

CONT 116

Practices of Residential Construction

3 Credits (3 Lecture hours per week)

Community College of Baltimore County
Common Course Outline

Description

CONT 116 – Practices of Residential Construction: Studies the current construction methods and materials used for various types of residential structures; introduces site development and preparation, job layout, and materials and methods for frame and masonry construction. Offered spring semester only.

Overall Course Objectives

Upon completion of this course, students will be able to:

1. Identify and evaluate soil conditions and assess proper foundation designs;
2. Identify wood products and determine the correct methods of fastening;
3. Identify framing methods available for residential construction;
4. Illustrate layout and framing methods;
5. Review codes of residential framing and locate code documents;
6. Identify and explain weathertight construction for closing up a residential building;
7. Identify and evaluate thermal energy requirements, like insulation, heating units, solar, and fireplace construction methods;
8. Identify and compare different masonry and concrete construction;
9. Describe different interior finishes and glazing requirements;
10. Discuss and analyze the different mechanical and electrical requirements of a residential dwelling; and
11. Describe material take offs and how to calculate materials needed.

Major Topics

- I. Designing the building
 - a. Gather the professionals to develop the owner's ideas
- II. Building Systems Constraints
 - a. How much land
 - b. How heavy a building can the soil support?
 - c. Structural restraints
 - d. What sort of materials
- III. Zoning Ordinance
 - a. What can I use the land for?
 - b. How much coverage by the building?
 - c. How far the building has to be set back?
 - d. Parking Spaces
 - e. How tall the building can be built?
- IV. Building Codes

The Common Course Outline (CCO) determines the essential nature of each course.
For more information, see your professor's syllabus.

- a. Use Group, Construction types, Fire Resistance rating of different materials and parts of building
- V. Building systems resources
 - a. UL, ASTM, ANSI, CSI (Master format)
- VI. Foundations
 - a. Foundation loads
 - b. Soil types, soil testing
 - c. Frost Protection
 - d. Footing size
 - e. Types of foundations for shallow foundations, slab, crawl space, full basement
 - f. Deep foundation - Caissons
- VII. Retaining Walls
 - a. Complicated by such factors as Height, Soil, Presence of or absence of ground water, foundation pressure behind the wall
- VIII. Water Proofing & Drainage
 - a. All foundation walls that have living space below grade requires some type of waterproofing or damp proofing
- IX. Types of Foundations
 - a. Concrete Block
 - b. Poured concrete
 - c. Pre-Cast Concrete
 - d. Wood Foundations
 - e. Foam & Concrete
 - f. Foam insulation inside block cells
 - g. Straw Bales
- X. Radon Systems
 - a. Area of Concern, facts on radon, new construction
- XI. Designing Foundation to building code
 - a. Frost depth
 - b. Footing Size
 - c. Foundation wall size/type
 - d. Damp proofing
 - e. Waterproofing
 - f. Drainage

Course Requirements

Grading will be determined by the individual faculty member, but shall include the following, at minimum:

- Homework
- Projects
- Mid term
- Term paper/oral report
- Classwork
- Team project
- Quizzes
- Final exam

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- There will be a minimum of 8 graded assignments

Written assignments and research projects: Students are required to use appropriate academic resources in their research and cite sources according to the style selected by their professor.

Other Course Information

This course is an elective.

This course is taught in a computerized environment.

This course is the first course in a required two-course sequence.

Date Revised: 8/31/2000