



COURSE OUTLINE

Course Number BCT104	Course Title CODES FOR CONSTRUCTION AND DESIGN	Credits 3
Hours: lecture/Lab/Other (2/2)	Co- or Pre-requisite BCT110, BCT120 or permission	Implementation sem/year Spring 2015

Catalog description (2014-2015 Catalog):

BCT104 CODES FOR CONSTRUCTION AND DESIGN

Regulations for construction and/or design of residences and small commercial buildings will be studied. Their applicability and intent subject to the interpretations imposed by the State of New Jersey will be included. 3 credits

Is course New, Revised, or Modified? Modified

Required texts/other materials:

International Residential Code 2009 or 2012

Revision date: Fall 2021

Course coordinator: James Maccariella, maccarij@mccc.edu

Information resources:

Department of Consumer Affairs Web site for code access.

Other learning resources: (Describe any other student learning resources that are specific to this course, including any special tutoring or study group support, learning system software, etc.)

Course Competencies/Goals:

The student will be able to:

- I. apply structural design and analysis techniques necessary to check compliance with the code for wood-framed, light steel and wall bearing systems which characterize the majority of Class III structures, including foundation, wall, floor and roof framing systems detailed in IRC one and two family dwellings.
- II. Evaluate fire protection features related to codes and standards of building construction.
- III. Read plans from a code enforcement standpoint rather than a design or construction standpoint.
- IV. Outline the principal components of energy conservation relating to building construction.

Course-specific General Education Knowledge Goals and Core Skills.

General Education Knowledge Goals

Goal 1. Communication. Students will communicate effectively in both speech and writing.

Goal 2. Mathematics. Students will use appropriate mathematical and statistical concepts and operations to interpret data and to solve problems.

Goal 3. Science. Students will use the scientific method of inquiry, through the acquisition of scientific knowledge.

Goal 4. Technology. Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals.

Goal 9. Ethical Reasoning and Action. Students will understand ethical issues and situations.

MCCC Core Skills

Goal A. Written and Oral Communication in English. Students will communicate effectively in speech and writing, and demonstrate proficiency in reading.

Goal B. Critical Thinking and Problem-solving. Students will use critical thinking and problem solving skills in analyzing information.

Goal C. Ethical Decision-Making. Students will recognize, analyze and assess ethical issues and situations.

Goal D. Information Literacy. Students will recognize when information is needed and have the knowledge and skills to locate, evaluate, and effectively use information for college level work.

Goal E. Computer Literacy. Students will use computers to access, analyze or present information, solve problems, and communicate with others.

Goal F. Collaboration and Cooperation. Students will develop the interpersonal skills required for effective performance in group situations.

Units of study in detail.

Unit I **UNIFORM CONSTRUCTION CODE**

Learning Objectives

The student will be able to...

- Describe the content and organization of the Uniform Construction Code regulations.
- Describe the content and organization of the building sub-code as to the sub-code's background, purpose, history, place in local government structure and the relationship of the sub-code to the construction code enforcement programs at other levels of government.
- Classify structures into class categories.

Unit II STRUCTURAL DESIGN AND ANALYSIS TECHNIQUES

Learning Objectives

The student will be able to...

- apply structural design and analysis techniques necessary to check compliance with the code for wood-framed, light steel and wall bearing systems
- Describe Class III structures, including foundation, wall, floor and roof framing systems detailed in IRC one and two family dwellings.

UNIT III - MATERIALS

Students should be able to:

- Identify basic materials.
- Describe basic material standards which have assembly type, quality or grade markings.
- Identify materials which have given standards for lumber, plywood, and steel.
- Describe code and enforcement requirements related to weather conditions and durability of installed construction materials.

UNIT IV - PLAN REVIEW

Students should be able to:

- perform an effective plan review for basic fire protection requirements including height and area limitations, means of egress, fire resistance ratings of structural elements, flame spread classifications of construction materials, and combustibility of materials.

UNIT V - INSPECTION TECHNIQUES

- Evaluate the construction of a Class III building utilizing basic inspection tools and test methods with emphasis on proper methods of communicating and preparing reports utilizing proper code terminology and form.
- Explain the principal components of disabled accessibility design.
- Arbitrate and resolve conflicts of misunderstandings while on the site and in the field

III. METHOD OF INSTRUCTION

Lectures using the text as a guide will be the main mode of instruction. Examples of conformance and non-conformance will be used whenever available. Discussions will be directed to extract understanding the intent of the codes.

V. Evaluation of student learning:

GRADING/EVALUATION

Tests 65%

Final 25%

Professional 10%

Absences will adversely affect the grade. Make-up test for any test missed will ordinarily not be available.

Academic Integrity Statement:

Students are expected to comply with the college-wide requirements for academic integrity. Mercer County Community College is committed to Academic Integrity—the honest, fair, and continuing pursuit of knowledge, free from fraud or deception. This implies that students are expected to be responsible for their own work. Presenting another individual's work as one's own and receiving excessive help from another individual will qualify as a violation of Academic Integrity. The entire policy on Academic Integrity is located in the Student handbook and is found on the college website (http://www.mccc.edu/admissions_policies_integrity.shtml).

VI. Special Needs Students Statement

Any student in this class who has special needs because of a disability is entitled to receive accommodations. Eligible students at Mercer County Community College are assured services under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. If you believe you are eligible for services, please contact Arlene Stinson, the Director of Academic Support Services. Ms. Stinson's office is LB221, and she can be reached at (609) 570-3525.