

Imperial Valley College

Syllabus FIRE 103 Building Construction for Fire Protection

COURSE:

Building Construction for Fire Protection
FIRE 103
Three (3) Semester hours credit
Prerequisites: none

INSTRUCTOR:

Alfredo Estrada
Email Address: alfredo.estradajr@imperial.edu
Cell: 760 222-0177

COURSE RATIONALE:

Firefighters must understand building construction to understand the behavior of buildings under fire conditions. Firefighters cannot perform a detailed engineering analysis of buildings while performing their fire fighting duties on the fire-ground. Therefore, a fundamental knowledge of buildings is an essential component of the decision making process in successful fire-ground operations.

EDUCATIONAL MATERIALS:

Text: IFSTA; Building Construction Related to the Fire Service, Third Edition; Published by the International Fire Service Training Association (IFSTA),

EVALUATION:

There will be a final examination that will account for 33.3% of the final grade.
There will be fourteen Chapter Assessment Tests that will account for 33.3% of the final grade.
There will be one research paper that will be completed and account for 16.65% of the final grade.
There will be daily essays that will be completed and account for 16.65% of the final grade.

The final exam will be administered in class. The final will be T/F, matching and multiple choice. The final will be 100 questions, with each question being worth one point.

The Assessment will be listed at the end of the applicable unit. Upon completion of a unit of study, the listed Assessment Test must be taken prior to the student beginning work on the next unit. The oral presentation will be a minimum of thirty (30) slides on a non-residential building selected by the student, but approved by the instructor that is relative to the course material.

The student's grade will be calculated on the following:

Unit Assessment Tests	33.3%
Research Presentation	16.65%
Daily Essays	16.65%
Final Exam	33.3%

CLASSROOM POLICIES:

This course is presented in classroom and web enhanced (via Blackboard). The course is interactive, and stresses and emphasis on learning through networking and team work. The student may progress through the work at their own individual pace, as long as the work is completed by the due dates established by the instructor.

In the event that a student misses a due date for whatever reason, it is the responsibility of that student to contact the instructor and explain the details regarding the situation. The instructor will make a decision regarding the circumstances and may accept the work or allow an extension of the due date. All tests, daily essays, research paper, and the final exam must be completed by the due date set. Any late work assignments will not be able to receive a grade higher than 80%.

All work pertaining to this course must be the work of the student enrolled in the course. Any dishonesty will not be tolerated and if it is determined that a student was not being honest in the work submitted, the instructor shall award a grade of F for the semester grade of the student.

Imperial Valley College (IVC) policies state that a student may drop from the course for various reasons. The College policies must be followed regarding this situation. The student may consult their IVC student webstar regarding this process.

DISCLAIMER:

Your instructor reserves the right to make modifications in content and schedule as necessary to promote the best education possible within prevailing conditions affecting this course.

STUDENT LEARNING OUTCOMES:

The student will be able demonstrate an understanding of building construction as it relates to firefighter safety, building codes, fire prevention, code inspection and firefighting strategy and tactics.

The student shall be able to recognize the significance of methods and materials historically used in building construction as was as the age of the building itself.

The student will be able to identify building variables as they relate to the work of firefighters.

The student will be able to identify communication of fire and the ways in which it occurs and factors that affect communication of fire along with the methods used to protect buildings form exposing fires.

The student will be able to identify factors affecting building failure, structural integrity, building systems, and design deficiencies as building design considerations.

The student will be able to explain the principles of design and why buildings are built.

The student will be able to identify design considerations and the construction process.

The student will be able to identify components of the building permit process and pre-incident planning.

SCHEDULE OF CLASSES AND/OR LABS:

Week 1

Building Construction and the Fire Service

IFSTA, Building Construction related to the Fire Service, Third Edition

Chapter 1, Pages 1-41

Essay 1

Assessment Test #1

Week 2

Structural Fire Resistance and building Classifications

IFSTA, Building Construction Related to the Fire Service, Third Edition

Chapter 2, Pages 42-67

Essay 2

Assessment Test #2

Week 3

The way Buildings are Built: Structural Design Features
IFSTA, Building Construction Related to the Fire Service, Third Edition
Chapter 3, Pages 68-103
Essay 3
Assessment Test #3

Week 4

Building Systems
IFSTA, Building Construction Related to the Fire Service, Third Edition
Chapter 4, Pages 104-146
Essay 4
Assessment Test #4

Week 5

Fire Behavior and Building Construction
IFSTA, Building Construction Related to the Fire Service, Third Edition
Chapter 5, Pages 148-179
Essay 5
Assessment Test #5

Week 6

Foundations
IFSTA, Building Construction Related to the Fire Service, Third Edition
Chapter 6, Pages 180-192
Essay 6
Assessment Test #6

Week 7

Wood Construction
IFSTA, Building Construction Related to the Fire Service, Third Edition
Chapter 7, Pages 194-228
Essay 7
Assessment Test #7

Week 8

Masonry and Ordinary Construction
IFSTA, Building Construction Related to the Fire Service, Third Edition
Chapter 8, Pages 230-253
Essay 8
Assessment Test #8

Week 9

Steel Construction
IFSTA, Building Construction Related to the Fire Service, Third Edition
Chapter 9, Pages 254-276
Essay 9
Assessment Test #9

Week 10

Concrete Construction

IFSTA, Building Construction Related to the Fire Service, Third Edition

Chapter 10, Pages 278-298

Essay 11

Assessment Test #10

Week 11

Roofs

IFSTA, Building Construction Related to the Fire Service, Third Edition

Chapter 11, Pages 300-334

Essay 11

Assessment Test #11

Week 12

Special Structures and Design Features

IFSTA, Building Construction Related to the Fire Service, Third Edition

Chapter 12, Pages 336-371

Essay 12

Assessment Test #12

Week 13

Buildings Under Construction, Remodeling, Expansion and Demolition

IFSTA, Building Construction Related to the Fire Service, Third Edition

Chapter 13, Pages 372-388

Essay 13

Assessment Test #13

Week 14**Non-Fire Building Collapse**

IFSTA, Building Construction Related to the Fire Service, Third Edition

Chapter 14, Pages 390-408

Essay 14

Assessment Test #14

Week 15

Review All Course Material

Presentations Due

Week 16

Final Test

Research Presentation

The assignment is to select a non-residential building in your area. Compile data and present the research in a power-presentation. The presentation should address:

The Building Classification

- Construction Materials
- Roof System and Fire Loads
- Fire Protection Systems (in this building)

Identify Building Systems that are part of this structure

Discuss Building Components (that would affect fire behavior).

The presentation shall be a minimum of ten minutes but no longer than 12 minutes.

A bibliography or "Reference" slide will contain all sources utilized to form the paper.
A minimum of five sources will be used.

Sources used may be printed material (books or texts), web sources, or a combination of both.
Standard MLA, APA, or Chicago Citation Styles format will be utilized for this part. Feel free to use the following free citation website: <http://easybib.com/>

Errors in spelling, grammar, and punctuation will count against the student.
Please proofread your presentation carefully before presenting.

Homework assignments will be assigned periodically to expand on relevant topics.