

BCI C107: MECHANICAL CODE

Item	Value
Curriculum Committee Approval Date	12/06/2024
Top Code	095720 - Construction Inspection
Units	3 Total Units
Hours	54 Total Hours (Lecture Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S)

Course Description

Formerly: BCT C307. Interpretation of the Uniform Mechanical Code as it pertains to heating and air conditioning installations; includes venting, heater and air conditioning selection, gas, electrical, and applicable State Green Building codes. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Inspect, test, analyze, and report on mechanical installations to ensure compliance with local and federal building code and ordinance regulations.

Course Objectives

- 1. Correctly interpret the appropriate code provisions of the Uniform Mechanical Code for the heating, ventilating, air conditioning, and refrigeration of various occupancies.
- 2. Recognize common hazards in the installation of heating, ventilation, air conditioning, and refrigeration and the necessity of code requirements.
- 3. Correctly determine code requirements for commercial kitchen ventilation systems.
- 4. Identify various heating, ventilation, air conditioning, and refrigeration systems and be able to determine correct code compliance.

Lecture Content

ADMINISTRATION ENFORCEMENT - DEFINITIONS Title and scope Existing equipment Alternate materials and methods of construction Organization and enforcement Definitions from mechanical code Trade terminology COMFORT HEATING EQUIPMENT Approvals Type of fuel and fuel connections Installments Access Automatic control devices Labeling Location COMBUSTION AIR General Combustion air openings, location and ducts Gravity-type warm air furnaces Special conditions mechanical exhaustion of fireplaces SPECIAL PROVISIONS General Appliances unconfirmed spaces Appliances confined spaces Ventilation air from inside buildings Combustion and draft hold dilution air from indoors Specially engineered installations Industrial commercial COMFORT HEATING SYSTEMS General Access Locations Installation Circulating air supply Conditioned air supply Attic furnace Furnace under floor spaces Furnace exterior mounted Clearance of warm air furnace MISCELLANEOUS HEATING APPLIANCES General Vented decorative

appliances Floor furnaces: Location, access, installation Vented wall furnaces, combustion air, limitations Unit heaters Room heaters VENTING OF APPLIANCES General Types of required venting systems, based on fuels Installation and construction requirements Location and support of venting systems other than chimneys Length/pitch clearances Vent termination Vents-wall furnaces requiring type BW vent Multiple appliances venting systems Existing venting systems Draft hoods Types of chimneys Type of chimneys required, masonry, metal, connectors Masonry chimneys design, gas venting into existing masonry chimney provisions DUCTS AND PLENUMS Materials: General, non-metallic, metal, tin Installation standards Insulation Fire Dampers Ventilating ceilings Use of under floor space as supply plenum provisions Automatic shutoffs VENTILATING SYSTEMS GREASE HOODS AND DUCTS

Method(s) of Instruction

- Lecture (02)
- DE Online Lecture (02X)

Instructional Techniques

A variety of instructional techniques will be employed to encompass different student learning styles. These may include, but are not limited to, lecture, discussion, projects and small group activities. Instruction will be supplemented, where appropriate, by digital media presentations resources, guest speakers and field trips.

Reading Assignments

Complete reading assignments assigned from the textbook, supplemental readings, handouts, internet resources, and any assignments from Coastline s Library.

Writing Assignments

Weekly projects, plans, revisions, discussion topic responses that will demonstrate skills application through authentic mechanical code projects.

Out-of-class Assignments

Read/View the required materials, conduct appropriate research, prepare documents/plans, complete and revise projects, and prepare for quizzes/exams.

Demonstration of Critical Thinking

Assessment of Mechanical Code requirements for heating, ventilating, air conditioning, and refrigeration system in various sample exercises.

Required Writing, Problem Solving, Skills Demonstration

Determination of commercial kitchen and product-conveyance exhaust system requirements.

Eligible Disciplines

Building codes and regulations (inspecting of construction, building codes,...): Any bachelor's degree and two years of professional experience, or any associate degree and six years of professional experience.

Other Resources

1. Current edition of the Uniform Mechanical Code (International Association of Plumbing and Mechanical Officials)
2. Coastline Library