



South Portland, Maine 04106

Fire Science

Title: Building Construction for the Fire Service **Catalog Number: Fire 115**
Credit Hours: 3 **Total Contact Hours: 45**
Lecture (or Lab): Lecture, Discussion, Case Study, Independent Site Visitations/field trip
Instructor: Associate Professor Robert Lindstedt
Course Location : South Portland Campus< Howe Hall Rm 205
Course Time(s) :
Fire 115 (01) Tuesday 1 :30 -4 :15
Fire 115 (02) Wednesday 08 :00 – 10 :45
Fire 115 (03) Thursday 1:30 – 4:15

Office Hours – Location: Howe Hall rm 200
T-W-Th (as available)

Contact Information:
e-mail: rlindstedt@smccme.edu
(O) 207-741-5750

Course Syllabus

Course Description

This course provides an introduction to the components of building construction that relate to the fire service and life safety. The focus of this course is on firefighter safety and the assessment of buildings related to this topic. The elements of construction and the design of structures are shown to be key factors when inspecting buildings, preplanning fire operations and operating at emergencies.

Course Objectives:

The students will be able to....

- Identify the basic principles of building construction
- Identify forces acting on buildings
- Identify methods of construction associated with various types of buildings
- Identify materials associated with various types of buildings
- Recognize and be able to describe different types of building construction
- Evaluate building materials and their implications for fire ground operations
- Review and analyze case studies from publications and published reports
- Analyze building types, methods of construction and materials used in order to assess the various hazards and predict possible degree of associated risk
- Conduct a field study that demonstrates mastery of concepts presented in class
- Create a report associated with a field study and present important information to the rest of the class

- Develop a lifelong appreciation regarding the importance of knowing the enemy
- Demonstrate the ability to complete a pre-fire analysis of a structure detailing: conditions, materials and hazards that may impact firefighter safety prior to fire ground operations.

Tentative Topical Outline of Instruction* (subject to change with advanced notice)

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| Week 1 | Introduction, syllabus review, chapter 1 notes and capstone introduction |
| Week 2 | Chapter 2 work covering forces/loads and building components. |
| Week 3 | Chapter 3 work covering renovations, remodeling, demolitions and associated hazards, *, *. |
| Week 4 | Chapter 4 work covering codes and standards |
| Week 5 | Chapter 5 work covering fire behavior and building construction* |
| Week 6 | Chapter 6 work covering Features of fire protection |
| Week 7 | Chapter 7 work covering wood frame construction* |
| Week 8 | Midterm |
| Week 9 | Chapter 8 work covering heavy timber and mill construction |
| Wk 10 | Chapter 9 work covering ordinary construction |
| Wk 11 | Chapter 10 work covering non-combustible construction |
| Wk 12 | Chapter 11 work covering fire resistive structures |
| Wk 13 | Capstone meeting and assessment |
| Wk 14 | Chapter 12 work covering “Green” construction |
| Wk 15 | Chapter 14 Work covering collapse |
| Wk 16 | Final |
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Course Requirements

Students will be required to complete the following activities/course work:

Chapter notes (due before class)

Essays over various case studies and events

Quizzes covering course reading/lectures/case studies and discussions

Tests over various units of study

Capstone project demonstrating application of the information presented in the course

COURSE POLICIES: Students are expected to:

- Respect the classroom, fellow students, faculty
- Attend all sessions
- **No pagers, or cell phones during class time**
- **No food or tobacco of any kind used in the classroom**
- **No hats worn during class time**
- **Professional, behavior, conduct and performance at all times**

Student Evaluation and Grading

- Notebook 10%
 - Administrative section
 - Syllabus
 - G-PCNTG instruction sheet
 - ICNTG w class notes(all in order)
 - Quizzes/G-PCNTG (all in order)
 - Quizzes (take home) (all in order)
 - Writing assignments (all in order with assignment sheet)
 - Capstone assignments
 - General Capstone Summary
- G-PCNTG 25%
- Quizzes 10%
- Writing Assignments/Activities 20%
- Exams (2) 20% (10% each)
- Student Project 25% (capstone)

Assignments: All assignments are expected on time at the **beginning** of class (typed and stapled unless otherwise indicated). Late work will receive no more than 50% of full credit. Any assignment not turned in before the following class meeting day will be given a (0) zero. Missed quizzes will only be allowed to be made up if the instructor and student meet and deem that a make-up opportunity is warranted.

- Quizzes are based on the pre-class reading and previous week classroom activities
- Assigned reading is the responsibility of the student.
- **All homework is due at the beginning of class and it must be typed and stapled as appropriate.**
- There will be two closed book exams covering material presented.
- There will be several case study assignments required throughout the semester

Each student will be required to create and present a written, oral and visual project (Capstone); details of this project will be presented in stages throughout the semester.

Text, Tools and / or Supplies

Required Text: Brannigan's Building Construction for the Fire Service, Fifth Edition
ISBN: 978-1-4496-8894-3

May be picked up at the SMCC Bookstore on the South Portland Campus, ordered by phone (207-741-5532) or online at books@smccme.edu. Or you may order directly from Jones and Bartlett Publishers, 978-443-5000 or www.jbpub.com. (approx. \$89.00)

Suggested Text: Brannigan's Building Construction for the Fire Service, Student Workbook (approx. \$33.00)
Ordering of this book must be done through Jones and Bartlett.

Attendance Policy

Considering the nature of the material presented during this course, missing class time can have significant negative consequences. Absences and late arrivals (late arrivals initially or from any break will count for ½ of a missed class) will reduce a student's final grade earned in this class. Missing 2 (two) days of class time will be grounds for course failure. All classroom activities conducted on the date of absence will be given a grade of (0) zero. Any assignments due the day of an absence will be considered as being late. Attendance is expected at all classes unless otherwise noted. Attendance will be recorded and will affect the class participation grade.

SMCC requires instructors to report the names of students to the registrar's office who stop attending class. For the purpose of this class, students will be reported as no longer attending after two consecutive absences from the class. A report of last date of attendance to the registrar's office results in a grade of Administrative Failure (AF) being recorded for the student. For more information, please refer to the SMCC Student Handbook. Students are expected to notify the instructor, in advance, concerning absences. Students are responsible for all material missed during absences, excused or unexcused. Come to class on time. Late students will count as ½ of a missed class missed class.

End-of-Course Evaluation

Students complete evaluations for each course attended at SMCC. Evaluations are submitted online and can be accessed through the student portal. Students can access the course evaluations beginning one week before the end of classes. The deadline for submission of evaluations occurs Monday at 5 p.m. following the last day of the class. You will receive an e-mail to your student e-mail account when course evaluations are available.

ADA Syllabus Statement

Southern Maine Community College is an equal opportunity/affirmative action institution and employer. For more information, please call (207) 741-5798. If you have a disabling condition and wish to request accommodations in order to have reasonable access to the programs and services offered by SMCC, you must register with the Disability Services Coordinator, Sandra Lynham, who can be reached at 741-5923. Further information about services for students with disabilities and the accommodation process is available upon request at this number. Course policies about online testing are modified to suit each individual's accommodations.

SMCC Pay-for-Print Policy

Each semester students receive a \$20 printing credit. The balance resets at the end of the semester and any remaining credits are removed. The College's pay-for-print system monitors printing on all printers (including those in general access labs, library printers, Tutoring Services, Campus Center Lounge and technology labs). Be sure to log OUT of the system when you've finished your printing, to prevent unauthorized access to your account. Students can check the number of pages they have printed by using the Printing Balance tool available on SMCC computers (located in the lower right corner of the screen, near the clock). Departments with work study students who need to print documents for the department should contact the Help Desk at 741-5696 to have a special account set up. To find ways to reduce your printing charges, please go to the IT Help tab on My SMCC. If you have questions about the pay-for-printing policy or your printing charges, please contact the Help Desk at 741-5696 or send an e-mail to helpdesk@smccme.edu.

Refunds

Print jobs are eligible for a refund in the event of mechanical or electronic error on the part of the printer, print server, or software used to submit the job. Jobs are not eligible for a refund in cases where the job was not set up correctly, was submitted multiple times, or the student is not satisfied with the result. To request a refund, please bring the offending print to the IT Department in the basement of the Ross Technology Center. Refunds will be granted in the form of a credit to the student's account.

Add-Drop Policy

Students who drop a course during the one-week "add/drop" period in the fall and spring semesters and the first three days of summer sessions receive a 100% refund of the tuition and associated fees for that course. Please note any course that meets for less than the traditional semester length, i.e., 15 weeks, has a pro-rated add/drop period. There is no refund for non-attendance.

Withdrawal Policy

A student may withdraw from a course only during the semester in which s/he is registered for that course. The withdrawal period is the second through twelfth week of the Fall and Spring semesters and the second through ninth week of twelve-week Summer courses. This period is pro-rated for shorter-length courses, usually 75 percent of course meeting times; please check with the Registration Office. To withdraw from a course, a student must complete and submit the appropriate course withdrawal form, available at the Registration Office. This process must be completed either in person or by using SMCC e-mail accounts.

Plagiarism Statement

If an instructor suspects that a student has knowingly committed a violation defined in the Maine Community College System Policy on Student Grade Appeals and Academic Misconduct, the instructor has the authority to review the alleged misconduct and determine the grade that the student should receive for the assignment and the course. The instructor may assign a failing grade for the assignment or course and/or may require the student to complete additional work for the course. The instructor may consult with the department chair and/or the College's chief academic officer prior to making such decisions. If a student seeks to challenge an instructor's determination, the student should submit a grade appeal. Grade appeal forms are available in the Advising Office on the South Portland Campus or in the administrative offices in the Learning Commons on the Midcoast Campus. An instructor may also refer the matter to the College's disciplinary officer for review under the procedures of the MCCS Student Code of Conduct