American Public University System

The Ultimate Advantage is an Educated Mind

**School of Public Service & Health
FSMT188
Fire Prevention
3 Credit Hours
8-Weeks
Prerequisite(s): None**

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Instructor Information

***Instructor*:**

Email:

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Course Description (Catalog)

This course examines the factors that shape fire risk and the tools for fire prevention, including risk reduction education, codes and standards, inspection and plans review, fire investigation, research, master planning, various types of influences, and strategies.

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Course Scope

The scope of FSMT188 *Fire Prevention* is to meet the levels of mastery established by the National Fire Academy and NFPA 1031. These standards are agreed upon by professionals across the fire service

community as the foundational benchmarks that all individuals should know at the completion of this course. I encourage all of you to view the NFA link for this course in the bibliography. By the end of this course you will be able to discuss and have a through knowledge of the learning objectives listed in the next session.

Course Objectives

- State the role fire prevention plays within the fire department's mission

- Differentiate between public education, public information, and public relations

- Point out the major historical occurrences in code development

- Define risk reduction and fire prevention

- Describe the rights, responsibilities, and legal limits of an investigator

- Describe the types of fire prevention research being conducted

- Identify individuals who have had a significant impact in fire prevention

- Draw a relationship between cultural beliefs and traditions in other countries and how they affect fire prevention

- Discuss economic incentives that encourage fire prevention

Course Delivery Method

This AS in **Fire Science** course, delivered via distance learning, will enable students to complete academic work in a flexible manner, completely online. Access to an online learning management system will be made available to each student. *Initial Weekly Forum Post (your answer) is due by Thursday at 2359hrs, replies to a minimum of two other students on the forum are due Sunday at 2359hrs.* Forum questions (accomplished in groups through a threaded Forum), are submitted, and graded through the forums. **The week five, six and seven-papers as well as the week eight final exam are due by the last day of each corresponding week.** Assigned faculty will support the students throughout this eight-week course.

Course Resources

Diamantes, David, **Fire Prevention: Inspection and Code Enforcement**, Delmar Publishers, Third Edition, 2007. ISBN 0766852857

Evaluation Procedures

Describe how you will evaluate your students for each graded activity.

Assignments: **Graded through the use of a forum rubric**

Forum Assignments: Graded through the use of a forum rubric

Exams/Quizzes: Multiple choice timed final exam

Grades for this course will be based upon three grading instruments; forums, papers and a final exam. There are four forum questions that are provided in the **Forum Portion of the Classroom**.

The grade scale and due dates for each of the evaluation are provided below:

Grade Instruments:	Points	% of Final Grade
Forum Group Topic 1	100pts	10%
Forum Group Topic 2	100pts	10%
Forum Group Topic 3	100pts	10%
Forum Group Topic 4	100pts	10%
Week Five Paper	100pts	13.33%
Week Six Paper	100pts	13.33%
Week Seven Paper	100pts	13.33%
Final Exam	100pts	20%
	800pts	100%

Course Outline

Please see the Student Handbook to reference the University's grading scale.

Week	Topic(s)	Learning Objective(s)	Reading(s)	Assignment(s)
1	**Concepts of Fire Prevention and Risk Reduction**	• explain how fire prevention is a primary community-based strategy • state ways fire prevention activities can affect the community • more easily identify potential problems and solutions	Chap 1,2,3 Course	Week One Forum Post and Replies

	Education	to fire prevention issues • describe the elements of a successful public education program; and • explain the link between arson prevention, public education, and the community's fire prevention efforts • Describe the model code process and name the model code organizations. • Describe the origin of the first *National Building Code*. • Describe the code adoption process used by state and local governments and explain the basis for their authority to enact such regulations. • Describe the economic forces behind the development of a single national model code. • Describe the limits of the *right of entry* provisions contained in the model fire prevention codes. • Explain why warrants must be secured in order to inspect certain buildings and structures. • Describe the permit and inspection models and the benefits of each. • Describe the legal requirements for written notices and orders and how freedom of information laws impact the fire prevention bureau. • Describe how the appeals process within the model codes is established and designed to operate. • Describe the classification system used by the model building codes to group buildings by use and occupant characteristics. • Describe how multiple uses or mixed uses within a single building are addressed by the model building codes. • Explain the need for *special occupancy requirements* in some buildings. • Explain the fire official's responsibility in illegal changes in use.	Lectures in Lesson Tab 1,2,3	Initial Forum Post (your answer) is due by Thursday at 2359hrs Replies to a minimum of two other students on the forum are due Sunday at 2359hrs.
2	**Codes and Standards**	• contrast standards and codes • compare the code-writing processes used in the U.S. and abroad • differentiate among code interpretation, code revision, code retroactivity • Define *fire resistance*. • Describe the five basic construction types. • Explain why building height and area are regulated by	Chapters 4,5 Course Lectures in	Week Two Forum Initial Forum Post (your

		the building codes. • Describe the methods used by the codes to permit height and area increases. • Describe the differences between specification codes and performance codes. • Explain why a rated assembly must be maintained as a unit. • Describe the origin of the standard time-temperature curve, explain why it is still in use, and the significance of fire-resistance time values. • List three nationally recognized testing laboratories involved in the testing of fire-resistance-rated assemblies. • Explain why the labeling of certain rated assemblies is mandated by the codes.	Lesson Tab 4,5	answer) is due by Thursday at 2359hrs Replies to a minimum of two other students on the forum are due Sunday at 2359hrs.
3	**Inspections and Plans Review**	• using the definition of community risk reduction, compare your community's fire prevention and risk reduction programs with risk reduction principles • survey a fire department's current fire prevention system • analyze a case study to identify the fire prevention system components and their application in community risk reduction • List the four classes of fire and give examples of each. • Identify fire suppression system agents that are compatible with the different classes of fire and describe the method of extinguishment provided by each. • List and describe the four basic types of sprinkler systems. • Describe the differences between the NFPA 13, 13D, and 13R standards and the application of each. • Describe the function of standpipe pressure-reducing valves and potential hazards. • Describe the purpose for the development of the UL-300 standard for restaurant cooking equipment. • Identify and define the three components of a means of egress. • Define the terms *common path of travel*, *dead end*, *design occupant load*, *horizontal exit*, and *travel distance*. • Describe what is meant by the terms *gross floor area* and *net floor area*. • Describe the six steps used in this chapter to design or assess the means of egress from a building or space. • Calculate the required means of egress from a multipurpose space. • Calculate the maximum occupant load for an assembly occupancy based on the exits provided.	Chapters 6,7 Course Lectures in Lesson Tab 6,7	Week Three Forum Initial Forum Post (your answer) is due by Thursday at 2359hrs Replies to a minimum of two other students on the forum are due Sunday at 2359hrs.

4	**Fire Investigation and Research in Fire Prevention**	• link cause-and-origin investigation to the community's fire prevention program • identify organizations conducting fire prevention research • Describe what building elements are regulated as interior finish. • Describe the test method used to classify interior finish elements. • Discuss the need to regulate interior finish based on our national fire experiences in the United States. • Describe NFPA 550, *The Fire Safety Concepts Tree* and its uses. • List two strategies for fire safety used by the model fire prevention codes. • List three objectives for fire safety used by the model fire prevention codes. • Describe the significance of illegal changes in use and list the code sections that apply. • List four rated assemblies that an inspector would routinely check to ensure compliance with the code.	Chapter 8,9 Course Lectures in Lesson Tab 8,9	Week Four Forum Initial Forum Post (your answer) is due by Thursday at 2359hrs Replies to a minimum of two other students on the forum are due Sunday at 2359hrs.
5	**Historical Influences**	• report on significant events that affected fire prevention in both positive and negative ways; • identify publications that is important to fire prevention • List the appropriate standards for the maintenance and inspection of sprinklers, standpipes, wet and dry chemical extinguishing systems, and fire alarm systems. • Describe the importance of examining maintenance and inspection records kept by building owners. • Describe what circumstances would cause an inspector to require an evaluation of an engineered fire protection system. • Given flow test data, graph the available fire flow for a site. • Name five ways that the means of egress from a building or space can be compromised. • Describe the importance of posted occupant loads in assembly buildings. • Described the process used to establish the occupant load. • Describe what constitutes "overcrowding" in an assembly occupancy.	Chapters 10, 11 Course Lectures in Lesson Tab 10, 11	Week Five Paper
6	Hazardous Materials	• Describe the control area concept of hazardous materials management. • List the steps that must be taken to establish control areas.	Chapters 12, 13	Week Six Paper

		• Describe the importance of hazardous materials management plans and hazardous materials inventory statements to the inspection process. • Describe the NFPA 704, *Hazard Identification System*. • Describe the system used to classify flammable and combustible liquids. • Describe the hazards involved in the storage of aerosol products and the protection methods required by the model codes. • Discuss the importance of using tanks in accordance with their listings. • Discuss the importance of labeling requirements for containers.	Course Lectures in Lesson Tab 12, 13	
7	**Social, Economic, Governmental, and Departmental Influences**	• identify U.S. cultural beliefs and traditions that influence fire prevention • identify direct and indirect costs associated with fire • describe the level of cost of fire in deaths, injuries, and direct costs for the US • identify factors that help explain the disparity between the high aggregate costs of fire for the nation, states, and communities, and lower perceptions of fire risks and costs • identify and describe policies and programs that affect the economic tradeoffs between fire and prevention by lowering the costs of fire for individual citizens, businesses, and communities • identify the major federal agencies that have some responsibility for fire prevention • list the major U.S. Fire Administration (USFA) programs that support fire prevention • identify the major state agencies that have some responsibility for fire prevention • describe the broad parameters that allow the government to support fire prevention without infringing upon individual freedoms • state the benefits of having a mission statement • offer reasons for and against fire prevention officers having law enforcement authority • make an assessment of the importance attached to fire prevention in the community using current fire department data • explain the importance of strong fire prevention leadership in the fire department if it is to have a positive impact on risk reduction • List and describe the three basic categories of explosive materials in commercial use. • Describe two different methods for initiation of explosive materials.	Chapters 14, 15, 16 Internet Searches Course Lectures in Lesson Tab 14, 15, 16	Week Seven Paper

		• Describe the duties and responsibilities of the fire official in allegations of property damage or accidents involving commercial blasting. • Describe the duties and responsibilities of the fire official in permitting public fireworks displays. • Describe the handling of misfires of explosive materials and fireworks. • Describe the hazards associated with heliports and helistops on buildings and how the model codes address them. • Describe the hazards that make airport terminal buildings require special fire protection features. • Describe the hazards associated with bowling pin and lane refinishing. • List five general safety provisions for tents and air-supported structures. • Discuss the value of corporate safety programs in industrial occupancies. • List three of the five main causes and contributing factors involving storage facility fires. • Explain the reasons for the proliferation of waste material and rubbish handling facilities. • Discuss how the provisions of the model fire prevention codes attempt to reduce fire risk at lumberyards.		
8	**Strategies for Fire Prevention**	• identify the key components of the definition of public policy • identify six approaches to explaining public policy • apply six approaches to how a choice was made in fire prevention • identify and describe the processes of public -agenda setting • define and apply the three policy streams, problem, political, and policy, to a fire prevention effort • define a policy "window" • describe and apply forces creating a fire prevention policy "window • Describe the four physical states in which gases are commonly stored within containers. • Define the term *gas*. • Describe the Combined Gas Law and its significance. • List two fire safety strategies for gas storage as they relate to the Combined Gas Law. • Explain why LPG container storage requirements are expressed in water gallon capacity. • Identify the signal words required for all Class I and Class II pesticides. • List the three categories of pesticides. • Describe the multiple hazards posed by many	Chapters 17, 18, 19 Course Lectures in Lesson Tab 17, 18, 19	Final Exam

| | | pesticides.
• Describe the code provisions that ensure employee and firefighter awareness of the presence of toxic materials.
• Describe the difference between a *toxic material* and a *health hazard material*.
• Describe what is meant by *permissive* code language.
• List three features of the standards referenced by the model fire prevention codes.
• List five organizations that develop standards referenced or recognized by the model fire prevention codes. | | |

Policies

Please see the Student Handbook to reference all University policies. Quick links to frequently asked question about policies are listed below.

Drop/Withdrawal Policy
Plagiarism Policy
Extension Process and Policy
Disability Accommodations

Writing Expectations
Describe your writing expectations.

Citation and Reference Style
Attention Please: Students will follow the APA Format as the sole citation and reference style used in written work submitted as part of coursework to the University. Assignments completed in a narrative essay or composition format must follow the citation style cited in the APA Format.

Late Assignments
Students are expected to submit classroom assignments by the posted due date and to complete the course according to the published class schedule. As adults, students, and working professionals, I understand you must manage competing demands on your time. Should you need additional time to complete an assignment, please contact me before the due

date so we can discuss the situation and determine an acceptable resolution. Routine submission of late assignments is unacceptable and may result in points deducted from your final course grade.

Netiquette

Online universities promote the advancement of knowledge through positive and constructive debate – both inside and outside the classroom. Forums on the Internet, however, can occasionally degenerate into needless insults and "flaming." Such activity and the loss of good manners are not acceptable in a university setting – basic academic rules of good behavior and proper "Netiquette" must persist. Remember that you are in a place for the rewards and excitement of learning which does not include descent to personal attacks or student attempts to stifle the Forum of others.

- **Technology Limitations:** While you should feel free to explore the full-range of creative composition in your formal papers, keep e-mail layouts simple. The Sakai classroom may not fully support MIME or HTML encoded messages, which means that bold face, italics, underlining, and a variety of color-coding or other visual effects will not translate in your e-mail messages.
- **Humor Note:** Despite the best of intentions, jokes and _especially_ satire can easily get lost or taken seriously. If you feel the need for humor, you may wish to add "emoticons" to help alert your readers: ;-), :), ☺

Disclaimer Statement

Course content may vary from the outline to meet the needs of this particular group.

Online Library

The Online Library is available to enrolled students and faculty from inside the electronic campus. This is your starting point for access to online books, subscription periodicals, and Web resources that are designed to support your classes and generally not available through search engines on the open Web. In addition, the Online Library provides access to special learning resources, which the University has contracted to assist with your studies. Questions can be directed to **librarian@apus.edu**.

- **_Charles Town Library and Inter Library Loan:_** The University maintains a special library with a limited number of supporting volumes, collection of our professors' publication, and services to search and borrow research books and articles from other libraries.

- *Electronic Books:* You can use the online library to uncover and download over 50,000 titles, which have been scanned and made available in electronic format.
- *Electronic Journals:* The University provides access to over 12,000 journals, which are available in electronic form and only through limited subscription services.
- *Tutor.com*: AMU and APU Civilian & Coast Guard students are eligible for 10 free hours of tutoring provided by APUS. Tutor.com connects you with a professional tutor online 24/7 to provide help with assignments, studying, test prep, resume writing, and more. Tutor.com is tutoring the way it was meant to be. You get expert tutoring whenever you need help, and you work one-to-one with your tutor in your online classroom on your specific problem until it is done.

Request a Library Guide for your course (http://apus.libguides.com/index.php)
The AMU/APU Library Guides provide access to collections of trusted sites on the Open Web and licensed resources on the Deep Web. The following are specially tailored for academic research at APUS:

- Program Portals contain topical and methodological resources to help launch general research in the degree program. To locate, search by department name, or navigate by school.
- Course Lib-Guides narrow the focus to relevant resources for the corresponding course. To locate, search by class code (e.g., SOCI111), or class name.

If a guide you need is not available yet, please email the APUS Library: librarian@apus.edu.

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Similarity index is based on the amount of matching text to a submitted paper:

Blue =	no matching text
Green =	one word to 24% matching

Yellow =   25 -49% matching text

Orange =   50-74% matching text

Red =   75-100% matching text

Selected Bibliography

National Fire Academy (2006) <u>Standards for Fire Prevention Organization and Management</u>