

<b>PROGRAM: Living With Fire</b> <b>MODULE: Off Campus – Residential</b>
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**MODULE OVERVIEW:**

In a residential setting, students often underestimate the danger of a fire and frequently make decisions that place themselves at risk. This module utilizes case analysis and two video presentations to demonstrate the potential of fire. Students will be exposed to a methodical step-by-step procedure to follow when an alarm or detector sounds or when a fire strikes in their residential setting. This knowledge can serve as a foundation level guide to reduce the danger. As such, this program should not be presented or constructed as a definitive source of fire related instruction. Based on the limited nature of this lesson plan it should be expanded and or adapted to address local needs.

**GENERAL DESCRIPTION:**

Living with Fire is a unique, student-centered project that seeks to determine and address the needs of the student relating to the dangers of fire in the college environment. As students, you must now be capable of independently making the correct choices that affect your ability to survive should a fire develop.

This program will establish a national source for college fire related information and produce a series of new activities, events and educational resources specific to the college student. If we are going to make a difference and reduce the tragic effects of fire, we need your candid conversation and honest input. During this focus group, please provide as much input and discussion when responding to a question or discussion. Your assistance will help us to create quality programs that will save lives.

This module seeks to provide students with an increased awareness relative to the danger of fire. As such this program should not be presented or constructed as a definitive source of fire related instruction. Based on the limited nature of this lesson plan it should be expanded and or adapted to address local needs.

**DISCLAIMER:**

**This lesson plan may not address all of the issues, needs, requirements and policies of your college or university. It's objective is to provide a basis for the development of a lesson plan specific to your institution. The instructor MUST evaluate the relevancy of the information in this lesson plan to your local conditions and use it as a resource to modify as necessary to address local needs.**

**INTERNET REFERENCE SOURCES:**

**American Cancer Society**  
[www.cancer.org](http://www.cancer.org)

**Campus Firewatch**  
[www.campus-firewatch.com](http://www.campus-firewatch.com)

**National Electric Manufacturers Association**  
[www.nema.org](http://www.nema.org)

**National Fire Sprinkler Association**  
[www.nfsa.org](http://www.nfsa.org)

**NFPA International**  
[www.nfpa.org](http://www.nfpa.org)

**Tyco**  
[www.simplexgrinnell.com](http://www.simplexgrinnell.com)

**United States Fire Administration**  
[www.usfa.fema.gov](http://www.usfa.fema.gov)

**University of Texas System**  
[www.utsystem.edu](http://www.utsystem.edu)

**INSTRUCTOR TIME GUIDE:**

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This lesson should not exceed thirty five minutes inclusive of practical activities.

- 5 minutes – Case studies of two off campus residential fires
- 20 minutes – Overview of the risk from fire in off campus apartments.
- 10 minutes – strategies to survive a fire

**METHODS OF INSTRUCTION:**

- Lecture
- Illustration
- Practical activities and demonstration
- Video presentation

**RECOMMENDED MATERIALS, VISUAL AIDS & EQUIPMENT:**

- Computer for PowerPoint presentation
- Projection Screen
- PowerPoint presentation – assembled from materials located on the Living With Fire website such as photographs from the Photo Library and video footage from the Live Burn
- Examples of items destroyed by fire
- Living With Fire student information bulletins available from the Living With Fire website

**LEARNING OBJECTIVES:**

- Provide the student with an overview of the increased risk of living off campus.
- Provide the student with basic ideas that can improve their safety.
- Provide the student with recommended actions to take in the event of a fire
- To inform the student of the potential effects of risk taking behaviors

**INSTRUCTOR NOTES**

**TEACHING POINTS**

Off campus residential living has a greater risk than on campus or Greek

**Other case studies are available elsewhere on the Living With Fire website under Incidents.**

According to information compiled by Campus Firewatch, for every student that dies on campus four die off campus or in Greek Housing.

Use photographs of commonly used items that resonate with the student population such as computers, stereos, televisions, etc.

**A. Case Studies**

1. Amherst Massachusetts, October 2000 - An off-campus house where five students lived was severely damaged by a fire that occurred at approximately 10:00 p.m.

The building where the fire occurred was a two-story, wood frame structure. Either four or five students from the University of Massachusetts occupied it.

There were conflicting accounts of how the fire started. According to one report, the fire was caused when a student was attempting to use kerosene to refuel a Halloween decoration on the front porch. Another account was that the pumpkin ignited from the flame inside of it, and the fire spread to the porch.

It was reported that the occupants attempted to extinguish the fire, but were unsuccessful. They then left the front door of the house open, which allowed the fire to spread rapidly to the interior and up the stairway, which was immediately adjacent to the front door. The building was a total loss and was subsequently demolished.

2. Burlington, Vermont – November 2000 – injured three occupants A fire in a house off-campus rented by five students injured three of the occupants.

The building where the fire occurred was a wood, balloon-frame structure with three stories. The building was equipped with smoke detectors, and there were two in the apartment of origin. One was located in the hallway by the bedroom, and the other was located in the living room.

An exterior and interior stairway led to the third floor. However, they were not separate or remote from one another.

There were three apartments in the building. In the apartment of origin, on the third floor, there were four bedrooms.

At 6:08 a.m., the fire department responded to the house for a reported fire. Upon arrival, they were told that there were people trapped on the third floor. Firefighters entered the building via the exterior stairway and had to crawl beneath the flames until they found one unconscious male. He was removed from the building and was in respiratory arrest.

Search operations continued and an unconscious female victim was found in one of the bedrooms. She was also removed from the building and was in respiratory arrest. A third victim was treated for injuries sustained when he and another male jumped from their bedroom windows onto the roof of a first story porch.

**INSTRUCTOR NOTES**

**TEACHING POINTS**

The fire was extinguished in 20 minutes, and damage was confined to the third-floor apartment. Damage was estimated to be approximately \$50,000.

3. New York, NY - November 2000 – single fatality A graduate student was killed in an apartment fire. Three candles at the foot of her bed that ignited her mattress started the fire. The woman, Helen Carnegie, 25, was found lying on the floor next to the bed. At the time of the press account, an autopsy had not been completed, but it was reported that she appeared to have died of smoke inhalation. According to Fire Commissioner Thomas Von Essen, there have been 239 fires started by candles this year. This fire was the 13<sup>th</sup> fatal candle fire, an increase of eight from the previous year.

**B. Attitude and perception**

1. Public at large does not think that a fire will happen to them and students are no exception.
2. This often leads to complacency

Survey the class and ask how many feel that they are at risk from fire

**C. Fire History in the college environment**

- 1700 fires per year not including off campus
- \$2.8 million in damage per year.

**D. What is Fire**

1. Relevant examples of fire
2. Two types of fire – smoldering and flaming fire

**E. The Fire Triangle – smoldering fire**

1. Three essential ingredients:  
Oxygen – 21 % in normal air, fire burns until about 16% and then smolders  
Fuel  
Heat

**F. States of fuel**

- A. Solid – paper, wood
- B. Liquid - gasoline
- C. Gas – natural gas, propane

**G. Fire Growth and development**

1. Equilibrium - light a candle to show a fire in equilibrium
2. Rapid growth – show a Living with Fire Video segment available on the Living with Fire web site.

**H. Where you live - Control over your life**

1. Common hazards
2. Candles
3. Halogen lights
4. Space heaters
5. Extension cords
6. Don't ever use flammable liquids
7. Smoking materials represent not only a health risk but a fire risk.

**I. What to do**

1. Have a fire extinguisher or know where one is
2. Know how to get out – at least two exits
3. Evacuate when the alarm sounds
4. Sound the alarm and warn others
5. Once out stay out
6. Have a carbon monoxide detector

**J. Control over your surroundings – fire prevention starts where you live.**

The student has more control over the building which allows them to have the ability to make importance decisions.

1. Space heaters can be a serious hazard when used improperly
2. DO NOT bypass fuses-fix the problem!
3. DO NOT cover or disconnect smoke detectors. If you are having a problem with false alarms, move them or replace them, but DO NOT disable them.
4. Smoking is a leading cause of fire deaths across the country. Banning smoking can help to significantly reduce one of the leading causes of fire fatalities
5. If smoking is allowed, make sure that ashtrays are available.
6. After, make sure ALL cigarettes are properly discarded after a party.
7. It is critically important that fire sprinkler and fire alarm systems be properly maintained and operational at all times.

Statistics are available from the NFPA  
([www.nfpa.org](http://www.nfpa.org))

**INSTRUCTOR NOTES**

**TEACHING POINTS**

**K. Occupant Awareness - How you live**

1. Don't bypass detection or suppression systems
2. Know how to get assistance if you have a problem
3. Don't get burned – detail fire cause statistics

**L. Fire Detection & Suppression– What can you expect**

1. Single station smoke detectors should be installed in every house and apartment
2. They can be powered by batteries or by 110 volt or both
4. Often false alarms are due to improperly based on poor placement near a kitchen or bathroom. Don't disable or remove the smoke detector-fix the problem!
5. Do not tamper with the sprinkler system. It has to work when needed.

**M. How Do You Survive?**

- Know two ways to get out
- Test the door to see if it is hot
- Sound the alarm
- Warn others
- Don't ignore the alarm
- Don't go back in
- Crawl low in smoke
- Once outside dial 911