

Construction
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COURSE DESCRIPTION

This is a one-semester course. Construction 1 provides students with the opportunity to explore a wide variety of modern construction techniques and related career opportunities. This course will teach proper safety and application of tools. Students will learn the components and construction of floor, wall and roof systems. This course is a prerequisite for Construction II and The House Project. Safety glasses required.

STANDARDS AND BENCHMARKS

Class standards and benchmarks align with the ITEA standards and benchmarks.

WHAT ARE WE GOING TO DO IN THIS CLASS?

COURSE OBJECTIVES

Upon completion of this course, the student will be able to:

1. Identify careers in the construction industry
2. Identify the training, education, and skill sets needed to enter into the construction industry
3. Identify safe work practices in construction
4. Read measuring tools and compute construction math
5. Identify and operate hand and power tools safely
6. Read blueprints and plans used in the industry
7. Identify considerations that go into planning and building a house
8. Identify fasteners used in construction
9. Identify the components of a house
10. Identify different types of material used in the industry
11. Construct a small room with doors and windows
12. Construct a roof system including roofing trusses

Class Calendar:

Unit 1- Orientation to Construction

- Types of Jobs
- Training
- Earning Potential

Unit 2- Construction Safety

- Guidelines
- Color Codes
- OSHA Regulations
- Workplace Safety

Unit 3- Construction Math & Measuring

- Basic Construction Math
- Reading Measuring Tools

Unit 4- Hand & Power Tools

- Understanding of tools involved in construction
- Tool Identification
- Proper Tool Usage

Unit 5- Tool Safety

- Safety Demonstrations
- Tool Operation
- Safety Exams

Unit 6- Blueprint Reading

- Learn how to read blueprints
- How do contractors use blueprints
- Blueprint Symbol Identification

Unit 7- House Considerations

- What goes into planning a house to be built
- Codes, Restrictions, Personal Needs

Unit 8- Plot/Site Plans

- Required Information
- Property Lines
- Contour Lines
- Topographical Features

Unit 9- Surveying

- Learning how to survey a site
- Surveying a site

Unit 10- The Foundation Plan

- Material Symbols
- Required Information
- Reading a Foundation Plan
- Reading a Basement Plan
- Location of Structure on Site

Unit 11- Footings, Foundations, & Concrete

- Footing Shapes & Specifications
- Foundation Walls
- Types of Foundations
- Beams and Girders
- Live & Dead Loads

Unit 12- Sills & Floor Construction

- Types of Framing
- Joists & Beams
- Lumber Sizes
- Span Data
- Floor Trusses
- Sub Floor
- Cantilevered Joists
- Decking

Unit 13- Wall & Ceiling Construction

- Frame Wall Construction
- Ceiling Construction
- Framing Considerations
- Masonry & Stone

Unit 14- Doors & Windows

- Interior Doors
- Exterior Doors
- Accessibility Issues
- Garage Doors

- Window Types

- Window Schedules

Unit 15- Roof Designs

- Types of Roofs
- Traditional Frame Roof Construction
- Rake or Gable Ends
- Ventilation

- Gutters & Downspouts
- Sheathing & Roofing
- Materials Used in Models

Unit 16- Career Opportunities

- Look at careers in the construction industry

SUPPLIES

Notebook & Folder- Keep your notes and handouts neat and organized. This will especially help with studying for tests and quizzes.

Pencil or Pen- You need something to write with.

Safety Glasses – Student’s responsibility to bring and keep. Safety glasses must say Z87.

INSTRUCTIONAL STRATEGIES

Instructional strategies that will be used in this course, but are not limited to are: direct instruction, active participation, videos, presentations, cooperative learning, animations, student projects, technology, note taking, demonstrations, and lab activities.

ASSESSMENTS

Summative – These will be unit tests. Tests will always be announced in advance. There will also be lab activities that will be graded for completion for each unit.

Quizzes - These may be announced or unannounced.

Formative – I will use white boards, discussions, and written assessments that are ungraded to assess student knowledge throughout the units.

Self – Homework assignments are graded but are also a way for students to check their own knowledge. Students are expected to check their own answers and we will have time in class to go over questions.

GRADING

Your grade will be based on the following:

Tests – Tests will always be announced in advance. Take the tests seriously and do a good job. Each unit will have a test over all of the information in the unit including component identification and lab activities. Makes up about 25% of your grade.

Quizzes – These may be announced or unannounced. Pay attention during demonstrations and presentations, there may be a quiz over it the following day. Makes up about 15% of your grade.

Homework – There will be day to day work throughout the semester that you need to complete. In order to learn the material, it is wise to take this work seriously to improve your learning in the class. Makes up about 10% of grade.

Other assignments or projects – Other assignments, projects, and lab activities will be assigned throughout the year. Information will be given at the time the assignment. Makes up about 50% of your grade.

Grading Scale:

93.0 – 100% A	80.0 – 82.99 B-	67.0 – 69.99 D+
90.0 – 92.99 A-	77.0 – 79.99 C+	63.0 – 66.99 D
87.0 – 89.99 B+	73.0 – 76.99 C	60.0 – 62.99 D-
83.0 – 86.99 B	70.0 – 62.99 C-	Below 60%

Please keep track of your scores so that you can figure your own grade at any time.

ABSENCES

If you miss class FOR ANY REASON it is your responsibility to get the assignment. Assignment sheets will be given to you during class time. Be sure to pick up anything that you may have missed when you were absent.

If you miss class on a test/quiz day, you will be expected to take the test/quiz on the day you return to school. If you miss the day before a previously announced test/quiz, you will be expected to take the test/quiz with the rest of your class. If you miss more than one day I will work with you to make other arrangements.

Try not to miss this class. Most people find it difficult to make up construction class material. If you know you will be gone, be sure to get the assignment before you leave.

Problems with absences (excused or unexcused) or tardies will be handled according to the Senior High School attendance policy.

GETTING HELP

If you are having trouble with construction technology, you need to get help IMMEDIATELY. I will be available after school most days, and before school on days when we have no meetings scheduled. My prep time is 4th hour and I am available that time most days. Let me know when you want to meet me so I can be sure I'm in my room when you are looking for me. You may also come in without an appointment, but it may take a few minutes to track me down. A lot of what we do in this class is in the lab with engines, so you will need to make arrangements to come in to make up work when I am available.

BEHAVIOR EXPECTATIONS AND CLASS RULES

You are in high school, and I expect you to behave as the responsible students that you are. Should a problem arise I may contact your parents and/or pursue assistance from the office. If a serious offense occurs, you will be asked to leave the classroom. At no time will I allow a disruption to the educational environment.

Cheating on anything for this class (tests, quizzes, assignments or projects) will not be tolerated. Consequences may include, but are not limited to, a score of zero on the work, contacting your parents and/or Assistant Principal, or an F in the course.

All other rules in regards to Tardies, Cell-phone usage, proper internet usage, etc. We will follow the Senior High School rules which are found in your student handbook.

Cell phones are not allowed in the classroom or lab. Get used to it, employers do not like cell phones either. The only exception is for researching with the instructor's permission.

- ✓ **Treat others with dignity and respect**
 - Keep hands and feet to yourself
 - No put-downs or unkind words
 - Racial and/or sexual harassment will not be tolerated
 - No cursing
 - Be quiet when others are speaking

- ✓ **Follow directions the first time given**
 - Finish assignments as directed
 - Act upon directions promptly. Do not wait to be reminded.
 - Take notes, record assignments.

- ✓ **Come to class prepared (assignments completed, book, notebooks, pencils, etc. ready)**
 - Check to make sure you have all materials before you leave home
 - No trips back to your locker

- ✓ **Act responsibly**
 - Use common sense and good judgement
 - Remember, you are responsible for your own behavior

Failure to follow the rules will result in detention, office and/or parent intervention, or a drop from the class depending on severity and/or quantity.

“Actions have consequences,
Consequences are predictable,
You are responsible for your actions,
Therefore, you are responsible for your consequences.”

COMMUNICATION

The best way to contact me with any questions or concerns is via email (lzuck@dbqschools.org). You may also reach me by phone at 552-5578. Messages left will be returned as soon as possible. I will update your grades on Power School usually within one or two days of the assignment, test, or activity.