

**Building and Property Maintenance Syllabus**  
**John Cotton – Instructor**  
**2010/2011**

**Course Description**

Building Trades is a two-year program, teaching the students the basics of construction, the use of hand tools, shop and job site safety, power tools and the fundamentals of masonry, carpentry, their junior year, then; plumbing and electricity their senior year.

**Instructional Philosophy**

Students will be taught theory in the classroom and get practical hands on experience in the Building Trades lab. Safety will be taught first and given the highest priority while working with hand and power tools. Students will work individually and as a team in the classroom and on lab projects. Assessment methods will include chapter tests, performance tests, a notebook, a journal, and a daily performance evaluation which grades the students according to; preparation, quality of work, time-use, co-operation, teamwork and safety.

**Course Goals:**

1. **Academics-** for every student to do well in his! her academic classes including but not limited to government, communications, math and science. Students are encouraged to have at least one year of algebra, which is required by most apprenticeship programs.
2. **Leadership-** to find and develop leadership potential through daily rotating duties in the lab.
3. **Job skills-** students will have the necessary skills to find and hold an entry-level position in the area of construction area that interests them the most.
4. **Continuing Education-** that each student that desires further education will be able to make informed choices about the type and amount of continuing education needed.
5. **Safety-** that each student learns and practices safe work and lab habits.
6. **Attitude-** those students maintain a positive attitude, not only in school, but also in all that they do.
7. **Job Placement-** Place as many students in construction field jobs as possible.
8. **Program Improvement-** which the program will evaluate and improve with advisory committee's suggestion
9. **Safety Testing**
10. **NCCER CORE BOOK**

Skill and technical training is second only to the safety of our students. To that end, the Building Trades Program not only places a heavy emphasis on safety training, but requires that each student in the program take and pass safety tests before they begin any work that may have specific safety issues. The Building Trades Program gives three such tests during the course of the program.

- **General Lab Safety:** The Building Trades Program has a safety test that is intended to introduce the new student to safety issues associated with this program. There will be general classroom instruction to cover these issues and a written test to assess the student's understanding of these issues and how to deal with them. This general lab safety test must be passed at 100% before the student will be allowed to begin working in the lab. A note will be sent home to the parent(s) indicating that the student has passed the test and will require a signature from them. This will be returned to the program and kept on file.
- **Machine/Equipment Specific Safety:** Students will begin using different types of machines and

equipment at various times throughout the program. Prior to using each machine or piece of equipment for the first time, he/she will be instructed in its safe and proper use. A test may be required to assess student understanding. These tests must be passed with 100% accuracy.

➤ **OSHA 10 hour Construction Safety / General Industry Safety.** This test is a 10 hour on-line course that instructs each student in the safety issues associated with their industry. This program is to be completed in the first two weeks of class, requires 600 minutes of online interaction and may or may not be completed during regular class time. Passage benchmarks for this test are set by OSHA. Students who successfully complete this safety course will receive the industry recognized 10 hour safety card issued by the Occupational Safety and Health Administration.

### **General Safety Policies:**

1. Students will be given safety instruction throughout the program. Students must pass any safety tests associated with this instruction before beginning any actual work in the specific area.
2. Parents of students, who fail the general lab safety, the OSHA 10 hour safety test or any specific safety test three consecutive times, will be required to attend a conference to discuss that student's requirements for continued participation in the program. This conference will be with the program teacher, program supervisor as well as the student.

The Building and Property Maintenance program places a heavy emphasis on safety training. We require each student in the program to pass a lab safety test with 100%, and understand that when operating any power tools in lab, the instructor must be in the lab area. A career safe-on-line safety test must also be taken and passed with an 80%.

### **Course Topics- Junior Year**

- Shop safety plus an on-line safety test.
- Construction math (tape measure, and Pythagorean theorem)
- Introduction to: Hand tools

Power tools

Blueprints (architect scale)

- Masonry: Introduction to brick and block

Masonry tools

Masonry layouts (square, plumb, level), Transit Use.

- **Carpentry:** Wall layouts

Door and window charts

Floor joist, sub-floors

Plywood application

Rafter and dormer layouts

Roofing layouts ( step method, 3 0-36 method, and weaved valleys

Valley flashing, chimney flashing: step, and counter flashing

Shop stationary tools

### **Senior-year**

**Safety: An on-line safety test required.**

➤ **Electricity:** Residential wiring

National Electric Code  
Symbols  
Switches, outlets, lights  
Grounding  
Boxes and fittings  
Installation of electrical services  
Circuit breakers and fuses  
Lighting fixtures and fans

➤ **Plumbing:** Torch safety, Cleaning fittings

Soldering techniques, Nomenclature of fittings  
Water tests, Sinks and water closets  
Hot water tanks  
Drainage, Waste, and Vent systems  
Plumbing code

A senior project is required for graduation along with OCTA tests results, and a senior business report.

**Evaluation Criteria**

- Attendance
- Daily lab performance
- Chapter tests/ Masonry, Carpentry, Electricity, Plumbing, Blueprint & NCCER books
- Notebook (lab projects and class notes)
- Journal writing (learn to keep track of daily activities)
- Estimating (learn how to figure a bill of material)

**Grading Scale**

33% of the grade will be based on attendance(20pts/day) and daily lab performance, plus weekly project points.

33% of the grade will be based on the chapter tests, notebook, and journal writings.

33% will be on the lab projects on time.

A final senior project is required for graduation, and OCTA test results

The grading scale is according to the Trumbull Career & Technical Center school policy.