Incident Safety for Agricultural Lands and Livestock Producers

Course Plan

Course Details

Description: This course provides the skills and knowledge needed for agricultural lands and livestock producers to work safely and efficiently in or around an emergency incident. Topics include county card/pass programs, incident organization and response, fire terminology and symbols, fire behavior, fuel, topography, weather, incident hazards, safety and accountability, risk management, and entrapment avoidance.

Designed For: Qualifying livestock producers or managerial employees, as defined by the county, who may need access to agricultural lands during or following a flood, storm, fire, earthquake, or other disaster.

Authority: California Assembly Bill 1103 (Dahle, 2022)

Prerequisites: None

Standard: Attend and participate in all course sections

Hours (Total): 4.0 hours

Maximum Class Size: 50

Instructor Level: SFT Registered Instructor

Instructor/Student Ratio: 1:50

Restrictions: See Equipment, Facilities, and Personnel requirements

SFT Designation: FSTEP

Table of Contents

Required Resources

Instructor Resources

To teach this course, instructors need:

- *Incident Response Pocket Guide* (NWCG current edition)
- County card/program policies and procedures
- Sample lesson plan and PowerPoint (available at https://ucanr.edu/p/75757)

Online Instructor Resources

The following instructor resources are available online at https://ucanr.edu/p/75757:

- Assembly Bill 1103
- Cal OES Letter to Public Safety Partners – Standard Evacuation Terminology (5.15.2020)
- Fire Weather Cloud Chart
- ICS Map Symbols
- Parts of a Wildland Fire

Student Resources

To participate in this course, students need:

- *Incident Response Pocket Guide* (NWCG current edition) (recommended)
    - Physical copy or digital access (online or the app)
- County card/program policies and procedures (recommended)

Facilities, Equipment, and Personnel

Facilities

The following facilities are required to deliver this course:

- Standard learning environment or facility, which may include:
    - Writing board or paper easel chart
    - Markers, erasers
    - Amplification devices
    - Projector and screen
    - Laptop or tablet with presentation or other viewing software
    - Internet access with appropriate broadband capabilities

Equipment

The following facilities are required to deliver this course:

- No specialized equipment required

Personnel

The following personnel are required to deliver this course:

- SFT Registered Instructor (who has successfully completed the course)

Time Table

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.25	0.0	
Topic 1-2: Course Objectives	0.25	0.0	
Unit 1 Totals	**0.5**	**0.0**	**0.5**
Unit 2: County Card/Pass Programs			
Topic 2-1: County Card/Pass Programs	0.5	0.0	
Unit 2 Totals	**0.5**	**0.0**	**0.5**
Unit 3: Incident Overview			
Topic 3-1: Incident Organization and Response	0.25	0.0	
Topic 3-2: Fire Terminology and Symbols	0.25	0.0	
Unit 3 Totals	**0.5**	**0.0**	**0.5**
Unit 4: Fire Behavior			
Topic 4-1: Introduction to Wildland Fire Behavior	0.25	0.0	
Topic 4-2: Fuel	0.25	0.0	
Topic 4-3: Topography	0.25	0.0	
Topic 4-4: Weather	0.25	0.0	
Topic 4-5: Critical Fire Behavior	0.25	0.0	
Unit 4 Totals	**1.25**	**0.0**	**1.25**
Unit 5: Safety			
Topic 5-1: Incident Hazards	0.5	0.0	
Topic 5-2: Safety and Accountability	0.25	0.0	
Topic 5-3: Risk Management	0.25	0.0	
Topic 5-4: Entrapment Avoidance	0.25	0.0	
Unit 5 Totals	**1.25**	**0.0**	**1.25**
Formative Assessments			
Determined by AHJ or educational institution	**0.0**	**0.0**	**0.0**
Summative Assessment			
Determined by AHJ or educational institution	**0.0**	**0.0**	**0.0**
Course Totals	**4.0**	**0.0**	**4.0**

Time Table Key

1. The Time Table documents the amount of time required to deliver the content included in the course plan.

2. Time is documented using the quarter system: 15 min. = .25 / 30 min. = .50 / 45 min. = .75 / 60 min. = 1.0.

3. The Course Totals do not reflect time for lunch (1 hour) or breaks (10 minutes per each 50 minutes of instruction or assessment). It is the instructor's responsibility to add this time based on the course delivery schedule.

4. Application (activities, skills exercises, and formative testing) time will vary depending on the number of students enrolled. The Application time documented is based on the maximum class size and student ratios identified in the Course Details section.

5. Summative Assessments are determined and scheduled by the authority having jurisdiction. These are not the written or psychomotor State Fire Training certification exams. These are in-class assessments to evaluate student progress and calculate course grades.

Unit 1: Introduction

Topic 1-1: Orientation and Administration

Terminal Learning Objective

At the end of this topic a student will be able to identify facility and classroom requirements and identify course objectives, events, requirements, assignments, activities, skills exercises, resources, evaluation methods, and participation requirements.

Enabling Learning Objectives

1. Identify facility requirements
    - Restroom locations
    - Food locations
    - Smoking locations
    - Emergency procedures
2. Identify classroom requirements
    - Start and end times
    - Breaks
    - Electronic device policies
    - Special needs and accommodations
    - Other requirements as applicable
3. Review course syllabus
    - Course objectives
    - Course schedule
    - Course requirements
    - Student evaluation process
    - Assignments
    - Activities
    - Required student resources
    - Class participation requirements

Discussion Questions

1. Determined by instructor

Application

1. Have students complete all required county forms.

Instructor Notes

1. None

Topic 1-2: Course Objectives

Terminal Learning Objective

At the end of this topic a student, given course objectives, will be able to identify intended learning outcomes.

Enabling Learning Objectives

1. Identify course objectives
    - Describe a county card/pass program and how to obtain a card/pass
    - Identify incident organization and response activities
    - Identify parts of a vegetation fire and common map symbols
    - Identify factors that impact fire behavior
    - Identify hazards that impact card/pass holder access and activities
    - Identify safety, accountability, and risk management considerations

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. Base course content on county requirements and best practices.
2. Use examples and illustrations for near-miss incidents, injuries, or fatalities to discuss issues relevant to card/pass holders and personnel working on or near and incident.
3. Review the following website and select most relevant/appropriate trending topics and lessons learned to present for discussion:
    - https://www.wildfirelessons.net/home

Unit 2: County Card/Pass Programs

Topic 2-1: County Card/Pass Programs

Terminal Learning Objective

At the end of this topic a student, given county card/pass policies and procedures, will be able to describe how to obtain a card/pass to improve access to agricultural lands and property during an emergency incident.

Enabling Learning Objectives

1. Describe county card/pass program
    - Background
    - Purpose
    - How to use card/pass during an emergency incident
    - Card/pass qualifications and process
    - Card/pass validity period
    - Renewal qualifications and process
2. Identify types of disasters included in card/pass programs
    - Flood
    - Storm
    - Fire
    - Earthquake
    - Other disasters
3. Identify when emergency personnel can deny access to an emergency incident
    - If individual fails to provide valid county card/pass
    - If fire behavior or immediate danger to life and health (IDLH) prohibit entry
    - If direct firefighting activities prohibit entry
    - If road closure level prohibits access
    - At any time
        - Card/pass is not a guarantee to gain access

Discussion Questions

1. What is the value of a county card/pass program?
2. How does your county define “qualified livestock producers or managerial employees”?
3. When can emergency personnel deny access to card/pass holders?
4. What types of incidents might occur in your county?

Application

1. Determined by instructor

Instructor Notes

1. None

Unit 3: Incident Overview

Topic 3-1: Incident Organization and Response

Terminal Learning Objective

At the end of this topic a student, given a sample incident, will be able to identify incident organization and response activities in order to function safely within the emergency environment.

Enabling Learning Objectives

1. Identify incident priorities
    - All-hazard incident
        - Life
        - Property
        - Environment
    - Hazardous materials incident
        - Life
        - Environment
        - Property
2. Identify how card/pass holders impact incident priorities
3. Describe incident management stages
    - Initial attack
    - Extended attack
    - Major incident
4. Identify other incident activities
    - Evacuation
        - Final authority comes through law enforcement
        - Cal OES definitions
            - Evacuation Warning - Potential threat to life and/or property. Those who require additional time to evacuate, and those with pets and livestock should leave now.
            - Evacuation Order - Immediate threat to life. This is a lawful order to leave now. The area is lawfully closed to public access.
            - Shelter in Place - Go indoors. Shut and lock doors and windows. Prepare to self-sustain until further notice and/or contacted by emergency personnel for additional direction.
            - Evacuation Order(s) Lifted - The formal announcement of lifting evacuations in an area currently under evacuation.
            - Hard Closure - Closed to all traffic except fire and law enforcement.
            - Soft Closure - Closed to all traffic except fire, law enforcement and critical Incident resources (i.e., utility, Caltrans, city/county roads, those needed to repair or restore infrastructure).
            - Resident Only Closure - Soft closure with the additional allowance of residents and local government agencies assisting with response and recovery.

- Repopulation
    - Final authority comes through law enforcement
    - Planning begins as soon as evacuations are ordered
    - May occur in stages
- Recovery
    - Repairing infrastructure, utilities, natural resources
    - Mitigating hazards

5. Identify key Incident Command roles and responsibilities
    - Incident Commander
    - Command and General Staff
    - Division/Group Supervisor
6. Identify how obtain information during an emergency
    - State or federal emergency web pages
        - CAL FIRE
        - US Forest Service
        - Law enforcement
    - County-specific emergency communication platforms
    - County program manager (e.g., agricultural commissioner, University of California Cooperative Extension)
    - Emergency operations centers
    - Traffic control/emergency access points (roadblocks)
    - Incident command post
    - Incident briefings
    - Cooperator meetings
7. Identify information that may be required to gain access
    - Card/pass (bring it with you)
    - Location to access (e.g., address, APN, GPS coordinates)
    - Purpose for access
    - Anticipated time to complete activities
    - Types of vehicles involved
8. Identify how to gain access
9. Identify when an escort may be required
10. Identify exit responsibilities
    - Where to exit
    - When to exit
    - Who to contact

Discussion Questions

1. Where can you find current incident information?
2. How should you gain access to your property?
3. How does an incident's stage or complexity impact card/pass holder access?
4. What actions would you take under an evacuation warning? Under an evacuation order?

Application

1. Determined by instructor

Instructor Notes

1. See Cal OES Letter to Public Safety Partners (5.15.2020)

Topic 3-2: Fire Terminology and Symbols

Terminal Learning Objective

At the end of this topic a student, given incident maps, will be able to identify parts of a vegetation fire and common map symbols in order to assess risk and function safely within the emergency environment.

Enabling Learning Objectives

1. Identify parts of a vegetation fire
    - Origin or point of origin
        - Area where the fire started
        - The point from which it spread
    - Head
        - Area where rate of spread is the fastest
        - A fire can have more than one head
    - Heel
        - The rear of a wildland fire opposite of the head
        - At or near the point of origin
    - Flank
        - Sides of a wildland fire
        - Roughly parallel to the main direction of fire spread
        - Every fire has two flanks or sides which separate the head from the heel
        - Left flank and right flank are identified by standing at the point of origin, facing the fire's head
    - Island
        - An area of unburned fuel within the fire's perimeter
    - Finger
        - Long narrow strips of fire extending from main portion of fire perimeter
        - Fingers can form new heads
    - Hot spot
        - A particularly active part of the fire
        - Spots along fire perimeter that are burning more intensely than other parts of fireline
    - Spot fire
        - A fire outside main fire perimeter ignited by sparks or hot embers
        - Hazardous to personnel and equipment
        - Card/pass holder may become trapped between main fire and spot fire
    - Burn or black
        - Burned area inside fire’s perimeter
        - Generally considered the safest part of fire
    - Green
        - Unburned fuel inside or outside fire’s perimeter
        - Not necessarily a safe area
    - Backfire

        - Fire set along the inner edge of a fireline to consume the fuel in the path of a wildfire or change the direction or force of the fire's convection column (NWCG)
        - Backfire operations may prohibit card/pass holder access
    - Burnout
        - Fire set to remove unburned fuel between the containment line and fire edge to reduce the fire's intensity against the containment line (NWCG)
        - Burnout operations may prohibit card/pass holder access
    - Pocket
        - Area of unburned fuel between two fingers, or between a finger and main body of fire
2. Identify when and how to use incident maps
    - Physical maps
    - Digital mapping programs/apps
    - Common symbols/location points
        - Incident command post (ICP)
        - Incident base
        - Staging areas
        - Drop points
        - Water sources
        - Hazards
        - Evacuation zones/routes
        - Containment lines
        - Traffic control points/road closures

Discussion Questions

1. Why is important to know the parts of a vegetation fire?
2. Why is it important to get regular map updates?

Application

1. Determined by instructor

Instructor Notes

1. Provide students with handouts
    - Part of a Wildland Fire
    - ICS Map Symbols
2. Use historic local fire maps (https://inciweb.nwcg.gov) to introduce various symbols.

Unit 4: Fire Behavior

Topic 4-1: Introduction to Wildland Fire Behavior

Terminal Learning Objective

At the end of this topic a student, given common fire behavior characteristics, will be able to identify factors that impact fire behavior in order to assess risk and function safely within the emergency environment.

Enabling Learning Objectives

1. Describe the fire tetrahedron
   - Heat, fuel, oxygen, chemical chain reaction
2. Identify methods of heat transfer
   - Conduction
   - Convection
   - Radiation
3. Identify fire stages
   - Incipient
   - Free burning
   - Smoldering
4. Identify factors that impact fire behavior
   - Fuel
   - Topography
   - Weather

Discussion Questions

1. How does the stage of a fire impact card/pass holder actions?

Application

1. Determined by instructor

Instructor Notes

1. None

Topic 4-2: Fuel

Terminal Learning Objective

At the end of this topic a student, given an overview of fuels, will be able to identify how fuel contributes to fire behavior in order to assess risk and function safely within the emergency environment.

Enabling Learning Objectives

1. Identify fuel types and configurations
    - Continuous fine fuels
        - Rapid rate of spread
        - Common denominator on tragedy fires
    - Heavy loading of dead and downed fuels
        - Intense burning conditions
    - Ladder fuels
        - Potential for surface fires to move vertically
    - Tight crown spacing
        - Potential for fire to carry from crown to crown
    - Other considerations
        - Firebrand sources
        - Snags
        - Preheated canopy
        - Frost and bug kill
        - High dead-to-live fuel ratio
2. Describe how fuel moisture impacts fire behavior
    - The amount of water in vegetation available to a fire
    - Determines if fuels will burn and spread rapidly
    - Changes based on:
        - Time of day
        - Season
        - Vegetation type
        - Drought conditions
    - Relative humidity (RH)
        - Plays a key role in fuel moisture and fire behavior
        - Low RH = drier fuels
        - Fine fuels are more rapidly influenced than other fuels
        - Be aware when atmospheric conditions are getting hotter and drier
3. Describe how fuel temperature impacts fire behavior
    - Impacts fuel flammability and potential for rate of spread
    - Changes based on:
        - Time of day
        - Air temperature
        - Topography
            - Slope
            - Aspect

- Direct sunlight

Discussion Questions

1. What types of fuels are present on and around your property?
2. How might those fuels contribute to fire spread?

Application

1. Determined by instructor

Instructor Notes

1. None

Topic 4-3: Topography

Terminal Learning Objective

At the end of this topic a student, given an overview of topography, will be able to identify how topography contributes to fire behavior in order to assess risk and function safely within the emergency environment.

Enabling Learning Objectives

1. Describe how topography impacts fire behavior
    - Steep slopes
        - Rapid rates of fire spread
        - Preheats fuels above
        - Rolling materials can ignite fuels below
    - Chutes
        - V-shaped ravines where hot air and gases travel rapidly
        - Potential for very rapid rates of fire spread
        - “Fire goes where water flows”
    - Chimneys
        - Continuous vertical features that create turbulent updrafts causing a “chimney effect”
        - Potential for very rapid rates of fire spread
    - Saddles
        - An area between two higher points
        - Potential for very rapid rates of fire spread
        - Fires often accelerate through saddles because of wind channeling and less topographic resistance
    - Ridges
        - A chain of mountains or hills that form a continuous elevated crest
        - Can experience more wind due to elevation above surrounding land
    - Box canyons
        - Deep-sided dead-end canyons with little chance of escape
        - Potential for very rapid rates of fire spread
    - Narrow canyons
        - Rapid rates of fire spread and/or erratic fire behavior
        - Radiant or convective spotting can cause multiple spot fires
        - Slope reversal can cause rapid upslope runs on opposite slopes
    - Aspect
        - The direction a slope faces
            - Impacts fuel type and conditions
        - South/Southwest slopes
            - Exposed to more sunlight
            - Higher temperatures
            - Lower humidity and fuel moisture
        - North slopes
            - More shaded

- Lower temperatures
- Higher humidity and fuel moisture

Discussion Questions

1. What types of topography are present on and around your property?
2. How might those features contribute to changes in fire behavior?

Application

1. Determined by instructor

Instructor Notes

1. None

Topic 4-4: Weather

Terminal Learning Objective

At the end of this topic a student, given an overview of weather, will be able to identify how weather conditions contribute to fire behavior in order to assess risk and function safely within the emergency environment.

Enabling Learning Objectives

1. Describe how wind impacts fire behavior
    - Most variable factor that influences fire spread rate and direction
    - Winds change frequently
    - Common denominator on tragedy fires
2. Describe types of wind
    - Strong surface wind
        - Usually ≥ 10 mph
        - Contributes to rapid rates of fire spread and spotting
    - Sudden calm
        - Indicates potential wind shift that may increase hazardous fire conditions
    - Battling or shifting winds
        - Potential wind reversals
        - Expect these winds if you see
            - Wavering smoke column
            - A cold front passage
            - Wind blowing through saddles
            - Wind at a drainage confluence
            - Local wind effects
    - Approaching frontal system
        - Winds will shift and increase
        - Can create dangerous conditions due to stronger winds and changing wind direction
        - Possible thunderstorm approaching
    - Winds specific to local regions
        - Foehn
        - Local geographic
3. Describe how to track wind patterns
    - Weather forecasts
    - Throw dust in the air
    - Tie flagging to equipment to determine wind direction
4. Describe how unstable air (atmospheric instability) impacts fire behavior
    - Unstable air rises quickly
    - Pros
        - Clear visibility
        - Vertical air movement
        - Pulls smoke and hot gases up and away
    - Cons

    - Rapid/violent changes in fire behavior
    - Rapid rate of spread
  - Indicators/examples
    - Towering cumulous clouds
    - Thunder clouds
    - Pyrocumulous clouds
    - Rapidly rising smoke
    - Dust devils and fire whirls
    - Good visibility
5. Describe how stable air (atmospheric stability) impacts fire behavior
  - Stable air is resistant to movement
  - Pros
    - Lower potential for fire growth
    - More predictable fire behavior
  - Cons
    - Reduced visibility
    - Poor air quality
    - Can create thermal layering, increasing fire behavior in thermal belt
    - A lifting/breaking inversion layer indicates transition from stable to unstable conditions
  - Indicators/examples
    - Poor visibility
    - No vertical air movement
    - Smoke traveling horizontally
    - Stratus clouds
    - Inversion layers

Discussion Questions

1. What are the typical diurnal wind patterns on and around your property?
2. What topographic features on or around your property may impact those wind patterns?
3. How might those features contribute to fire spread?

Application

1. Determined by instructor

Instructor Notes

1. See Fire Weather Cloud Chart

Topic 4-5: Critical Fire Behavior

Terminal Learning Objective

At the end of this topic a student, given an overview of fire behavior, will be able to identify critical fire behavior indicators in order to assess risk and function safely within the emergency environment.

Enabling Learning Objectives

1. Describe critical fire behavior indicators and how they impact card/pass holder actions
    - Leaning smoke column
        - Rapid rates of fire spread
        - Spotting
    - Sheared column
        - Strong winds aloft
        - Spotting
        - Increase in fire behavior
        - Avoid working under a sheared column
    - Well-developed column
        - Intense burning and unpredictable fire spread
        - Can create a plume-dominated fire
    - Changing column
        - Changing to a darker color
        - Rotating or splits indicate fire behavior
        - Strong downburst (collapsing columns)
        - Increasing fire intensity
    - Tree torching
        - Possible transition from a surface fire to a crown fire
        - Expect extreme fire behavior conditions if single-tree torching progresses to groups of trees torching
    - Fire whirls
        - Indicate changes in fire environment
        - Fire is developing vertically and building intensity
        - Expect increased fire activity
        - Potential for fire to move from a surface fire to a crown fire
        - Spotting
    - Frequent spot fires
        - Indicate changes in fire environment
        - Increase fire spread and intensity
        - Anticipate increased fire behavior hazards

Discussion Questions

1. Why is it important to conduct your activities in the morning?
2. How do fire behavior indicators impact your activities and/or location?
3. When should you leave your property?

Application

1. Determined by instructor

Instructor Notes

1. None

Unit 5: Safety

Topic 5-1: Incident Hazards

Terminal Learning Objective

At the end of this topic a student, given hazards, will be able to identify hazards that potentially impact card/pass holder access and activities in order to assess risk and function safely within the emergency environment.

Enabling Learning Objectives

1. Identify hazard-related responsibilities of all individuals
   - Always make safety a priority
   - Immediately communicate hazards to program liaison or incident liaison
2. Identify terrain and vegetation hazards
   - Falling materials
   - Snags and other hazardous trees
   - Burned out stumps
     - Can injure people and livestock
   - Rocks and other rolling materials
     - Heavy material supported by combustible material can become dislodged
     - Avoid working directly above or below one another or in close intervals on steep slopes
     - Have a lookout watch for falling or rolling materials
3. Identify hole and drop-off hazards
   - Mine shafts
   - Wells, cisterns, septic tanks, cesspools
   - Gullies, washouts, cliffs, drop-offs
4. Identify livestock hazards
   - Animals may react to incident factors (smoke, fire, aircraft)
   - Animals may create hazards for emergency personnel
   - Animals may be injured during evacuation or incident
5. Identify procedures for working with downed or sagging power lines
   - Always treat downed power lines as live until confirmed dead and grounded by utility company
   - Immediately notify program liaison or incident liaison
   - Avoid operating around power lines
     - Smoke may become charged and conduct electrical current
     - Metal fences can energize for a long distance
     - Downed power lines can energize the ground
   - Downed power line on a vehicle
     - Stay in vehicle if possible
     - If you must exit the vehicle:
       - Jump clear
       - Don’t hang on
       - Shuffle or hop to safety

6. Identify hazards associated with supplemental power sources
    - Solar panels
    - Generators
    - Batteries
7. Identify hazardous materials
    - Encountered more and more frequently on wildland fires
    - Can be industrial, agricultural, drug labs, explosives, ordinance, etc.
8. Identify procedures for working around heavy equipment
    - Stay at least 100 feet in front of or 50 feet behind equipment
    - Avoid working below equipment where rolling material could jeopardize safety
    - Working at night can reduce visibility and increase risk
9. Identify driving hazards
    - Driving speeds will change based on environmental and roadway conditions
    - Traffic traveling opposite normal traffic patterns
    - More vehicles present than usual
    - Stopped vehicles in roadway
    - Debris or damaged roadway and infrastructure
    - Limited visibility
    - Loose animals
10. Identify hazards associated with aerial retardant and aircraft operations
    - Safety precautions for retardant and/or water drops from aircraft
        - May dislodge rocks and other heavy materials
        - Creates slippery surfaces and reduced traction
    - Safety precautions for rotary-wing aircraft
    - Safety precautions for fixed-wing aircraft
11. Identify hazards and safety considerations associated with other types of disasters
    - Flood
    - Storm
    - Earthquake
    - Other disasters

Discussion Questions

1. What hazards do aerial firefighting operations create for card/pass holders?
2. How might card/pass holders impact aerial firefighting operations?
3. What hazards can you identify in or around your property?
4. How can driving become more hazardous in an incident environment?

Application

1. Determined by instructor

Instructor Notes

1. Give real-world examples of hazards and mitigation actions.

Topic 5-2: Safety and Accountability

Terminal Learning Objective

At the end of this topic a student, given incident safety and accountability information, will be able to prepare for and operate safely within the emergency environment.

Enabling Learning Objectives

1. Identify recommended personal protection equipment for working around an emergency
    - Eye protection
    - Leather gloves
    - Nomex or fire-resistant clothing
        - 100% cotton clothing is crucial in reducing exposure to radiant heat burns
    - Leather work boots with 8” high top
2. Identify safety equipment to carry/have handy in an emergency environment
    - Reliable transportation
    - Food and water
    - First aid kit
    - Mobile phone and charger
    - Maps
    - Livestock care and veterinary supplies
    - Flashlight or head lamp
    - Batteries
    - Shovel
    - Bolt cutters
    - Chainsaw
    - N95 mask
    - Spare tire and tire-changing equipment
    - Fuel
    - Fence repair supplies
    - *Incident Response Program Guide* (*IRPG*)
3. Describe card/pass holder accountability
    - Stay on task and within scope of stated activities
    - Communicate regularly
        - Brief others
        - Debrief your actions
        - Communicate hazards
        - Acknowledge messages
        - Ask if you don’t know
    - Check in and check out when entering and leaving area
    - Support fire personnel
        - Provide information
            - Hazards
            - Conditions

            - Weather patterns
            - Fire history
            - Roadways
        - Provide access
            - Roads
            - Gates
            - Water
            - Staging or safety areas
    - Do not engage in fire suppression activities
    - Just don't screw up
4. Identify how to pre-plan and prepare for emergency incidents
    - Property
        - Safety zones and safe refuge areas
        - Evacuation routes
        - Structure hardening
        - Defensible space
        - Water sources/storage
        - Power sources
    - Business/Operations
        - Land use agreements/reimbursement
        - Digitize/back up records
        - Emergency contacts
        - Insurance policies

Discussion Questions

1. What equipment might you need to care for injured animals?
2. What equipment have you found useful during emergency incidents?
3. How can you support emergency personnel?
4. Where are the safety zones or safe refuge areas on your property?
5. How can you improve your emergency preparedness and property resiliency?

Application

1. Determined by instructor

Instructor Notes

1. None

Topic 5-3: Risk Management

Terminal Learning Objective

At the end of this topic a student, given risk management tools, will be able to assess risk and function safely within the emergency environment.

Enabling Learning Objectives

1. Identify the difference between a risk and a hazard
   - A hazard is something that has the potential to cause harm
   - A risk is the likelihood of harm taking place, based on exposure to a hazard
2. Describe the components of the IRPG risk management checklist used by emergency personnel and how it applies to card/pass holders
   - Identify hazards (situational awareness)
     - Gather information about factors and indicators to increase situational awareness
     - When an indicator reaches a critical level, look for additional indicators
     - Indicators usually accumulate and compound
   - Assess hazards
     - Use indicators to estimate potential fire behavior hazards
     - Maintain good situational awareness
     - Always look up, look down, and look around for factors and indicators
   - Develop controls and make risk decisions
     - 10 Standard Firefighting Orders
     - 18 Situations that Shout Watch Out”
     - LCES
   - Implement controls
     - Controls in place and implemented for identified hazards
     - Controls integrated into operational plan
     - Controls understood at all levels
   - Supervise and evaluate
     - Human factors
       - Low experience level with local factors
       - Distractions from primary task
       - Fatigue
       - Stress reactions
       - Hazardous attitudes
     - Continually evaluate the situation
     - Monitor the indicators to determine what is changing
     - Indicators can signal dangers or opportunities
     - Significant changes can restart risk management process
3. Identify the purpose of the 10 Standard Firefighting Orders
   - Guidelines to identify, communicate, and avoid hazardous fire situations
     - Fire personnel must understand and follow these orders
     - Card/pass holders should also understand and follow (1 through 8)
   - Indicative of most common dangers to fire personnel

    - Developed through studies of firefighter fatalities
    - One or more was ignored in every wildland firefighter line-of-duty death
4. Identify the 10 Standard Firefighting Orders
    - Fire behavior
        - 1: Keep informed on fire weather conditions and forecasts
        - 2: Know what your fire is doing at all times
        - 3: Base all actions on current and expected behavior of the fire
    - Fireline safety
        - 4: Identify escape routes and safety zones and make them known
        - 5: Post lookouts when there is possible danger
        - 6: Be alert; keep calm; think clearly; act decisively
    - Organizational control
        - 7: Maintain prompt communication with your forces, your supervisor, and adjoining forces
        - 8: Give clear instructions and be sure they are understood
        - 9: Maintain control of your forces at all times
    - After following 1-9
        - 10: Fight fire aggressively, having provided for safety first
5. Identify the purpose of the 18 Situations that Shout “Watch Out”
    - Describe situations that expand the 10 Standard Firefighting Orders
    - Describe personnel actions that increase risk
    - Indicate that fire potential may be changing
    - The following directly apply to card/pass holders: 1, 2, 3, 4, 11, 12, 14, 15, 16, 17
6. Identify the 18 Situations that Shout “Watch Out”
    - 1: Fire not scouted and sized up
    - 2: In country not seen in daylight
    - 3: Safety zones and escape routes not identified
    - 4: Unfamiliar with weather and local factors influencing fire behavior
    - 5: Uninformed on strategy, tactics, and hazards
    - 6: Instructions and assignments not clear
    - 7: No communication link with crew members or supervisor
    - 8: Constructing line without safe anchor point
    - 9: Building fireline downhill with fire below
    - 10: Attempting frontal assault on fire
    - 11: Unburned fuel between you and fire
    - 12: Cannot see main fire; not in contact with someone who can
    - 13: On a hillside where rolling material can ignite fuel below
    - 14: Weather becoming hotter and drier
    - 15: Wind increases and/or changes direction
    - 16: Getting frequent spot fires across line
    - 17: Terrain and fuels make escape to safety zones difficult
    - 18: Taking a nap near the fireline
7. Identify the purpose of LCES

- Acronym used by fire personnel to reference critical survival components
- A compilation of the 10 Orders and 18 Situations
- Applies to anyone at an emergency
- Must be established and known to all personnel before it is needed

8. Identify components of LCES
    - Lookouts
    - Communications
    - Escape routes
    - Safety zones

Discussion Questions

1. How do the components of LCES apply on or around your property?
2. When should you re-evaluate your risk decisions?
3. What human factors (characteristics/emotions) can impact risk decisions?

Application

1. Determined by instructor

Instructor Notes

1. None

Topic 5-4: Entrapment Avoidance

Terminal Learning Objective

At the end of this topic a student, given risk management tools, will be able to avoid entrapment and function safely within the emergency environment.

Enabling Learning Objectives

1. Describe how to avoid entrapment
    - Entrapment Avoidance - “A process used to improve the safety of personnel on the fireline that emphasizes tools and tactics available to prevent being trapped in a burnover situation” (NWCG)
    - Best practice is to recognize and avoid entrapment situations versus taking a risk and becoming trapped
    - Common denominators of fire behavior on fatal and near-fatal fires
        - Small fires or deceptively quiet areas of large fires
        - Light fuels (grass, herbs, and light brush)
        - Unexpected shifts in wind direction or speed
        - Fire that responds to topographic conditions and runs uphill
        - During critical burn period (2 – 5 p.m.)
    - Know your decision points
        - Geographic location(s) or a specific point in time where/when alternative actions are warranted
        - Timely implementation of these actions is critical to card/pass holder safety
        - Alignment of topography and wind during burning period is always a decision point to re-evaluate actions
    - Understand and use the 10s, 18s, and LCES

Discussion Questions

1. How would you avoid fire entrapment on or around your property?

Application

1. Determined by instructor

Instructor Notes

1. None

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How to Read a Course Plan

A course plan identifies the details, logistics, resources, and training and education content for an individual course. Whenever possible, course content is directly tied to a national or state standard. SFT uses the course plan as the training and education standard for an individual course. Individuals at fire agencies, academies, and community colleges use course plans to obtain their institution's consent to offer courses and provide credit for their completion. Instructors use course plans to develop syllabi and lesson plans for course delivery.

Course Details
The Course Details segment identifies the logistical information required for planning, scheduling, and delivering a course.

Required Resources
The Required Resources segment identifies the resources, equipment, facilities, and personnel required to deliver the course.

Unit
Each Unit represents a collection of aligned topics. Unit 1 is the same for all SFT courses. An instructor is not required to repeat Unit 1 when teaching multiple courses within a single instructional period or academy.

Topics
Each Topic documents a single Terminal Learning Objective and the instructional activities that support it.

Terminal Learning Objective
A Terminal Learning Objective (TLO) states the instructor's expectations of student performance at the end of a specific lesson or unit. Each TLO includes a task (what the student must be able to do), a condition (the setting and supplies needed), and a standard (how well or to whose specifications the task must be performed). TLOs target the performance required when students are evaluated, not what they will do as part of the course.

Enabling Learning Objectives
The Enabling Learning Objectives (ELO) specify a detailed sequence of student activities that make up the instructional content of a lesson plan. ELOs cover the cognitive, affective, and psychomotor skills students must master to complete the TLO.

Discussion Questions
The Discussion Questions are designed to guide students into a topic or to enhance their understanding of a topic. Instructors may add to or adjust the questions to suit their students.

Application
The Application segment documents experiences that enable students to apply lecture content through cognitive and psychomotor activities, skills exercises, and formative testing. Application experiences included in the course plan are required. Instructors may add additional application experiences to suit their student population if time permits.

Instructor Notes
The Instructor Notes segment documents suggestions and resources to enhance an instructor's ability to teach a specific topic.

CTS Guide Reference
The CTS Guide Reference segment documents the standard(s) from the corresponding Certification Training Standard Guide upon which each topic within the course is based. This segment is eliminated if the course is not based on a standard.

Skill Sheet
The Skill Sheet segment documents the skill sheet that tests the content contained within the topic. This segment is eliminated if the course does not have skill sheets.