

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: FST 220

Credits: 3

Course Title: Building Construction for Fire Protection

Course Description: Provides the components of building construction that relate to fire and life safety. Focuses on firefighter safety. Covers the elements of construction and design of structures shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies. (Usually offered in the fall semester.) Lecture 3 hours per week.

General Course Purpose:

Course Prerequisites and Co-requisites:

None

Student Learning Outcomes:

Upon completing the course, the student will be able to

- a. Demonstrate an understanding of building construction as it relates to firefighter safety, building codes, fire prevention, code inspection, and firefighting strategy and tactics;
- b. Classify major types of building construction;
- c. Analyze the hazards and tactical considerations associated with the various types of building construction;
- d. Explain the different loads and stresses that are placed on a building and their interrelationships;
- e. Identify the principle structural components of buildings and demonstrate an understanding of the functions of each;
- f. Differentiate between fire resistance and flame spread, and describe the testing procedures used to establish ratings for each;
- g. Classify occupancy designations of the building code;
- h. Identify the indicators of potential structural failure as they relate to firefighter safety; and
- i. Identify and analyze the causes of firefighter deaths in the line of duty related to structural and wild land firefighting, training and research, and the reduction of emergency risks and accidents.

Major Topics to Be Included:

- a. Building construction as it relates to firefighter safety, buildings codes, fire prevention, code inspection, and firefighting strategy and tactics
- b. Classification of major types of building construction
- c. Hazards and tactical considerations associated with the various types of building construction
- d. Loads and stresses that are placed on a building and their interrelationships
- e. Structural components of buildings
- f. Fire resistance and flame spread
- g. Occupancy designations of the building code
- h. Indicators of potential structural failure
- i. Causes involved in the line of duty firefighter deaths related to structural and wild land firefighting, training and research, and the reduction of emergency risks and accidents.

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