

**COURSE SYLLABUS  
FALL TERM 2009  
PORTLAND COMMUNITY COLLEGE**

**Department:** Building Construction Technology  
**Course:** BCT 103—Residential Materials and Methods  
**CRN** 41036  
**Course day and time:** Mondays 8am to 10:50am  
**Course location:** Building 2 room 128  
**Course Duration:** Monday, September 22<sup>th</sup> through Monday, December 8<sup>th</sup>  
**Instructor:** Kirk Garrison  
**Office:** Building 7 room 202  
**Office hours:** Mon. 12pm-2pm; Tues. 11am-1pm; Thur. 4pm-5pm  
**Office phone:** (503) 614-7403  
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**Course Description:**

This course is an introduction to the basic building materials, components, methods, and sequences in residential construction. The class is organized around the Construction Specifications Institute (CSI) Format. We will use a simple set of house prints and specifications to structure our discussion of the building process, and learn about the materials specified for use in that house, along with possible alternatives.

**Required Equipment and Supplies:**

1. Plans for North Street Single Family Dwelling, available for about \$8.00 at:  
Right Angle Blueprinting and Supply  
10855 SW Cascade Blvd.  
Tigard, Oregon Telephone: 503-620-3691
2. Textbook: *Fundamental of Residential Construction*, by Edward Allen and Rob Thallon. 2<sup>nd</sup> Edition

**Special Needs:**

PCC is committed to supporting all students. If you have an accommodation form from the Office for Students with Disabilities (OSD), please make arrangements to meet with me privately to discuss your needs. Accommodations are not retroactive, but begin when the instructor receives the OSD Approved Academic Accommodations form from the student. To request academic accommodations due to a disability, please contact OSD at 503-614-7300.

**Evaluation:**

At the end of the quarter I will assign students a letter grade based on the following criteria:

- A = 90% to 100%
- B = 80% to 89%
- C = 70% to 79%
- D = 60% to 69%
- F = 0% to 59%

I will calculate your grade by expressing your total accumulated points at the end of the term as a percentage of 200 possible points, and I will give you a letter grade based on the following:

Attendance—18%, or 36 points (3 each day)

There are 12 class days, including the final. Class will start on time. If you are late or absent it is your responsibility to find out what you missed. If you miss more than four classes, I will give you a No Pass.

Article Reviews—15%, or 30 points

Over the course of the term you will need to read and summarize three articles from a construction related journal. These can be on any subject related to construction. You can turn them in any time, but they are due in class on **December 1<sup>st</sup>**.

Midterm—20 %, or 40 points

The midterm will be during the first two hours of class on **October 27<sup>th</sup>**, and **will be closed book**.

Research Projects—24%, or 48 points

You will each do six research projects, from at least three sections of the CSI format. For example, “Division 7—Thermal and Moisture Protection” has a sub-heading “shingles and roofing tiles,” and another entitled “manufactured roofing and siding.” Under those headings, you could compare two different roofing materials, like composition shingles and metal roofing. Research Projects are due at the final exam on **December 8<sup>th</sup>**.

Final Exam—23%, or 46 points

The final exam will be held **Monday, December 8<sup>th</sup>**, in our regular classroom (Building 7/103). **It will be closed book**, and will only be on material covered after the midterm.

**Weekly Class Lectures and Assignments (2<sup>nd</sup> Edition of the textbook)**

The dates below are tentative, and may be adjusted as we make our way through the term.

Week	Date	Class Topic/Task	Reading
1	9/22	Introductions Syllabus Article review and Research Projects information The CSI Format CSI Division 1—General Requirements	pp. 3-64
2	9/29	CSI Division 2—Sitework (rough) CSI Division 4—Masonry CSI Division 3—Concrete	pp. 167-82 107-41 pp.145-62; 185-210
3	10/6	<b>Library Orientation, 10-11am</b> CSI Division 3—Concrete, cont.	pp. 540-46
4	10/13	CSI Division 5—Metals CSI Division 6—Wood and Plastics	565-76 69-104
5	10/20	CSI Division 6—Wood, continued (Framing) <b>Advanced Framing Techniques Introduced/Explained</b> Midterm review	pp. 213-66
6	10/27	<b>Midterm Exam</b>	
7	11/3	CSI Division 7—Thermal & Moisture Protection (Roofing/Siding) CSI Division 7—Thermal & Moisture Protection (insulation) <b>Heat Loss Calculation Worksheet</b>	pp. 269-96; 321-342; pp. 399-421
8	11/10	CSI Division 8—Doors and Windows CSI Division 15—Mechanical <b>Solar Energy Options Introduced/Explained</b>	299-318 345-96
9	11/17	CSI Division 16—Electrical	pp. 423-42
10	11/24	CSI Division 9—Interior Finishes	445-82
11	12/1	CSI Division 2—Sitework (Finish) <b>Article Reviews Due</b> Final Review	486-500
12	12/8	<b>Final Exam, 8:00am in our regular classroom</b> <b>Research Projects Due</b>	

## **BCT 103—Construction Materials and Methods Assignments**

### **Assignment 1—Journal Article Reviews**

You need to review **three journal articles** relating to construction materials and/or methods this term. These articles need to come from at least **two different sources** (two different journals, papers, etc.). Each review should be approximately one double-spaced typewritten page (I will accept legible handwritten assignments). These reviews will serve two purposes: first, they will help you become familiar with construction-related publications; second, they will help you learn how to condense large amounts of information.

A good review will tell me what the article was about, why the author wrote it, and (perhaps) whether you agree or disagree with the conclusions or methods in the article. You do not need to summarize everything written, just the main points so that I know what it is about, and then I can look it up myself if I want to know more.

### **The format for your review should be as follows:**

Your Name

Title and Author(s) of Article

**Source (journal, newspaper, internet).** Remember, you should supply enough information here that I can easily find the article myself, including volume number, page number, web site address, etc.

### **Text of your Review**

Here is a list of possible sources for your reviews, but you are not limited to this list:

Journal of Light Construction	Fine Homebuilding
Builder	Northwest Builder
Remodeling	Concrete Construction
Professional Builder	Roads and Bridges
Daily Journal of Commerce	Engineering News Record

There are also many books that are a compilation of articles on various construction projects, but be careful not to review an entire book!

## Assignment 2--Research Projects

This class is loosely organized around the CSI Format, and we will work our way through that format by looking at the specifications for the North Street Single Family Dwelling. As we go through those specs, we will learn about many of the materials specified for this house, and the methods used to build with those materials.

For the research projects assignment, I want you to go a step further. Instead of just learning about the materials specified, I want you to research alternative ones. So, from **at least three different sections of the CSI Format**, pick **a total of six construction materials other than the ones specified by the architect**. You have two options to consider as you select materials:

1. You can pick two entirely new materials that serve the same purpose (besides the one specified by the architect) and do a comparative study of them. For example, you could pick metal and cedar shingles and compare them. In this case, these materials would each count towards your six required ones.
2. You can pick six entirely different materials from at least three CSI divisions, and research them individually.

Things to consider and report on in you research are:

1. Initial cost of material.
2. Installation of material—does it go together faster/easier than another?
3. Warranty of material—how long should it last?
4. Does the material require any special maintenance?
5. Is there a good color selection?
6. Is it available locally?
7. Does it have an established track record?
8. ?????

## Format

Use the following outline when you write up your projects. I don't expect a novel; just brief descriptions/instructions under these categories:

1. Your name
2. CSI Division
3. Name of product
4. Manufacturer
5. General description/basic use of product
6. Installation instructions/procedures
7. Advantages of using this product (cost, installation, warranty, etc. See list above)
8. Disadvantages of using this product (cost, installation, warranty, etc. See list above)
9. Final comments/recommendations

Feel free to include any brochures or booklets from the manufacturer as part of your project packets, but these should not take the place of your explanation.

