

**IMPERIAL VALLEY COLLEGE**

**SPRING SEMESTER - 2014**

**BUILDING CONSTRUCTION**

**FIRE TECHNOLOGY (FT-103)**

**CRN 20855**

**COURSE:**

Building Construction for Fire Protection

FIRT 103

Three (3) Semester hours credit

**INSTRUCTOR:**

Robert Malek

Office Number: 760-355-1191 x115

Email Address: robertmalek@co.imperial.ca.us

**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 fireground. Therefore, a fundamental knowledge of buildings is an essential component of the decision making process in successful fireground 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 33.3% of the final grade.

The final exam will be administered on-line. 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 on-line prior to the student beginning work on the next unit.

The written research paper will be a minimum of three (3) pages on a topic selected 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 Paper 33.3%

Final Exam 33.3%

## **COMMON COURSE 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 preincident 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

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

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

Assessment Test #3

### **Week 4**

Building Systems

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

Chapter 4, Pages 104-146

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

Assessment Test #5

### **Week 6**

Foundations

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

Chapter 6, Pages 180-192

Assessment Test #6

**Week 7**

Wood Construction

IFSTA, Building Construction Related to the Fire Service, Third Edition  
Chapter 7, Pages 194-228

Assessment Test #7

**Week 8**

Masonry and Ordinary Construction

IFSTA, Building Construction Related to the Fire Service, Third Edition  
Chapter 8, Pages 230-253

Assessment Test #8

**Week 9**

Steel Construction

IFSTA, Building Construction Related to the Fire Service, Third Edition  
Chapter 9, Pages 254-276

Assessment Test #9

**Week 10**

Concrete Construction

IFSTA, Building Construction Related to the Fire Service, Third Edition  
Chapter 10, Pages 278-298

Assessment Test #10

**Week 11**

Roofs

IFSTA, Building Construction Related to the Fire Service, Third Edition  
Chapter 11, Pages 300-334

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

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

Assessment Test #13

**Week 14**

**Non-Fire Building Collapse**

IFSTA, Building Construction Related to the Fire Service, Third Edition  
Chapter 14, Pages 390-408

Assessment Test #14

**Week 15**

Review All Course Material

Term Paper Due

**Week 16**

Final Test

## **Research Paper**

The assignment is to select a non-residential building in your area. Compile data and write a research paper. This paper should address:

- The Building Classification
  - o Construction Materials
  - o Roof System and Fire Loads
  - o Fire Protection Systems (in this building)
- Identify Building Systems that are part of this structure
- Discuss Building Components (that would affect fire behavior).

There shall be a minimum of three (3) pages total contained in this paper.

- The cover sheet and the bibliography or “works cited” page do NOT count towards the three (3) page minimum
- The student should focus on the completeness of the project rather than a word count or number of pages, however, there must be at least three pages

Overall specifications for the paper:

- The paper will be typed, normal spacing, in a size 12 Arial font.
- One inch border will be used on top, bottom and both sides of each page
- White paper only will be used with standard black font color
- Only one side of the paper will be used

A cover sheet will be used containing the following information:

- Title of the Research Paper
- Students’ Name
- Date
- Complete Course Identification Number
- Instructor’s Name
- Graphics are not required for the cover page

A bibliography or “works cited” page will contain all sources utilized to form the paper.

A minimum of three sources will be used.

Sources used may be printed material (books or texts), web sources, or a combination of both.

Standard MLA format will be utilized for this part.

If the student decides to use illustrations within the paper, the source for each will be listed on an “illustrations used” page.

The paper will be sent to the instructor by the deadline as an attachment to an email.

The subject line of this email must read “FIRT 1327 Research Paper.”

Errors in spelling, grammar, and punctuation will count against the student.

Please proofread your paper carefully before submission.

## **Final Exam**

A detailed explanation of the homework assignments and the research paper will be distributed when students log in to the course.1

---

## EVALUATION

There will be fourteen (14) quizzes; worth total 1400 points

Final Exam; worth 400 Points

There will be written assignments; each worth 200 points.

There are a total of 2000 points available.

## GRADING SYSTEM

### Points = Letter grade

1800- 2000	= A - Superior
1600 - 1799	= B - Better than average
1400 - 1699	= C - Average
1200 - 1399	= D - Below average
Below 1199	= F – Failing

An overall grade point average of 2.0 (C) or higher must be earned in all work undertaken.

---

## CLASS POLICIES

⇒ Extra credit work will not be accepted.

⇒ Missed tests may be made up at the convenience of the instructor.

⇒ The policy on attendance at IVC is as follows:

Regular attendance in all classes is expected of all students enrolled. Instructors are expected to take a student's attendance record into account in computing grades.

A student may be excluded from further attendance in a class during any semester when absences after the close of late registration have exceeded the number of class hours which the class meets per week. Further, an instructor may drop any student judged to be a disturbing element in the class. However, this course is very intensive, requiring the students' total dedication for successful completion. It will be very difficult to make up missed lessons. Perfect attendance and being at class on time is required for successful completion of the course.

A student who is tardy three times may be considered as having been absent once.

⇒ *No eating, drinking or smoking in classrooms.*

⇒ Standards of conduct:

Students shall assume an obligation to conduct themselves in a manner compatible with the college's function as an educational institution. Students shall observe the rules and regulations of the College. Students shall refrain from conduct which interferes with the College's teaching and administration, or which unreasonably interferes with the rights of others.

All forms of harassment are contrary to basic standards of conduct between individuals and are prohibited by state and federal law and will not be tolerated.

Misconduct for which students are subject to disciplinary action (i.e. Dishonesty, such as cheating) are listed in the College's General Catalog.

- ⇒ If cheating or plagiarism is discovered, a student may be dropped for the course with a grade of "F".
- ⇒ Any student needing supportive services because of a disability contact your instructor or the Disabled Student Programs and Services program.