construction projects

### **Segment 3 – Employability Skills and Technology Skills**

- Organize oral and written language
- Model behaviors that demonstrate active listening

### **Segment 4 – Construction Materials**

- Identify common materials used in the construction industry
- Handle, install, position, move, store, and secure materials properly

### **Segment 5 – Construction Tools and Equipment**

- Use and maintain common hand tools in the construction industry
- Use and maintain portable power tools in the construction industry
- Use and maintain common stationary tools in the construction industry

### **Segment 6 – Building Construction Design, Blueprint etc.**

- Demonstrate knowledge of the design of construction projects
- Interpret blueprints/drawing/specifications used in construction projects
- Use geometric formulas to determine areas and volumes of various structures

### **Segment 7 – Site preparation and infrastructure**

- Describe methods used for site planning in construction projects
- Understand the different colors used for utility marking
- Know and apply the rules for digging around various utilities
- Know the procedures to follow if a utility line is hit during digging

### **Segment 8 – Common Construction Practices – concepts flooring, foundations etc.**

- Apply knowledge of specific materials and methods for construction of home components including foundation, walls, roofing, staircases, and flooring (e.g., carpet, tile, stone installation, etc.).
- Identify building systems needed to complete a construction project.
- Identify components of building systems needed to complete a construction project.

### **Segment 9 – Residential Construction Techniques**

- Understand the sequencing of events for constructing residential buildings
- Correctly build or install essential home components including, but not limited to foundations, walls, roofs, staircases, flooring, carpets, fixtures, and cabinetry

### **Segment 10 – Green Technology Construction Techniques**

- Describe construction trends related to green building practices
- Describe methods to select sites for green building practices
- Describe methods to minimize construction waste and demolition debris

### **Segment 11 – Heavy Equipment/Civil Construction Techniques**

- Demonstrate knowledge of road construction components to perform road marking and road pavement operations
- Understand the use of rigid frame trucks: dump trucks, asphalt distribution trucks, broom trucks, transit-mix trucks, fuel/lubrication trucks, maintenance trucks, water trucks
- Describe the use the correct type and size of equipment such as: compaction equipment, loaders, backhoe loaders, scrapers, bulldozers, excavators, telescoping excavators, motor graders, skid steer loaders
- Understand the uses of different types of construction cranes and forklifts
- Demonstrate knowledge of concrete properties when performing methods of mixing, curing, and finishing

### **Segment 12 – Construction Business Management**

- Describe methods used to manage liability on a construction site
- Apply knowledge of business and management principles involved in residential construction.
- Describe common contracts and budgets used in construction projects
- Identify permits and licenses required during residential construction projects
- Analyze blueprints and other documentation to prepare time, cost, materials, and labor estimates

## **GRADING CRITERIA**

Due to the uncertainty of the 2020-21 school year the grading scale will be determined by total points of graded materials. The graded materials will consist of the following:

- Written assessments -
- Performance assessments, shop performances/quality of work performed upon completion of projects
- Homework and Coursework
- Daily Employability Skills, Time management, clean up, professional behavior.

### Grading Scale

A	93 – 100%
A-	90 – 92%
B+	87 – 89%
B	83 – 86%
B-	80 – 82%
C+	77 – 79%

C	73 – 76%
C-	70 – 72%
D+	67 – 69%
D	63 – 66%
D-	60 – 62%
F	59% and below

### ACADEMIC INTEGRITY

All students are expected to be honest in their studies. Dishonesty in completing assignments, examinations or other academic endeavors is considered an extremely serious violation of the rights of others and is subject to disciplinary action, ranging from a zero on an assignment up to a failing grade in the course. Plagiarism, the failure to give credit for ideas, thoughts or material taken from another, is cheating and will not be tolerated. Plagiarism includes using someone else's exact words, or even their ideas but not their exact words. It is a good rule of thumb that if you did not know the information before you started the assignment, you must cite your source.

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