Animal Technical Rescue Awareness (2021)

Course Plan

Course Details

Description: This course provides the knowledge and skills to prepare an emergency responder to support an animal technical rescue incident at an awareness level in a safe and effective manner in accordance with AHJ policies and procedures. Topics include animal anatomy and physiology, handling and behavior principles, rescuer safety and approach, incident size up, and recognizing and isolating hazards to rescuers and animals. This course incorporates awareness training based on NFPA 1006 (2021).

Designed For: Any emergency personnel who support animal technical rescue incidents.

Prerequisites: IS-100, IS-200, IS-700, and IS-800 (FEMA)

Standard: Attend and participate in all course sections

Successful completion of all skills identified on the Training Record

Hours: 4 hours

(3.5 lecture / 0.5 application)

Max Class Size: 30

Instructor Level: SFT Registered Animal Technical Rescue Awareness Instructor

Instructor/Student Ratio: 1:30

Restrictions: All instructors counted toward student ratios, including application components, must be SFT Registered Animal Technical Rescue Awareness Instructors.

SFT Designation: FSTEP

Table of Contents

Required Resources

Instructor Resources

To teach this course, instructors need:

- NFPA 1006: Standard for Technical Rescue Personnel (2021) (physical or digital access to current edition)

Recommended resources:

- *Technical Large Animal Emergency Rescue* (Gimenez, Gimenez, and May, 2008, 1st edition, Wiley-Blackwell, ISBN: 978-0813819983)
- British Animal Rescue and Trauma Care Association (BARTA)
- The Horse Portal (University of Guelph)
- Large Animal Sedation & Anesthesia Field Guide (Loops Rescue)

Online Instructor Resources

The following instructor resources are available online at https://osfm.fire.ca.gov/divisions/state-fire-training/fstep-curriculum/

- None

Student Resources

To participate in this course, students need:

- No requirements

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

Personnel

The following personnel are required to deliver this course:

- Any instructor counted toward student ratios must be an SFT Registered Animal Technical Rescue Awareness (2021) Instructor.

Time Table

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.5	0.0	
Unit 1 Totals	**0.5**	**0.0**	**0.5**
Unit 2: Working with Animals			
Topic 2-1: Introduction to Animal Technical Rescue	0.5	0.0	
Topic 2-2: Animal Anatomy and Physiology	0.5	0.0	
Topic 2-3: Animal Handling and Behavior Principles	0.5	0.0	
Topic 2-4: Rescuer Safety and Approach	0.25	0.0	
Unit 2 Totals	**1.75**	**0.0**	**1.75**
Unit 3: Scene Management			
Topic 3-1: Common Animal Technical Rescue Incidents	0.25	0.0	
Topic 3-2: Sizing Up an Animal Technical Rescue Incident	0.5	0.25	
Topic 3-3: Recognizing Incident Hazards and Initiating Isolation Procedures	0.5	0.25	
Unit 3 Totals	**1.25**	**0.5**	**1.75**
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	**3.5**	**0.5**	**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 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 in the course syllabus.

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
    - Calendar of events
    - 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 registration forms.

Unit 2: Working with Animals

Topic 2-1: Introduction to Animal Technical Rescue

Terminal Learning Objective

At the end of this topic a student, given definitions and AHJ data, will be able to describe animal technical rescue.

Enabling Learning Objectives

1. Define animal technical rescue
    - Rescuing of an animal requiring technical skills, not to be confused with "animal rescue" which typically refers to abuse or neglect (NFPA 2500)
    - To extricate or manipulate an animal from a location that is dangerous to a place of safety by the most humane method with regard to the safety of all involved
2. Describe the purpose of animal technical rescue
3. Identify transferable technical rescue skills and how they can complement animal technical rescue efforts
4. Identify types of animal technical rescue incidents common to the AHJ

Discussion Question

1. What types of animals are common in, or unique to, your AHJ?
2. What types of animal technical rescue incidents are common in your AHJ?
3. What technical rescue skills do you already have that could be applied to animal technical rescue?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: None

Topic 2-2: Animal Anatomy and Physiology

Terminal Learning Objective

At the end of this topic a student, given animal anatomy and physiology information, will be able to identify vulnerable areas and systems of the animal skeletal structure so that anatomical features and purchase points can be used for equipment placement, extrication, and lifting to assist with moving an animal in need of technical rescue.

Enabling Learning Objectives

1. Identify animals common to the AHJ
    - Small (generally less than 300 lbs.)
    - Large (generally over 300 lbs.)
2. Identify the skeletal structure of an animal
    - Front leg system
    - Hind leg system
    - Equipment access and locations
3. Describe physiological systems of an animal
    - Circulatory system and vascular areas
    - Respiratory system
    - Nervous system
4. Describe how to monitor animal condition throughout a rescue
    - Physical, auditory, visible signs, vital signs, position of patient
    - Identify rescue timeframe (“golden hour”)
    - Determine viability and potential need to euthanize
        - Heartbeat
        - Brain stem response (corneal reflex test)

Discussion Question

1. How would you determine normal or baseline vital signs for an animal in need of technical rescue?
2. What is anatomically unique about a horse’s hind leg that will impact rescue efforts?
3. What are some other members of the equine family impacted by the “golden hour”?

Application

1. Determined by instructor

Instructor Notes

1. While animal technical rescue applies to many types of animals, this course predominantly focuses on horses.

CTS Guide Reference: None

Topic 2-3: Animal Handling and Behavior Principles

Terminal Learning Objective

At the end of this topic a student, given a representative animal, will be able to recognize basic animal handling and behavior principles so that the incident is managed, risks to rescuers are minimized, and risks to the animal are minimized.

Enabling Learning Objectives

1. Describe, select, and use hazard-specific PPE
    - Determined by AHJ
2. Describe the fight/flight animal behavior principle
3. Identify an animal's natural defensive behaviors
    - Biting
    - Kicking
    - Scratching
    - Trampling
    - Goring
    - Spitting
4. Identify species-specific behavioral cues
5. Describe species-specific containment methods and devices
    - Animal handling skills
    - Physical restraints
    - Chemical restraints
        - Sedation vs. anesthesia
6. Describe how to apply species-specific handling principles

Discussion Question

1. What are some non-invasive ways to calm an animal in need of technical rescue?
2. What PPE does your agency use during animal technical rescue?
3. How could you contain an animal in need of technical rescue?
4. What are some behavioral indicators that an animal is in distress and may become a hazard to the rescuer?

Application

1. Determined by instructor

Instructor Notes

1. For any objective that includes "Determined by AHJ", teach the content specific to the AHJ hosting the course but note that other jurisdictions may have different requirements.

CTS Guide Reference: CTS 2-1

Topic 2-4: Rescuer Safety and Approach

Terminal Learning Objective

At the end of this topic a student, given a representative animal, will be able to safely approach an animal in need of technical rescue so that the incident is managed, risks to rescuers are minimized, and risks to the animal are minimized.

Enabling Learning Objectives

1. Describe general considerations for approach
    - Scene arrival (minimize stress to animal)
    - Mechanism of incident
    - Hazards to rescuer and animal
    - Animal position (standing vs. recumbent)
    - Animal disposition
2. Describe how to approach an animal in need of technical rescue
    - Approach a standing animal from its left side shoulder (when possible)
    - Approach a recumbent animal from the side opposite its legs
    - Avoid kick zones
    - Maintain visual, verbal, or physical contact with animal
    - Approach slowly and quietly
    - When kneeling, stay on one foot and one knee (avoid two knees)

Discussion Question

1. How can you minimize stress to the animal while arriving and operating at an incident?
2. How can animal defense systems put rescuers at risk?
3. How do you prioritize rescuer safety around a distressed animal?

Application

1. Determined by instructor

Instructor Notes: None

CTS Guide Reference: None

Unit 3: Scene Management

Topic 3-1: Common Animal Technical Rescue Incidents

Terminal Learning Objective

At the end of this topic a student, given historical and AHJ incident data, will be able to describe common types of animal technical rescue incidents so that incidents are managed and risks to rescuers and the animal are minimized.

Enabling Learning Objectives

1. Describe common types of animal technical rescue incidents
    - Stranded animal able to self-extricate
    - Stranded or entangled animal
    - Anesthetized or recumbent animal
    - Animal trapped in soil, mud, water, or ice
    - Animal involved in a transport incident
2. Describe what it means to self-extricate a stranded animal
    - Criteria for self-extrication
        - Physical and mental condition of animal
        - Animal history and capacity (if known)
        - Ability to stabilize footing
        - Ability to eliminate and/or control hazards and obstacles
        - Ability to contain animal after extrication
3. Describe what it means to assist with movement/extrication for a stranded or entangled animal
    - Removing an object from an animal
        - Best progression for removal
        - Appropriate equipment and tools for spreading, cutting, or dismantling
        - Potential barriers for animal and rescuers
    - Removing an animal from an object
        - Appropriate equipment for extrication
    - Scenario will transition to self-extrication or rescuing a recumbent or anesthetized animal
4. Describe what it means to extricate a recumbent or anesthetized animal
    - Animals can still move and create risk
    - Animal considerations escalate (circulation, breathing, muscle damage, etc.)
    - Resource needs increase
    - Larger workspace needed for animal recovery
5. Describe what it means to extricate an animal trapped in soil, mud, water, or ice
    - Types of conditions
        - Mud
        - Standing water
        - Moving water
        - Pools

        - Ice/cold
    - Rescuer safety and approach carry more risk
    - Environmental impact on rescuer and animals
        - Temperature
        - Wind
        - Contaminates in water
    - Resource needs increase
        - Need to break suction on animal's legs
        - Specialty water rescue resources
            - Personnel
            - Equipment (flotation, breaking suction, etc.)
    - May be more difficult to position and apply equipment
    - May increase decontamination needs
6. Describe what it means to extricate an animal from a transport accident
    - Types of transport vehicles common to the AHJ
    - Animal hauler vehicle anatomy
    - Vehicle hazards to animal and rescuers
    - Multiple animals may be involved
    - Animal entrapment
    - Restricted space considerations
    - Animal containment needs
    - Scene safety (traffic, hazardous materials, etc.)
    - Resource needs increase
        - Specialty vehicle extrication resources
            - Personnel
            - Equipment
7. Describe how rescuers can support animal technical rescue incidents
    - Staffing placement
    - Operational zones
    - Safe sheltering
    - Safe routes for animal and rescuers
    - Equipment and staffing resources

Discussion Question

1. How will your rescue efforts change if a person is trapped by an animal in need of technical rescue?
2. What resources are available in your AHJ to deal with righting a transport vehicle to assist with an animal technical rescue?
3. What other types of rescue incidents have you encountered and how were they resolved?

Application

1. Students will practice these rescue scenarios on the drill ground and perform each scenario once for evaluation.

Instructor Notes: None
CTS Guide Reference: None

Topic 3-2: Sizing Up an Animal Technical Rescue Incident

Terminal Learning Objective

At the end of this topic, a student given background information and applicable reference materials, will be able to size up an animal technical rescue incident so that the scope of the rescue is determined, the number of animals is identified, the last reported location of all animals is established, witnesses and reporting parties are identified and interviewed, resource needs are assessed, primary search parameters are identified, and information required to develop an initial incident action plan is obtained.

Enabling Learning Objectives

1. Identify size-up considerations
    - Potential human victims
    - Type of animal(s)
    - Number of animals
    - Specific problem to address
    - Agencies having jurisdiction
    - Environment
        - Access and egress
        - Weather
        - Terrain
        - Time of day
    - Threat/hazard assessment
    - Triage
        - Determine rescue vs. recovery
            - Body recovery
                - Determined by AHJ
                - Drug residue in bodies
        - Assess injury severity
        - Determine animal care and rescue priorities
        - Align with resource capabilities
        - Use AHJ protocols and triage tags/markers
    - Resource needs
        - Personnel
        - Equipment (including mechanized)
        - Workspaces
    - Chance for secondary disaster
    - Transfer of care
2. Describe risk/benefit analysis methods and practices
3. Describe types of reference materials and their uses
    - AHJ standard operating procedures
4. Describe availability and capability of the resources
    - Types of resources
        - Personnel
            - Animal handler

        - Animal control
        - Public Information Officer
        - Veterinarian (could have associated costs)
        - Law enforcement
    - Equipment
        - Containment
        - Transport
        - Technical rescue
        - Specialized equipment (could have associated costs)
- Process
    - Identify need
    - Request resources
    - Secure scene and render safe until additional resources arrive
    - Incorporate awareness-level personnel into operational plan
        - Traffic/perimeter control
        - Tool cache
        - Runners
        - Haul team
        - Communications (with animal owner, others)
        - Radio/operations relay
        - General scene support
- Operational protocols
- Planning forms

5. Describe elements of an incident action plan and related information
6. Describe relationship of size up to the incident management system
7. Describe information gathering techniques and how that information is used in the size-up process
8. Describe basic search criteria for animal technical rescue incidents
9. Read technical rescue reference material
10. Gather information
11. Use interview techniques
12. Relay information
13. Use information-gathering sources

Discussion Question

1. What additional factors should be considered as part of size up?
2. What additional resources would you need if you were dealing with a herd of animals?
3. If an animal owner is not present,
    - Who is responsible for animal welfare and associated costs on scene?
    - Who has the authority to euthanize the animal?

Application

1. Students will practice this skill on the drill ground and perform it once for evaluation.

Instructor Notes: None

CTS Guide Reference: CTS 1-1, CTS 1-3, CTS 1-4, CTS 2-3

Topic 3-3: Recognizing Incident Hazards and Initiating Isolation Procedures

Terminal Learning Objective

At the end of this topic a student, given scene control barriers, personal protective equipment (PPE), requisite equipment, and available specialized resources, will be able to recognize incident hazards and initiate isolation procedures so that all hazards are identified; resource application fits the operational requirements; hazard isolation is considered; risks to rescuers, bystanders, and animals are minimized; and rescue time constraints are considered.

Enabling Learning Objectives

1. Describe types and nature of incident hazards
    - Traffic
    - Terrain
    - Utilities
    - Weather
    - Hazardous materials
    - Zoonotic diseases
    - Transport vehicle hazards
    - Others
2. Describe how to mitigate on-scene hazards by:
    - Recognizing hazards
    - Identifying rescuer, animal, and bystander risks
    - Identifying necessary resources
        - Availability
        - Capabilities
        - Limitations
        - Cost
    - Consulting appropriate technical references
    - Selecting and using appropriate mitigation tools and equipment
    - Addressing operational requirement concerns
    - Conducting isolation procedures
    - Controlling access to the scene

Discussion Question

1. How can you provide adequate scene control to protect bystanders and the animal in need of technical rescue?
2. What is an acceptable level of residual risk after mitigation efforts? Who makes that determination?
3. What types of hazards have you encountered on rescue incidents? How would those impact an animal technical rescue?

Application

1. Students will practice this skill on the drill ground and perform it once for evaluation.

Instructor Notes: None
CTS Guide Reference: CTS 1-2

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 course 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.