DEPARTMENT OF FORESTRY AND FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
STATE FIRE TRAINING
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Date: July 14, 2024

To: Statewide Training and Education Advisory Committee
State Board of Fire Services

From: Chris Fowler, Chief, State Fire Training, CAL FIRE
Joe Bunn, Fire Service Training Specialist III, (Retired), CAL FIRE

SUBJECT/AGENDA ACTION ITEM:
Water Rescue (2021)

Recommended Actions:
Motion

Background Information:
This is the second reading of the curriculum, with a stakeholder request to include more content regarding dynamic water rescue training from FIRESCOPE. The cadre members (who are also FIRESCOPE Task Force members) discussed that this is an awareness-level course that meets the NFPA 1006 minimum national standard. The dynamic water training content is available in the Water Rescue Technician course. The FIRESCOPE Technical Search and Rescue Task Force discussed the above and determined that fire departments and agencies should decide the level of training (Awareness or Technician) required for personnel in order to manage the liability of water rescue operations.

SFT developed the Water Rescue curriculum in alignment with National Fire Protection Association (NFPA) 1006: Standard for Technical Rescue Personnel Professional Qualifications, 2021 edition.

This curriculum was developed to ensure an effective and coordinated response to rescuing individuals trapped or stranded by surface water, swiftwater, and floodwater.

Analysis/Summary of Issue:

Retirement of River and Flood Rescue Technician (2017) Curriculum
Effective December 31, 2024, SFT will retire FSTEP River and Flood Rescue Technician (2017). On January 1, 2025, SFT will remove the curriculum from the SFT course catalog, and it will no longer be available.

CTS Guide
SFT developed a curriculum training standards (CTS) guide for Water Rescue to document how training standards align with NFPA 1006 (2021). The CTS guide includes awareness, operations, and technician-level job performance requirements for Surface Water Rescue, Swiftwater Rescue, and Floodwater Rescue.

Course Plans

- SFT developed two course plans
    - Water Rescue Awareness and Operations (2021) – designed for any emergency personnel who assist with surface water, swiftwater, and floodwater incidents but are not actually in or on the water.
    - Water Rescue Technician (2021) – designed for fire fighters with three years' full-time or six years' part-time/volunteer experience and any public safety members who perform surface water, swiftwater, and floodwater rescue in or on the water.
- Water Rescue Awareness and Operations (2021)
    - This course incorporates cognitive and psychomotor training for water rescue awareness and operations based on NFPA 1006 (2021).
    - Prerequisites:
        - Rope Rescue Operations (SFT, FEMA, or IFSAC/Pro Board) **or** Low Angle Rope Rescue
    - Course length is 8 hours (6.5 lecture / 1.5 application).
    - Maximum class size set at 50.
    - Instructor-to-student ratio set at
        - 1:50 (lecture)
        - 1:25 (skills/teaching demonstrations)
    - All instructors counted toward student ratios, including application components, must be SFT Registered Water Rescue Awareness and Operations or Water Rescue Technician Instructors.
    - This course is not a prerequisite for Water Rescue Technician (2021). All awareness and operations content from NFPA 1006 is also included in the Water Rescue Technician (2021) course.
- Water Rescue Technician (2021)
    - This course incorporates cognitive and psychomotor training for awareness, operations, and technician based on NFPA 1006 (2021).
    - Prerequisites:
        - Rope Rescue Technician (SFT, FEMA, or IFSAC/Pro Board) **or** Low Angle Rope Rescue **and** Rescue Systems 1

        - Common Passenger Vehicle **or** Auto Extrication **or** Vehicle Extrication (SFT)
        - IS-100, IS-200, IS-700, and IS-800 (FEMA)
        - **Note:** Water Rescue Awareness and Operations (2021) is not a prerequisite for Water Rescue Technician (2021). All awareness and operations content from NFPA 1006 is also included in the Water Rescue Technician (2021) course.
    - Course length is 40 hours (9.5 lecture / 30.5 application).
    - Maximum class size set at 24.
    - Instructor-to-student ratio set at
        - 1:24 (lecture)
        - 1:8 (skills/teaching demonstrations)
    - All instructors counted toward student ratios, including application components, must be SFT Registered Water Rescue Technician Instructors.

Instructor Task Book

- SFT developed the following instructor task books to promote instructor quality and consistency:
    - Water Rescue Awareness and Operations (2021) Instructor Task Book
    - Water Rescue Technician (2021) Instructor Task Book

Training Record

- SFT developed the following training records for students to use as verification of skills practiced and completed during the course:
    - Water Rescue Awareness and Operations (2021) Training Record
    - Water Rescue Technician (2021) Training Record

Existing Registered Instructors

SFT will authorize existing River and Flood Rescue Technician (2017) Registered Instructors to teach both Water Rescue Awareness/Operations (2021) and Water Rescue Technician (2021). SFT will update the SFT User Portal.

In Process Instructor Candidates ……..… Deadline June 30, 2025

Candidates actively pursuing River and Flood Rescue Technician (2017) instructor registration must submit all documentation postmarked on or before June 30, 2025. SFT will return any 2017 task book postmarked on or after July 1, 2025, and require candidates to follow the New Instructor Registration requirements.

In process instructor candidates may teach two River and Flood Rescue Technician (2017) courses **or** one River and Flood Rescue Technician (2017) **and** one Water Rescue Technician (2021) course to meet their task book requirements. If an in-process instructor chooses to teach two Water Rescue Technician (2021) courses, they are required to adhere to the 2021 Instructor Registration requirements.

New Instructor Registration

Candidates are not required to be Registered Water Rescue Awareness and Operations (2021) Instructors to become Registered Water Rescue Technician (2021) Instructors. SFT will automatically authorize all Registered Water Rescue Technician (2021) Instructors to teach Water Rescue Awareness and Operations (2021).

To become a Registered Instructor for this curriculum, a candidate must:

Awareness and Operations	Technician
Be an OSFM Registered Instructor	Be an OSFM Registered Instructor
Complete one of the following courses: • River and Flood Rescue Technician (2017) **or** • Water Rescue Awareness and Operations (2021) **or** • Water Rescue Technician (2021)	Complete one of the following courses: • River and Flood Rescue Technician (2017) **or** • Water Rescue Technician (2021)
Complete the Water Rescue Awareness and Operations (2021) Instructor Task Book	Complete the Water Rescue Technician (2021) Instructor Task Book
Have a minimum of three (3) years' full-time or six (6) years' part-time/volunteer experience performing suppression/rescue duties within a recognized fire agency in California	Have a minimum of three (3) years' full-time or six (6) years' part-time/volunteer experience performing suppression/rescue duties within a recognized fire agency in California
Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Water Rescue Awareness and Operations training	Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Water Rescue Technician training
Submit an SFT Instructor Registration Application	Submit an SFT Instructor Registration Application
Pay the registration fee	Pay the registration fee

Water Rescue (2021) Implementation Plan

Issued: Month ##, 2024

OVERVIEW

This document is intended to provide information for all State Fire Training (SFT) stakeholders on the Water Rescue (2021) curriculum requirements. Stakeholders are encouraged to study this information carefully and seek clarification from SFT if questions arise.

The Water Rescue (2021) curriculum is presented as a Fire Service Training and Education Program (FSTEP) series. SFT developed a new curriculum training standard (CTS) guide, two course plans (awareness and technician), two instructor task books, and two student training records based on the current National Fire Protection Association (NFPA) Standard, NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021).

IMPLEMENTATION

Candidates entering the SFT system should enroll in the Water Rescue (2021) courses and comply with the Water Rescue (2021) certification and instructor requirements.

New Curriculum	Hours
Water Rescue Awareness and Operations (2021)	**8 hours**
Water Rescue Technician (2021)	**40 hours**

Water Rescue (2021) Curriculum…….. September 1, 2024

Retirement of River and Flood Rescue Technician (2017) Curriculum…… December 31, 2024
Effective December 31, 2024, SFT will retire FSTEP River and Flood Rescue Technician (2017). On January 1, 2025, SFT will remove the curriculum from the SFT course catalog, and it will no longer be available.

INSTRUCTOR REQUIREMENTS

Instructor Registration…….. September 1, 2024
Instructors for the Water Rescue Awareness and Operations (2021) and Water Rescue Technician (2021) curriculum must meet the SFT requirements for Registered Instructor. Instructors must have appropriate education and practical experience relating to the specific course content.

Existing Registered Instructors
SFT will authorize existing River and Flood Rescue Technician (2017) Registered Instructors to teach both Water Rescue Awareness/Operations (2021) and Water Rescue Technician (2021). SFT will update the SFT User Portal.

In Process Instructor Candidates…….. Deadline June 30, 2025
Candidates actively pursuing River and Flood Rescue Technician (2017) instructor registration must submit all documentation postmarked on or before June 30, 2025. SFT will return any 2017 task book postmarked on or after July 1, 2025, and require candidates to follow the New Instructor Registration requirements.

In process instructor candidates may teach two River and Flood Rescue Technician (2017) courses **or** one River and Flood Rescue Technician (2017) **and** one Water Rescue Technician (2021) course to meet their task book requirements. If an in-process instructor chooses to teach two Water Rescue Technician (2021) courses, they are required to adhere to the 2021 Instructor Registration requirements.

New Instructor Registration

Candidates are not required to be Registered Water Rescue Awareness and Operations (2021) Instructors to become Registered Water Rescue Technician (2021) Instructors. SFT will automatically authorize all Registered Water Rescue Technician (2021) Instructors to teach Water Rescue Awareness and Operations (2021).

Awareness and Operations	Technician
Be an OSFM Registered Instructor	Be an OSFM Registered Instructor
Complete one of the following courses: • River and Flood Rescue Technician (2017) **or** • Water Rescue Awareness and Operations (2021) **or** • Water Rescue Technician (2021)	Complete one of the following courses: • River and Flood Rescue Technician (2017) **or** • Water Rescue Technician (2021)
Complete the Water Rescue Awareness and Operations (2021) Instructor Task Book	Complete the Water Rescue Technician (2021) Instructor Task Book
Have a minimum of three (3) years' full-time or six (6) years' part-time/volunteer experience performing suppression/rescue duties within a recognized fire agency in California	Have a minimum of three (3) years' full-time or six (6) years' part-time/volunteer experience performing suppression/rescue duties within a recognized fire agency in California
Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Water Rescue Awareness and Operations training	Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Water Rescue Technician training

Submit an SFT Instructor Registration Application	Submit an SFT Instructor Registration Application
Pay the registration fee	Pay the registration fee

POTENTIAL AGENCY IMPACTS

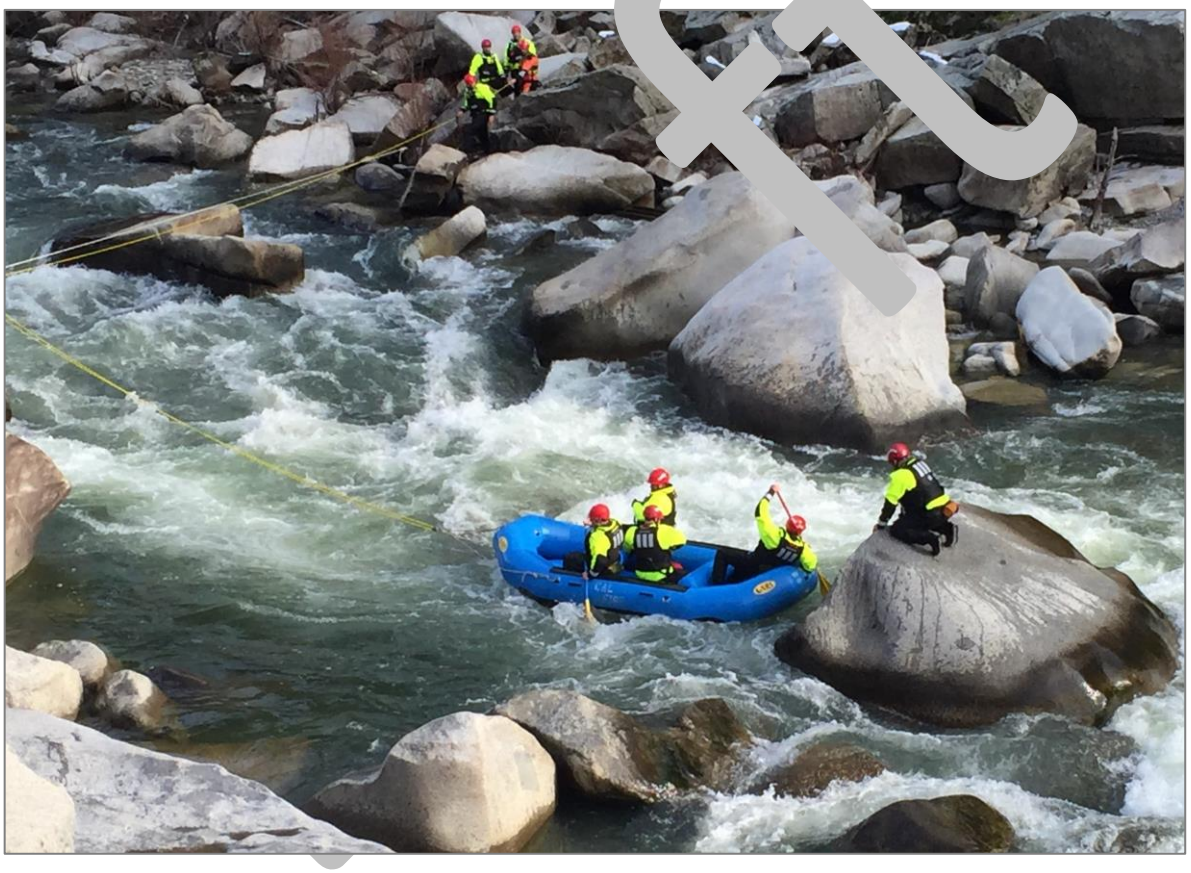
Fire agencies desiring to use the Water Rescue (2021) curriculum as a requirement for their recruitment/promotion activities need to review the Water Rescue (2021) curriculum requirements to be sure that all agency training needs are met. After review, fire agencies should update their job specifications and recruitment documentation to reflect these new courses and certification requirements.

Accredited Regional Training Programs (ARTP), Accredited Local Academies (ALA), community colleges, and all other local delivery venues need to review the curriculum and seek approval from their curriculum committee/program sponsor, as appropriate. ARTPs should review the new Water Rescue (2021) curriculum and discuss potential impacts with their advisory committees.

Water Rescue

(NFPA 1006: Surface Water Rescue, Swiftwater Rescue, and Floodwater Rescue Awareness/Operations/Technician)

Curriculum Training Standards Guide (2021)



California Department of Forestry and Fire Protection
Office of the State Fire Marshal
State Fire Training

Water Rescue

Curriculum Training Standards Guide (2021)

Publication Date: Month Year

This CTS guide utilizes the following NFPA standards to provide the qualifications for State Fire Training's Water Rescue (2021) curriculum:

- NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)

State Fire Training coordinated the development of this CTS guide. Before its publication, the Statewide Training and Education Advisory Committee (STEAC) and the State Board of Fire Services (SBFS) recommended this CTS guide for adoption by the Office of the State Fire Marshal (OSFM).

Cover photo courtesy of Sean Norman, Division Chief, CAL FIRE

Published by State Fire Training.

Table of Contents

Acknowledgements

State Fire Training appreciates the hard work and accomplishments of those who built the solid foundation on which this program continues to grow.

State Fire Training gratefully acknowledges the following individuals and organizations for their diligent efforts and contributions that made the development and publication of this document possible.

CAL FIRE

- Joe Tyler, Director
- Daniel Berlant, State Fire Marshal
- Chris Fowler, Chief of State Fire Training
- Mike Richwine, Chair, Statewide Training and Education Advisory Committee (STEAC); State Fire Marshal (Ret.), CAL FIRE

Cadre – 2023 Curriculum Development

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How to Read a CTS Guide

Overview

A curriculum training standard (CTS) guide lists the requisite knowledge, skills, and job performance requirements an individual must complete to become certified in a specific job function.

It also documents and justifies the OSFM-approved revisions to the curriculum's NFPA standard and identifies where each curriculum training standard is taught (course plan), tested (skill sheets), and validated (task book).

Individuals aspiring to meet State Fire Training's curriculum training standards must do so in accordance with the codes, standards, regulations, policies, and standard operating procedures applicable within their own agency or jurisdiction.

Format

Each curriculum training standard is comprised of eight sections.

Section Heading
Training standards are grouped by section headings that describe a general category. For example, the Fire Fighter 1 CTS guide includes the following section headings: NFPA Requirements, Fire Department Communications, Fireground Operations, and Preparedness and Maintenance.

Training Standard Title
The training standard title provides a general description of the performance requirement contained within the individual standard.

Authority
The CTS guide references each individual standard with one or more paragraphs of the corresponding National Fire Protection Association (NFPA) Professional Qualifications. This ensures that each fire service function within California's certification system meets or exceeds NFPA standards.

When California requirements exceed the NFPA standard, the CTS guide cites the Office of the State Fire Marshal as the authority and prints the corresponding information shaded gray.

Job Performance Requirements
This segment includes a written statement that describes a specific job-related task, the items an individual needs to complete the task, and measurable or observable outcomes.

Requisite Knowledge
This segment lists the knowledge that an individual must acquire to accomplish the job performance requirement.

Requisite Skills
This segment lists the skills that an individual must acquire to accomplish the job performance requirement.

Content Modification
This table documents and justifies any revisions to the NFPA standard that the development or validation cadres make during the development of a CTS guide.

Cross Reference
This table documents where each training standard is taught (course plan), tested (skill sheets), and validated (task book).

Surface Water Rescue

Section 1: Awareness

1-1: Sizing Up a Surface Water Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 17.1.1

Job Performance Requirement

Size up a surface water incident, given an incident, so that the scope of the rescue is determined, the number of victims is identified, the last reported location of all the victims is established, witnesses and reporting parties are identified and interviewed, and search parameters are identified.

Requisite Knowledge

1. Describe information gathering techniques and how that information is used in the size-up process

Requisite Skills

1. Interview people
2. Gather information
3. Relay information
4. Manage witnesses
5. Use information sources

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-6 Water Rescue Technician (2021) • Topic 2-6	Water Rescue Awareness and Operations (2021) • Skill 3 Water Rescue Technician (2021) • Skill 3	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 7, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 7, 28

1-2: Recognizing Incident Hazards and Initiating Isolation Procedures

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 17.1.2

Job Performance Requirement

Recognize incident hazards and initiate isolation procedures, given scene control barriers, personal protective equipment (PPE), requisite equipment, and available specialized resources, so that all hazards are identified; resource application fits the operational requirements; hazard isolation is considered; risks to rescuers, bystanders, and victims are minimized; and rescue time constraints are taken into account.

Requisite Knowledge

1. Describe resource capabilities and limitations
2. Describe types and nature of incident hazards
3. Describe equipment types and their use
4. Describe isolation terminology, methods, equipment, and implementation
5. Describe operational requirement concerns
6. Describe common types of rescuer and victim risks
7. Describe risk/benefit analysis methods and practices
8. Describe hazard recognition, isolation methods, and terminology
9. Describe methods for controlling access to the scene
10. Describe types of technical references

Requisite Skills

1. Identify resource capabilities and limitations
2. Identify incident hazards
3. Assess potential hazards to rescuers and bystanders
4. Place scene control barriers
5. Operate control and mitigation equipment

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-3 Water Rescue Technician (2021) • Topic 2-3	Water Rescue Awareness and Operations (2021) • Skill 1 Water Rescue Technician (2021) • Skill 1	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 4, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 4, 28

1-3: Recognizing the Need for Technical Rescue Resources

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 17.1.3

Job Performance Requirement

Recognize the need for technical rescue resources at an operations- or technician-level incident, given AHJ guidelines, so that the need for additional resources is identified, the response system is initiated, the scene is secured and rendered safe until additional resources arrive, and awareness-level personnel are incorporated into the operational plan.

Requisite Knowledge

1. Describe operational protocols
2. Describe specific planning forms
3. Describe types of incidents common to the AHJ
4. Describe hazards
5. Describe incident support operations and resources
6. Describe safety measures

Requisite Skills

1. Apply operational protocols
2. Select specific planning forms based on the types of incidents
3. Identify and evaluate various types of hazards within the AHJ
4. Request support and resources
5. Determine the required safety measures

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-1 Water Rescue Technician (2021) • Topic 2-1	N/A	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 2 Water Rescue Technician (2021) Instructor Task Book • JPR 2

1-4: Supporting an Operations- or Technician-level Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 17.1.4

Job Performance Requirement

Support an operations- or technician-level incident, given an incident, an assignment, an incident action plan, and resources from the tool kit, so that the assignment is carried out, progress is reported to command, environmental concerns are managed, personnel rehabilitation is facilitated, and the incident action plan is supported.

Requisite Knowledge

1. Describe AHJ operational protocols
2. Describe hazard recognition
3. Describe incident management
4. Describe PPE selection
5. Describe resource selection and use
6. Describe scene support requirements

Requisite Skills

1. Apply operational protocols
2. Function within an incident management system
3. Follow and implement an incident action plan
4. Report the task progress status to a supervisor or incident command

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-14 Water Rescue Technician (2021) • Topic 2-14	Water Rescue Awareness and Operations (2021) • Skill 12 Water Rescue Technician (2021) • Skill 11	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 15, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 15, 28

Section 2: Operations

2-1: Developing a Site Survey for an Existing Water Hazard

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 17.2.1

Job Performance Requirement

Develop a site survey for an existing water hazard, given historical data, specific PPE for conducting site inspections, flood insurance rate maps, tide tables, and meteorological projections, so that life safety hazards are anticipated, risk/benefit analysis is included, site inspections are completed, water conditions are projected, site-specific hazards are identified, routes of access and egress are identified, boat ramps (put-in and take-out points) are identified, the method of entrapment is considered, and areas with a high probability for victim location are determined.

Requisite Knowledge

1. Describe requisite contents of a site survey
2. Describe types, sources, and information provided by reference materials
3. Describe hydrology and the influence of hydrology on rescues
4. Describe types of hazards associated with water rescue practices scenarios, inspections practices, and considerations techniques
5. Describe risk/benefit analysis
6. Describe identification of hazard-specific PPE
7. Describe factors influencing access and egress routes
8. Describe behavioral patterns of victims
9. Describe environmental conditions that influence victim location

Requisite Skills

1. Interpret reference materials
2. Perform a scene assessment
3. Evaluate site conditions
4. Complete risk/benefit analysis
5. Select and use necessary PPE

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-5 Water Rescue Technician (2021) • Topic 2-5	N/A	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 6 Water Rescue Technician (2021) Instructor Task Book • JPR 6

2-2: Selecting Water Rescue PPE

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 17.2.2

Job Performance Requirement

Select water rescue PPE, given a water rescue assignment and assorted items of personal protective and life-support equipment, so that the rescuer is protected from temperature extremes and environmental hazards, correct buoyancy is maintained, AHJ protocols are complied with, swimming ability is maximized, routine and emergency communications are established between components of the team, self-rescue needs have been evaluated and provided for, and pre-operation safety checks have been conducted.

Requisite Knowledge

1. Identify manufacturer's recommendations for PPE
2. Describe standard operating procedures
3. Describe basic signals and communications techniques
4. Describe selection criteria of insulating garments
5. Describe buoyancy characteristics
6. Describe personal escape techniques
7. Describe applications for and capabilities of personal escape equipment
8. Describe hazard assessment
9. Describe AHJ protocols for equipment positioning
10. Describe classes of personal flotation devices
11. Describe selection criteria for personal protective clothing, personal flotation devices, and water rescue helmets
12. Describe personal escape techniques
13. Describe applications for and capabilities of personal escape equipment
14. Describe equipment and procedures for signaling distress

Requisite Skills

1. Use PPE according to the manufacturer's directions
2. Don and doff equipment in an expedient manner
3. Use pre-operation checklists
4. Select personal flotation devices, water rescue helmets, and personal protective clothing and equipment
5. Don and doff personal flotation devices, water rescue helmets, and in-water insulating garments
6. Demonstrate proficiency in emergency escape procedures
7. Demonstrate proficiency in communicating distress signals
8. Demonstrate proficiency in communications

Content Modification

Block	Modification	Justification
RS6	Added “demonstrate”.	NFPA did not provide a verb.
RS7	Added “demonstrate”.	NFPA did not provide a verb.
RS8	Added “demonstrate”.	NFPA did not provide a verb.

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-10 Water Rescue Technician (2021) • Topic 2-10	Water Rescue Awareness and Operations (2021) • Skill 8, 9 Water Rescue Technician (2021) • Skill 8, 9	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 11, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 11, 28

2-3: Defining Search Parameters

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 17.2.3

Job Performance Requirement

Define search parameters for a water rescue incident, given topographical maps of a search area; descriptions of all missing persons and incident history; and hydrologic data, including speed and direction of current or tides, so that areas with high probability of detection are differentiated from other areas, witnesses are interviewed, critical interview information is recorded, passive and active search tactics are implemented, personnel resources are considered and used, and search parameters are communicated.

Requisite Knowledge

1. Describe topographical map components, hydrologic factors, and wave heights
2. Describe methods to determine areas of high probability of detection
3. Describe critical interview questions and practices
4. Describe methods to identify track traps
5. Describe ways to identify spotter areas and purposes for spotters
6. Describe personnel available and their effect on parameter definition
7. Describe the effect of search strategy defining parameters
8. Describe communication methods
9. Describe reporting requirements

Requisite Skills

1. Interpret and correlate reference and size-up information
2. Evaluate site conditions
3. Complete risk/benefit analysis
4. Apply safety, communications, and operational protocols
5. Specify PPE requirements
6. Determine rescue personnel requirements

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-15 Water Rescue Technician (2021) • Topic 2-15	Water Rescue Technician (2021) • Skill 12, 13, 14, 15, 16	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 16 Water Rescue Technician (2021) Instructor Task Book • JPR 16, 28

2-4: Developing an Action Plan for a Shore-based Rescue

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 17.2.4

Job Performance Requirement

Develop an action plan for a shore-based rescue of a single or multiple water-bound victim(s), given an operational plan and a water rescue tool kit, so that all information is factored, risk/benefit analysis is conducted, protocols are followed, hazards are identified and minimized, personnel and equipment resources will not be exceeded, assignments are defined, consideration is given to evaluating changing conditions, and the selected strategy and tactics fit the conditions.

Requisite Knowledge

1. Describe elements of an action plan
2. Describe types of information provided by reference materials and size-up
3. Describe hydrology
4. Describe types of hazards associated with water rescue practices
5. Describe risk/benefit analysis
6. Identify hazard-specific PPE
7. Describe factors influencing access and egress routes
8. Describe behavioral patterns of victims
9. Describe environmental conditions that influence victim location
10. Describe safety, communications, and operational protocols
11. Describe resource capability and availability

Requisite Skills

1. Interpret and correlate reference and size-up information
2. Evaluate site conditions
3. Complete risk/benefit analysis
4. Apply safety, communications, and operational protocols
5. Specify PPE requirements
6. Determine rescue personnel requirements

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-6 Water Rescue Technician (2021) • Topic 2-6	Water Rescue Awareness and Operations (2021) • Skill 3 Water Rescue Technician (2021) • Skill 3	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 2, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 7, 28

2-5: Deploying a Water Rescue Reach Device

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 17.2.5

Job Performance Requirement

Deploy a water rescue reach device to a water-bound victim, given required equipment and PPE so that the deployed equipment reaches the victim(s), the rescue equipment does not slip through the rescuer's hands, the victim is moved to the rescuer's shoreline, the victim is not pulled beneath the surface by rescuer efforts, the rescuer is not pulled into the water by the victim, and neither the rescuer nor the victim is tied to or entangled in the device.

Requisite Knowledge

1. Describe types and capabilities of PPE
2. Describe effects of hydrodynamic forces on rescuers and victims
3. Describe physiological effects of immersion
4. Describe hydrology and characteristics of water
5. Describe behaviors of water-bound victims
6. Describe water rescue rope-handling techniques
7. Identify incident-specific hazards
8. Describe criteria for selecting victim retrieval locations based on the water environment and conditions
9. Describe hazards and limitations of shore-based rescue
10. Describe local policies and procedures for rescue team activation
11. Describe information on local water environments

Requisite Skills

1. Select and don PPE specific to the water environment
2. Identify water hazards (i.e., upstream or downstream, current or tide)
3. Identify hazards directly related to the specific rescue
4. Demonstrate appropriate shore-based victim removal techniques

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-18 Water Rescue Technician (2021) • Topic 2-18	Water Rescue Technician (2021) • Skill 23	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 19 Water Rescue Technician (2021) Instructor Task Book • JPR 19, 28

2-6: Deploying a Water Rescue Rope

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 17.2.6

Job Performance Requirement

Deploy a water rescue rope to a water-bound victim, given a water rescue rope in a throw bag, a coiled water rescue rope 50 ft to 75 ft (15.24 m to 22.86 m) in length, and PPE, so that the deployed rope lands within reach of the victim, the rescue rope does not slip through the rescuer's hands, the victim is moved to the rescuer's shoreline, the victim is not pulled beneath the surface by rescuer efforts, the rescuer is not pulled into the water by the victim, and neither the rescuer nor the victim is tied to or entangled in the throw line.

Requisite Knowledge

1. Describe types and capabilities of PPE
2. Describe effects of hydrodynamic forces on rescuers and victims
3. Describe hydrology and characteristics of water
4. Describe behaviors of water-bound victims
5. Describe water rescue rope-handling techniques
6. Describe incident-specific hazard identification
7. Describe criteria for selecting victim retrieval locations based on the water environment and conditions
8. Describe hazards and limitations of shore-based rescue
9. Describe local policies and procedures for rescue team activation
10. Describe information on local water environments

Requisite Skills

1. Deploy both a water rescue rope bag and a coiled water rescue rope
2. Select and don PPE specific to the water environment
3. Identify water hazards (e.g., upstream or downstream, current or tide)
4. Identify hazards directly related to the specific rescue
5. Demonstrate appropriate shore-based victim removal techniques

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-18 Water Rescue Technician (2021) • Topic 2-18	Water Rescue Technician (2021) • Skill 23	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 19 Water Rescue Technician (2021) Instructor Task Book • JPR 19, 28

2-7: Developing and Implementing an Action Plan to Use Watercraft

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 17.2.7

Job Performance Requirement

Develop and implement an action plan for the use of watercraft to support the rescue of a single or multiple water-bound victims, given watercraft, operator(s), and policies and procedures used by the AHJ, so that watercraft pre-deployment checks are completed; watercraft launch or recovery is achieved; rescuers are deployed and recovered; both onboard and rescue operations conform with watercraft operational protocols and capabilities; communications are clear and concise; and the candidate is familiar with watercraft nomenclature, operational protocols, design limitations, and launch/recovery site issues.

Requisite Knowledge

1. Describe entry/exit procedures
2. Describe communications techniques
3. Describe boat operation techniques
4. Describe design limitations
5. Describe climatic conditions, tides, and currents

Requisite Skills

1. Implement access and egress procedures and communications with watercraft crew
2. Use emergency/safety equipment
3. Identify hazards
4. Operate within the rescue environment

Content Modification

Block	Modification	Justification
RK5	Changed “climactic” to “climatic”.	NFPA used the wrong word.

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-8 Water Rescue Technician (2021) • Topic 2-8	N/A	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 9 Water Rescue Technician (2021) Instructor Task Book • JPR 9

2-8: Defining Procedures to Support Helicopter Water Operations

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 17.2.8

Job Performance Requirement

Define procedures to provide support for helicopter water rescue operations within the area of responsibility for the AHJ, given a helicopter service, operational protocols, helicopter capabilities and limitations, water rescue procedures, and risk factors influencing helicopter operations, so that air-to-ground communication is established and maintained, applications are within the capabilities and skill levels of the helicopter service, the applications facilitate victim extraction from water hazards that are representative of the bodies of water existing or anticipated within the geographic confines of the AHJ, air crew and ground personnel safety are not compromised, landing zones are designated and secured, and fire suppression resources are available at the landing zone.

Requisite Knowledge

1. Describe local aircraft capabilities and limitations
2. Describe landing zone requirements
3. Describe hazards to aircraft
4. Describe local protocols
5. Describe procedures for operating around aircraft
6. Describe dynamics of rescue options
7. Describe crash survival principles
8. Describe PPE limitations and selection criteria
9. Describe ancillary helicopter rescue equipment
10. Describe helicopter surf rescue procedures

Requisite Skills

1. Determine applicability of air operations
2. Establish and control landing zones
3. Assess fire protection needs
4. Communicate with air crews
5. Identify hazards
6. Rig aircraft for anticipated rescue procedures
7. Apply crash survival procedures
8. Select and use PPE
9. Work with air crews to rescue a victim from the water

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-9 Water Rescue Technician (2021) • Topic 2-9	N/A	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 10 Water Rescue Technician (2021) Instructor Task Book • JPR 10

2-9: Implementing Procedures for Performing Watercraft-based Rescue

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 17.2.9

Job Performance Requirement

Implement procedures for performing watercraft-based rescue of an incapacitated, water-bound victim, as a member of a team, given a water hazard that is representative of the anticipated rescue environment watercraft that is available to the team (if applicable), designated victim packaging and management equipment, and water rescue PPE, so that the control and stability of the watercraft is maintained, risks to the victim and rescuers are minimized, and the victim is removed from the hazard.

Requisite Knowledge

1. Describe limitations and uses of available watercraft
2. Describe local environmental access and egress procedures
3. Describe parbuckling (rollup) techniques
4. Describe dynamics of moving water and its effects on watercraft handling
5. Describe conditional requirements for PPE
6. Describe the effects of extrication on watercraft handling and stability

Requisite Skills

1. Move about in a designated watercraft in conditions representative of the anticipated rescue environment while managing the movement of a water-bound victim using techniques identified by the AHJ

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Technician (2021) • Topic 2-19	Water Rescue Technician (2021) • Skill 24	Water Rescue Technician (2021) Instructor Task Book • JPR 20, 28

2-10: Demonstrating Survival Swimming and Self-rescue Skills

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 17.2.10

Job Performance Requirement

Demonstrate fundamental survival swimming and self-rescue skills, given safety equipment, props, and a controlled setting representative of the anticipated rescue environment, so that the risk of injury is minimized, flotation is maintained, available PPE is utilized, and egress is accomplished.

Requisite Knowledge

1. Describe basic forward stroke swimming theory (surface skills)

Requisite Skills

1. Apply basic swimming skills, including the ability to swim and float in different water conditions with and without flotation aids or swimming aids as required
2. Apply water survival skills
3. Don and doff PPE
4. Select and use PPE, flotation aids, and swim aids
5. Use communications systems
6. Evaluate water conditions to identify entry points and hazards

Content Modification

Block	Modification	Justification
RS1	Added “Apply”.	NFPA did not provide a verb.

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-20 Water Rescue Technician (2021) • Topic 2-21	Water Rescue Technician (2021) • Skill 31	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 21 Water Rescue Technician (2021) Instructor Task Book • JPR 22, 28

2-11: Identifying Procedures for Operating Water Rescue Rope Systems

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 17.2.11

Job Performance Requirement

Identify procedures for operation of rope systems particular to the water rescue needs of the AHJ, given rescue personnel, an established rope system, a load to be moved, and PPE, so that the movement is controlled, the load is held in place when needed, and operating methods do not stress the system.

Requisite Knowledge

1. Describe ways to determine incident needs as related to the operation of rope systems
2. Describe capabilities and limitations of various rope systems
3. Describe incident site evaluation as related to interference concerns and obstacle negotiation
4. Describe system safety check protocols
5. Describe procedures to evaluate system components for compromised integrity
6. Describe common personnel assignments and duties
7. Describe assignment considerations
8. Describe common and critical operational commands
9. Describe common rope system problems and ways to minimize or manage them
10. Describe ways to increase the efficiency of load movement

Requisite Skills

1. Determine incident needs
2. Complete a system safety check
3. Evaluate system components for compromised integrity
4. Select personnel
5. Communicate with personnel
6. Manage movement of the load
7. Evaluate for potential problems

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-19 Water Rescue Technician (2021) • Topic 2-20	Water Rescue Technician (2021) • Skill 25, 26, 27, 28, 29, 30	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 20 Water Rescue Technician (2021) Instructor Task Book • JPR 21, 28

2-12: Supporting Water Rescue Operations

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 17.2.12

Job Performance Requirement

Support operations, given a designated mission, safety equipment, props, and water body, so that skills are demonstrated in a controlled environment, performance parameters are achieved, hazards are continually assessed, correct buoyancy control is maintained, and emergency procedures are demonstrated.

Requisite Knowledge

1. Describe support procedures including search patterns, operation support equipment, and communications issues

Requisite Skills

1. Apply basic support skills, including the ability to act as spotters and tend to water rescuers

Content Modification

Block	Modification	Justification
RS1	Added “Apply”.	NFPA didn’t provide a verb.

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-14 Water Rescue Technician (2021) • Topic 2-14	Water Rescue Awareness and Operations (2021) • Skill 12 Water Rescue Technician (2021) • Skill 11	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 15, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 15, 28

2-13: Terminating an Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 17.2.13

Job Performance Requirement

Terminate an incident, given PPE specific to the incident, isolation barriers, and a tool cache, so that rescuers and bystanders are protected and accounted for during termination operations; the party responsible is notified of any modifications or damage created during the operational period; documentation of loss or material use is accounted for, scene documentation is performed, and scene control is transferred to a responsible party; potential or existing hazards are communicated to that responsible party; debriefing and post-incident analysis and critique are considered; and command is terminated.

Requisite Knowledge

1. Describe PPE characteristics
2. Identify hazards and risks
3. Describe isolation techniques
4. Describe statutory requirements identifying responsible parties
5. Describe accountability system use
6. Describe reporting methods
7. Describe post-incident analysis techniques

Requisite Skills

1. Select and use task and hazard-specific PPE
2. Decontaminate PPE
3. Use barrier protection techniques
4. Collect data
5. Follow record-keeping/reporting protocols
6. Conduct post-incident analysis activities

Content Modification

Block	Modification	Justification
JPR	Changed “kit” to “cache”.	Agencies do not have specific tower rescue tool kits; they assemble tools as needed from their general tool cache.

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-22 Water Rescue Technician (2021) • Topic 2-26	Water Rescue Awareness and Operations (2021) • Skill 14 Water Rescue Technician (2021) • Skill 51	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 23, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 27, 28

Section 3: Technician

3-1: Swimming a Designated Water Course

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 17.3.1

Job Performance Requirement

Swim a designated water course, given a course designated by the AHJ as demonstrating the capabilities necessary to operate in the anticipated rescue environment, water rescue PPE, and swim aids as required, so that the specified objective is reached, all performance parameters are achieved, movement is controlled, hazards are continually assessed, distress signals are communicated, and rapid intervention for the rescuer has been staged for deployment.

Requisite Knowledge

1. Describe hydrology and specific hazards anticipated for representative water rescue environments (shoreline, in-water, and climatic)
2. Describe selection criteria for water rescue PPE and swim aids for anticipated water conditions and hazards
3. Describe swimming techniques for a representative body of water

Requisite Skills

1. Swim and float over the required distances and for the necessary duration as outlined in the watermanship test found in Annex M with and without flotation aids or swim aids
2. Apply water survival skills
3. Don and doff PPE
4. Select and use swim aids
5. Use communications systems
6. Evaluate water conditions to identify entry points and hazards

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-20 Water Rescue Technician (2021) • Topic 2-21	Water Rescue Technician (2021) • Skill 31	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 21 Water Rescue Technician (2021) Instructor Task Book • JPR 22, 28

3-2: Performing a Swimming Surface Water Rescue

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 17.3.2

Job Performance Requirement

Perform a swimming surface water rescue, given a simulated victim, water rescue PPE, conditions representative of the anticipated rescue environment, swim aids as required, flotation aids for victims, and reach/extension devices, so that victim contact is maintained, the rescuer maintains control of the victim, the rescuer and the victim reach safety at a predetermined area, and medical conditions and treatment options are considered.

Requisite Knowledge

1. Describe hydrology and specific hazards anticipated for a representative water rescue environment (shoreline, in-water, and climatic)
2. Describe victim behavior patterns
3. Describe emergency countermeasures for combative victims
4. Describe selection criteria for water rescue PPE, swim aids, and flotation aids for anticipated water conditions
5. Describe victim abilities and hazards
6. Describe swimming techniques for representative bodies of water
7. Describe signs, symptoms, and treatment of aquatic medical emergencies

Requisite Skills

1. Swim and float in different water conditions with and without flotation aids or swim aids
2. Apply water survival skills
3. Manage combative water-bound victims
4. Don and doff PPE
5. Select and use PPE, flotation aids, and swim aids
6. Utilize communications systems
7. Select equipment and techniques for treatment of aquatic medical emergencies
8. Evaluate water conditions to identify entry points and hazards

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Technician (2021) • Topic 2-22	Water Rescue Technician (2021) • Skill 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48	Water Rescue Technician (2021) Instructor Task Book • JPR 23, 28

3-3: Demonstrating Defensive Tactics in the Water Rescue Environment

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 17.3.3

Job Performance Requirement

Demonstrate defensive tactics in the water rescue environment, given a water-bound victim in a stressed or panicked situation, so that the rescuer can maintain separation from the victim to create or maintain personal safety and can perform self-defense techniques to prevent rescuer submersion if direct contact is made between a panicked victim and the rescuer.

Requisite Knowledge

1. Describe basic emergency procedures for applicable environments and situations with stressed or panicked victims at water rescues

Requisite Skills

1. Release oneself effectively from the grasp of a panicked victim, including blocks, releases, and escapes

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Technician (2021) • Topic 2-22	Water Rescue Technician (2021) • Skill 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48	Water Rescue Technician (2021) Instructor Task Book • JPR 23, 28

3-4: Performing an Entry Surface Rescue from a Rescue Platform

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 17.3.4

Job Performance Requirement

Perform an entry surface rescue from a rescue platform (such as a vessel, boat, watercraft, or other waterborne transportation aid) while negotiating a designated surface course, given a course that is representative of the bodies of surface water existing or anticipated within the geographical confines of the AHJ, water rescue PPE, and swim aids, so that the specific objective is reached, the victim is retrieved, movement is controlled, hazards are continually assessed, distress signals are demonstrated, and rapid intervention for the rescuer has been staged for deployment.

Requisite Knowledge

1. Describe watercraft operational characteristics
2. Describe hydrology features
3. Describe water entry and exit techniques
4. Describe water-bound victim management

Requisite Skills

1. Operate watercraft
2. Stabilize and maneuver watercraft
3. Implement access and egress procedures
4. Recover a capsized vessel
5. Package and manage waterborne victims
6. Use hand signals

Content Modification

Block	Modification	Justification
RS1	Changed “Watercraft operations” to “Operate watercraft”.	Adjusted word order to fit template.
RS2	Changed “Watercraft stability and maneuvering techniques” to “Stabilize and maneuver watercraft”.	Adjusted word order to fit template.
RS3	Changed “Rescuer entry and egress methods” to “Implement access and egress procedures”.	Adjusted word order to fit template.
RS4	Changed “Capsized vessel upset recovery techniques” to “Recover a capsized vessel”.	Adjusted word order to fit template.
RS5	Changed “Waterborne victim packaging and management techniques” to “Package and manage waterborne victims”.	Adjusted word order to fit template.

RS6	Added “Use”.	NFPA didn’t provide a verb.

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Technician (2021) • Topic 2-23	Water Rescue Technician (2021) • Skill 49	Water Rescue Technician (2021) Instructor Task Book • JPR 24, 28

3-5: Directing a Rescue Team During Operations

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 17.3.5

Job Performance Requirement

Direct a rescue team during operations, given incident checklists, maps, topographic surveys, and charts, so that teams are managed, personnel are supervised, hazards are assessed and identified, safety and health of the team is ensured, qualifications/abilities of rescuers are verified, pre-entry briefing is conducted, and debriefing is performed.

Requisite Knowledge

1. Describe supervisory practices
2. Describe emergency procedures
3. Describe communications procedures
4. Describe local protocols
5. Describe safety checks
6. Describe personnel accountability techniques

Requisite Skills

1. Implement emergency procedures
2. Implement communications procedures
3. Implement incident management
4. Implement personnel accountability
5. Implement resource management

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-21 Water Rescue Technician (2021) • Topic 2-25	N/A	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 22 Water Rescue Technician (2021) Instructor Task Book • JPR 26

Swiftwater Rescue

Section 4: Awareness

4-1: Sizing Up a Swiftwater Rescue Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 18.1.1

Job Performance Requirement

Size up a swiftwater rescue incident, given background information and applicable reference materials, so that the scope of the rescue is determined, the number of victims is identified, the last reported location of all the victims 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.

Requisite Knowledge

1. Describe types of reference materials and their uses
2. Describe availability and capability of the resources
3. Describe elements of an incident action plan and related information
4. Describe relationship of the size-up to the incident management system
5. Describe information gathering techniques and how that information is used in the size-up process
6. Describe basic search criteria for swiftwater rescue incidents

Requisite Skills

1. Read technical rescue reference materials
2. Gather information
3. Use interview techniques
4. Relay information
5. Use information-gathering sources

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-6 Water Rescue Technician (2021) • Topic 2-6	Water Rescue Awareness and Operations (2021) • Skill 3 Water Rescue Technician (2021) • Skill 3	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 7, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 7, 28

4-2: Recognizing Incident Hazards and Initiating Isolation Procedures

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 18.1.2

Job Performance Requirement

Recognize incident hazards and initiate isolation procedures, given scene control barriers, personal protective equipment (PPE), requisite equipment, and available specialized resources, so that all hazards are identified; resource application fits the operational requirements; hazard isolation is considered; risks to rescuers, bystanders, and victims are minimized; and rescue time constraints are taken into account.

Requisite Knowledge

1. Describe resource capabilities and limitations
2. Describe types and nature of incident hazards
3. Describe equipment types and their use
4. Describe isolation terminology, methods, equipment, and implementation
5. Describe operational requirement concerns
6. Describe common types of rescuer and victim risks
7. Describe risk/benefit analysis methods and practices
8. Describe hazard recognition, isolation methods, and terminology
9. Describe methods for controlling access to the scene
10. Describe types of technical references

Requisite Skills

1. Identify resource capabilities and limitations
2. Identify incident hazards
3. Assess potential hazards to rescuers and bystanders
4. Place scene control barriers
5. Operate control and mitigation equipment

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-3 Water Rescue Technician (2021) • Topic 2-3	Water Rescue Awareness and Operations (2021) • Skill 1 Water Rescue Technician (2021) • Skill 1	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 4, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 4, 28

4-3: Recognizing the Need for Technical Rescue Resources

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 18.1.3

Job Performance Requirement

Recognize the need for technical rescue resources at an operations- or technician-level incident, given AHJ guidelines, so that the need for additional resources is identified, the response system is initiated, the scene is secured and rendered safe until additional resources arrive, and awareness-level personnel are incorporated into the operational plan.

Requisite Knowledge

1. Describe operational protocols
2. Identify specific planning forms
3. Describe types of incidents common to the AHJ
4. Describe hazards
5. Describe incident support operations and resources
6. Describe safety measures

Requisite Skills

1. Apply operational protocols
2. Select specific planning forms based on the types of incidents
3. Identify and evaluate various types of hazards within the AHJ
4. Request support and resources
5. Determine the required safety measures

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-1 Water Rescue Technician (2021) • Topic 2-1	N/A	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 2 Water Rescue Technician (2021) Instructor Task Book • JPR 2

4-4: Supporting an Operations- or Technician-level Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 18.1.4

Job Performance Requirement

Support an operations- or technician-level incident, given an incident, an assignment, an incident action plan, and resources from the tool kit, so that the assignment is carried out, progress is reported to command, environmental concerns are managed, personnel rehabilitation is facilitated, and the incident action plan is supported.

Requisite Knowledge

1. Describe AHJ operational protocols
2. Describe hazard recognition
3. Describe incident management
4. Describe PPE selection
5. Describe resource selection and use
6. Describe scene support requirements

Requisite Skills

1. Apply operational protocols
2. Function within an incident management system
3. Follow and implement an incident action plan
4. Report the task progress status to a supervisor or incident command

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-14 Water Rescue Technician (2021) • Topic 2-14	Water Rescue Awareness and Operations (2021) • Skill 12 Water Rescue Technician (2021) • Skill 11	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 5, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 15, 28

Section 5: Operations

5-1: Constructing Rope Rescue Systems

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 18.2.1

Job Performance Requirement

Construct rope systems particular to the swiftwater rescue needs of the AHJ, given rescue personnel, rope equipment, a load to be moved, and personal protective equipment (PPE), so that the movement is controlled, the load is held in place when needed, and operating methods do not stress the system.

Requisite Knowledge

1. Describe rope systems specific to the swiftwater environment
2. Describe the capabilities and limitations of various rope systems
3. Describe incident site evaluation as related to interference concerns and obstacle negotiation
4. Describe system safety check protocols
5. Describe procedures to evaluate system components for compromised integrity
6. Describe common personnel assignments and duties
7. Describe common and critical operational commands
8. Describe methods to increase the efficiency of load movement

Requisite Skills

1. Determine incident needs
2. Complete a system safety check
3. Evaluate system components for compromised integrity
4. Select personnel
5. Communicate with personnel
6. Manage movement of the load
7. Evaluate for potential problems

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-19 Water Rescue Technician (2021) • Topic 2-20	Water Rescue Technician (2021) • Skill 25, 26, 27, 28, 29, 30	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 20 Water Rescue Technician (2021) Instructor Task Book • JPR 21, 28

5-2: Supporting Swiftwater Operations

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 18.2.2

Job Performance Requirement

Support swiftwater operations, given a designated mission, safety equipment, props, and water body, so that skills are demonstrated in a controlled environment, performance parameters are achieved, hazards are continually assessed, personnel accountability is maintained, and emergency procedures are demonstrated.

Requisite Knowledge

1. Describe support procedures, including search patterns, equipment setup, operation support equipment, and communications issues

Requisite Skills

1. Execute basic support skills, including the ability to serve as an upstream or downstream safety spotter, and the ability to implement personnel accountability systems and tend to an in-water rescuer

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-14 Water Rescue Technician (2021) • Topic 2-14	Water Rescue Awareness and Operations (2021) • Skill 12 Water Rescue Technician (2021) • Skill 11	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 15, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 15, 28

5-3: Assessing Hazards to Rescuers and Victims

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 18.2.3

Job Performance Requirement

Assess moving water conditions, characteristics, and features in terms of hazards to the rescuer and victims, given an incident scenario and swiftwater tool kit, so that the flow and conditions are estimated accurately, mechanisms of entrapment are considered, hazards are assessed, the depth and surrounding terrain are evaluated, and findings are documented.

Requisite Knowledge

1. Describe flow calculation methods
2. Describe map or chart reading
3. Describe local water hazards and conditions
4. Describe entrapment mechanisms
5. Describe human physiology and survival factors

Requisite Skills

1. Determine flow and environmental factors
2. Describe the effects on victims and rescuers
3. Interpret maps or charts

Content Modification

Block	Modification	Justification
RS2	Added “Describe”.	NFPA did not provide a verb.

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-4 Water Rescue Technician (2021) • Topic 2-4	Water Rescue Awareness and Operations (2021) • Skill 2 Water Rescue Technician (2021) • Skill 2	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 5, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 5, 28

5-4: Performing a Non-water Entry Rescue

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 18.2.4

Job Performance Requirement

Perform a non-water entry rescue in the swiftwater and flooding environment, given an incident scenario, PPE, and swiftwater rescue tool kit, so that rescue is accomplished, and adopted policies and safety procedures are followed.

Requisite Knowledge

1. Describe types and capabilities of PPE
2. Describe the effects of hydrodynamic forces on rescuers and victims
3. Describe hydrology and characteristics of water
4. Describe behaviors of water-bound victims
5. Describe water rescue rope-handling techniques
6. Describe incident-specific hazard identification
7. Describe criteria for selecting victim retrieval locations based on the water environment and conditions
8. Describe hazards and limitations of shore-based rescue
9. Describe local policies/procedures for rescue team activation
10. Describe information on local water environments

Requisite Skills

1. Select and use task-specific PPE
2. Identify water hazards (i.e., upstream or downstream, current or tide)
3. Identify hazards directly related to the specific rescue
4. Demonstrate appropriate shore-based victim removal techniques

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-18 Water Rescue Technician (2021) • Topic 2-18	Water Rescue Technician (2021) • Skill 23	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 19 Water Rescue Technician (2021) Instructor Task Book • JPR 19, 28

5-5: Terminating an Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 18.2.5

Job Performance Requirement

Terminate an incident, given PPE specific to the incident, isolation barriers, and a tool kit, so that rescuers and bystanders are protected and accounted for during termination operations; the party responsible is notified of any modifications or damage created during the operational period; documentation of loss or material use is accounted for; scene documentation is performed; and control is transferred to a responsible party; potential or existing hazards are communicated to that responsible party; debriefing, post-incident analysis, and critique are conducted; and command is terminated.

Requisite Knowledge

1. Describe PPE characteristics
2. Describe hazard and risk identification
3. Describe isolation techniques
4. Describe statutory requirements identifying responsible parties
5. Describe accountability system use
6. Describe reporting methods
7. Describe post-incident analysis techniques

Requisite Skills

1. Select and use hazard-specific PPE
2. Decontaminate PPE
3. Use barrier protection techniques
4. Use data collection and record-keeping/reporting protocols
5. Participate in conduct post-incident analysis activities

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-22 Water Rescue Technician (2021) • Topic 2-26	Water Rescue Awareness and Operations (2021) • Skill 14 Water Rescue Technician (2021) • Skill 51	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 23, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 27, 28

Section 6: Technician

6-1: Performing an Entry Rescue

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 18.3.1

Job Performance Requirement

Perform an entry rescue in the swiftwater and flooding environment, given an incident scenario, PPE, and swiftwater rescue tool kit, so that rescue is accomplished and adopted policies and safety procedures are followed.

Requisite Knowledge

1. Describe types and capabilities of PPE
2. Describe the effects of hydrodynamic forces on rescuers and victims
3. Describe hydrology and characteristics of water
4. Describe behaviors of water-bound victims
5. Describe water rescue rope-handling techniques
6. Describe incident-specific hazard identification
7. Describe criteria for selecting victim retrieval locations based on the water environment and conditions
8. Describe hazards and limitations of shore-based rescue
9. Describe personnel accountability protocols
10. Describe information on local water environments

Requisite Skills

1. Select and utilize task-specific PPE
2. Identify water hazards (i.e., upstream or downstream, current or tide)
3. Identify hazards directly related to the specific rescue
4. Demonstrate appropriate victim packaging and removal techniques
5. Use a personnel accountability system

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Technician (2021) • Topic 2-22	Water Rescue Technician (2021) • Skill 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48	Water Rescue Technician (2021) Instructor Task Book • JPR 23, 28

6-2: Negotiating a Designated Swiftwater Course

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 18.3.2

Job Performance Requirement

Negotiate a designated swiftwater course, given a course that is representative of the bodies of swiftwater existing or anticipated within the geographic confines of the AHJ, water rescue PPE, and swim aids as required, so that the specified objective is reached, all performance parameters are achieved, movement is controlled, hazards are continually assessed, distress signals are demonstrated, and rapid intervention for the rescuer has been staged for deployment.

Requisite Knowledge

1. Describe hydrology and specific hazards anticipated for representative water rescue environments (shoreline, in-water, and climatic)
2. Describe selection criteria for water rescue PPE and swim aids for anticipated water conditions and hazards
3. Describe swimming techniques for a representative body of water
4. Describe personnel accountability methods

Requisite Skills

1. Swim and float in different water conditions with and without flotation aids or swim aids as required
2. Apply water survival skills
3. Don and doff PPE
4. Select and use swim aids
5. Utilize communications systems
6. Implement personnel accountability protocols
7. Evaluate water conditions to identify entry points and hazards

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-20 Water Rescue Technician (2021) • Topic 2-21	Water Rescue Technician (2021) • Skill 31	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 21 Water Rescue Technician (2021) Instructor Task Book • JPR 22, 28

6-3: Performing an Entry Swiftwater Rescue from a Rescue Platform

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 18.3.3

Job Performance Requirement

Perform an entry swiftwater rescue from a rescue platform such as a vessel, boat, watercraft, or other waterborne transportation aid while negotiating a designated swiftwater course, given a course that is representative of the bodies of swiftwater existing or anticipated within the geographical confines of the AHJ, water rescue PPE, and swim aids as required, so that the specific objective is reached, all performance parameters are achieved, movement is controlled, hazards are continually assessed, distress signals are demonstrated, personnel accountability is implemented, and rapid intervention for the rescuers has been staged for deployment.

Requisite Knowledge

1. Describe the application and safe operation of the waterborne transportation device and its limitations
2. Describe follow all manufacturers' recommendations
3. Describe comply with all the regulatory and applicable laws of safe water transportation according to the AHJ
4. Describe how to understand personnel accountability methods

Requisite Skills

1. Locate water entry and egress methods from the platform used
2. Assess swiftwater conditions
3. Recover capsized vessels
4. Move vessels in swiftwater conditions
5. Implement personnel accountability methods
6. Understand patient packaging and handling techniques

Content Modification

Block	Modification	Justification
RK4	Added "how to".	Added for grammar.

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Technician (2021) • Topic 2-23	Water Rescue Technician (2021) • Skill 49	Water Rescue Technician (2021) Instructor Task Book • JPR 24, 28

Floodwater Rescue

Section 7: Awareness

7-1: Sizing Up a Floodwater Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 23.1.1

Job Performance Requirement

Size up a floodwater rescue incident, given an incident, background information, and applicable reference materials, so that the operational mode is defined; resource availability, response times, and types of rescues are determined; the number of victims is identified; the last reported locations of all the victims is established; witnesses and reporting parties are identified and interviewed; resource needs are assessed; search parameters are identified; and information required to develop an incident action plan is obtained.

Requisite Knowledge

1. Describe types of reference materials and their uses
2. Describe risk/benefit assessment
3. Describe availability and capability of the resources
4. Describe elements of an incident action plan and related information
5. Describe relationship of the size-up to the incident management system
6. Describe information gathering techniques and how that information is used in the size-up process
7. Describe basic search criteria for floodwater rescue incidents

Requisite Skills

1. Read specific rescue reference materials
2. Interview people
3. Gather information
4. Relay information
5. Manage witnesses
6. Use information sources

Content Modification

Block	Modification	Justification
RK4	Added “incident”.	“Incident action plan” is more common terminology.

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-6 Water Rescue Technician (2021) • Topic 2-6	Water Rescue Awareness and Operations (2021) • Skill 3 Water Rescue Technician (2021) • Skill 3	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 7, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 7, 28

7-2: Recognizing Incident Hazards and Initiating Isolation Procedures

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 23.1.2

Job Performance Requirement

Recognize incident hazards and initiate isolation procedures, given scene control barriers, personal protective equipment (PPE), requisite equipment, and available specialized resources, so that all hazards are identified; resource application fits the operational requirements; hazard isolation is considered; risks to rescuers, bystanders, and victims are minimized; and rescue time constraints are taken into account.

Requisite Knowledge

1. Describe resource capabilities and limitations
2. Describe types and nature of incident hazards
3. Describe equipment types and their use
4. Describe isolation terminology, methods, equipment, and implementation
5. Describe operational requirement concerns
6. Describe common types of rescuer and victim risks
7. Describe risk/benefit analysis methods and practices
8. Describe hazard recognition, isolation methods, and terminology
9. Describe methods for controlling access to the scene
10. Describe types of technical references

Requisite Skills

1. Identify resource capabilities and limitations
2. Identify incident hazards
3. Assess potential hazards to rescuers and bystanders
4. Place scene control barriers
5. Operate control and mitigation equipment

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-3 Water Rescue Technician (2021) • Topic 2-3	Water Rescue Awareness and Operations (2021) • Skill 1 Water Rescue Technician (2021) • Skill 1	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 4, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 4, 28

7-3: Recognizing the Need for Technical Resources

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 23.1.3

Job Performance Requirement

Recognize the need for technical rescue resources at an operations- or technician-level incident, given AHJ guidelines, so that the need for additional resources is identified, the response system is initiated, the scene is secured and rendered safe until additional resources arrive, and awareness-level personnel are incorporated into the operational plan.

Requisite Knowledge

1. Describe operational protocols
2. Identify specific planning forms
3. Describe types of incidents common to the AHJ
4. Describe hazards
5. Describe incident support operations and resources
6. Describe safety measures

Requisite Skills

1. Apply operational protocols
2. Select specific planning forms based on the types of incidents
3. Identify and evaluate various types of hazards within the AHJ
4. Request support and resources
5. Determine the required safety measures

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-1 Water Rescue Technician (2021) • Topic 2-1	N/A	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 2 Water Rescue Technician (2021) Instructor Task Book • JPR 2

7-4: Supporting an Operations- or Technician-level Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 23.1.4

Job Performance Requirement

Support an operations- or technician-level incident, given an incident, an assignment, an incident action plan, and resources from the tool kit, so that the assignment is carried out, progress is reported to command, environmental concerns are managed, personnel rehabilitation is facilitated, and the incident action plan is supported.

Requisite Knowledge

1. Describe AHJ operational protocols
2. Describe hazard recognition
3. Describe incident management
4. Describe PPE selection
5. Describe resource selection and use
6. Describe scene support requirements

Requisite Skills

1. Apply operational protocols
2. Function within an incident management system
3. Follow and implement an incident action plan
4. Report the task progress status to a supervisor or incident command

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-14 Water Rescue Technician (2021) • Topic 2-14	Water Rescue Awareness and Operations (2021) • Skill 12 Water Rescue Technician (2021) • Skill 11	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 15, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 15, 28

Section 8: Operations

8-1: Supporting Technician-level Floodwater Rescue Operations

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 23.2.1

Job Performance Requirement

Support technician-level floodwater rescue operations, given a designated mission, safety equipment, props, and water body, so that skills are demonstrated in a controlled environment, performance parameters are achieved, hazards are continually assessed, and emergency procedures are demonstrated.

Requisite Knowledge

1. Describe support procedures, including search patterns, equipment setup, operating support equipment, and communications systems

Requisite Skills

1. Execute basic support skills, including the ability to serve as a safety or spotter and tend an in-water rescuer

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-14 Water Rescue Technician (2021) • Topic 2-14	Water Rescue Awareness and Operations (2021) • Skill 12 Water Rescue Technician (2021) • Skill 11	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 15, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 15, 28

8-2: Assessing Hazards to Rescuers and Victims

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 23.2.2

Job Performance Requirement

Assess floodwater conditions, characteristics, and features in terms of hazards to the rescuer and victims, given an incident scenario and a floodwater tool kit, so that flow and conditions are estimated, depth and surrounding terrain are evaluated, and findings are documented.

Requisite Knowledge

1. Describe flow calculation methods
2. Describe the characteristics of floodwater events
3. Describe map reading
4. Describe interpreting local terrain data
5. Describe local water hazards and conditions
6. Describe entrapment mechanisms
7. Describe weather forecasts
8. Describe human physiology and survival factors

Requisite Skills

1. Assess water flow and environmental factors
2. Acquire and interpret weather forecasts and local terrain data and evaluate their impact on victims and rescuers

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-4 Water Rescue Technician (2021) • Topic 2-4	Water Rescue Awareness and Operations (2021) • Skill 2 Water Rescue Technician (2021) • Skill 2	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 5, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 5, 28

8-3: Performing a Non-entry Rescue

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 23.2.3

Job Performance Requirement

Perform a non-entry rescue in the floodwater environment, given an incident scenario, PPE, and a floodwater rescue tool kit, so that rescue is accomplished, and adopted policies and safety procedures are followed.

Requisite Knowledge

1. Describe types and capabilities of PPE
2. Describe effects of hydrodynamic forces on rescuers and victims
3. Describe hydrology and characteristics of water
4. Describe behaviors of water-bound victims
5. Describe water rescue rope-handling techniques
6. Describe incident-specific hazard identification
7. Describe criteria for selecting victim retrieval locations based on water environment and conditions
8. Describe hazards and limitations of shore-based rescue
9. Describe local policies/procedures for rescue team activation
10. Describe information on local water environments

Requisite Skills

1. Select PPE specific to the water environment
2. Don PPE
3. Identify water hazards (i.e., upstream or downstream, current or tides)
4. Identify hazards directly related to the specific rescue
5. Demonstrate appropriate shore-based victim removal techniques

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-18 Water Rescue Technician (2021) • Topic 2-18	Water Rescue Technician (2021) • Skill 23	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 19 Water Rescue Technician (2021) Instructor Task Book • JPR 19, 28

8-4: Implementing an Incident Action Plan

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 23.2.4

Job Performance Requirement

Implement an incident action plan, as a member of a team, for the use of watercraft to support floodwater search and rescue operations, given an incident action plan and defined resources, so that operational objectives are achieved.

Requisite Knowledge

1. Describe incident management techniques
2. Describe entry and exit procedures
3. Describe communications techniques
4. Describe boat operation techniques
5. Describe design limitations
6. Describe climactic conditions
7. Describe characteristics of floodwater events
8. Describe specific hazards presented by floodwater events in the potential rescue environment

Requisite Skills

1. Implement access and egress procedures and communication with watercraft crew
2. Use emergency/safety equipment
3. Identify hazards
4. Operate within the rescue environment

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-8 Water Rescue Technician (2021) • Topic 2-8	N/A	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 9 Water Rescue Technician (2021) Instructor Task Book • JPR 9

8-5: Implementing an Action Plan to Use Air Assets

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 23.2.5

Job Performance Requirement

Implement an action plan for the use of air assets to support floodwater search and rescue operations, given an action plan, access to air assets, policies, and procedures used by the AHJ, so that floodwater-specific hazards are addressed; rescuers are deployed and recovered as required; both onboard and rescue operations conform with aircraft operational protocols and capabilities; communications are clear and concise; and the candidate is familiar with aircraft nomenclature, operational protocols, and design limitations.

Requisite Knowledge

1. Describe means of contacting and accessing agencies with air assets
2. Describe the role of aircraft in the support of floodwater events
3. Describe the limitations of the available aircraft in the conditions associated with the rescue environment
4. Describe the role of the rescuer as part of an aviation team

Requisite Skills

1. Implement a notification plan to request air assets
2. Develop a list of tactical objectives to be achieved by the aircraft
3. Communicate mission priorities with the aircrew or operator of the aircraft

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-9 Water Rescue Technician (2021) • Topic 2-9	N/A	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 10 Water Rescue Technician (2021) Instructor Task Book • JPR 10

8-6: Limiting Exposure to Potentially Contaminated Floodwater

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 23.2.6

Job Performance Requirement

Implement measures identified by the AHJ to limit exposure of victims and rescuers to potentially contaminated floodwater given a floodwater event, a flood rescue tool kit, protocols and practices identified by the AHJ, and access to the required engineering controls and decontamination tools so that the sources of potential contamination are identified and their effects and those of cross-contamination are minimized.

Requisite Knowledge

1. List sources of contamination
2. Identify indicators of the presence of contaminants
3. Describe methods to limit exposure to contaminated water
4. Describe decontamination methods targeted at the potential specific contaminants

Requisite Skills

1. Use related engineering controls and personal protective equipment (PPE)
2. Determine the practices that limit an individual's likelihood of exposure to contaminants
3. Implement methods for the removal of potential contaminants or to render them inert

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-13 Water Rescue Technician (2021) • Topic 2-13	N/A	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 14 Water Rescue Technician (2021) Instructor Task Book • JPR 14

8-7: Identifying High Probability Victim Locations

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 23.2.7

Job Performance Requirement

Identify locations at a floodwater search and rescue incident that have a high probability of containing victims, given a flood rescue scenario, and a tool kit, so that all accessible areas of the incident are surveyed and the victim locations are marked.

Requisite Knowledge

1. Identify locations that are typically associated with areas of entrapment or refuge during floodwater events, including the interior of vehicles and attic spaces of structures, and human behavior during flood events

Requisite Skills

1. Conduct a search
2. Mark victim locations
3. Use search marking systems
4. Use communications systems to share findings

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-15 Water Rescue Technician (2021) • Topic 2-15	Water Rescue Technician (2021) • Skill 12, 13, 14, 15, 16	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 16 Water Rescue Technician (2021) Instructor Task Book • JPR 16, 28

8-8: Managing Hazards Unique to the Terrain and Environment

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 23.2.8

Job Performance Requirement

Manage the hazards unique to the terrain and environment when covered with floodwater or subject to differential pressures, given an incident consistent with a predicted floodwater environment and a floodwater search and rescue toolkit, so that all hazards are recognized and potential control measures are implemented.

Requisite Knowledge

1. Describe specific hazards that could be present in a floodwater environment that are hidden or covered by water and hazard mitigation measures

Requisite Skills

1. Survey the rescue environment for indicators of potential hazards
2. Avoid, isolate, or control identified hazards

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-12 Water Rescue Technician (2021) • Topic 2-12	N/A	Water Rescue Awareness and Operations (2021) Instructor Task Book • 13 Water Rescue Technician (2021) Instructor Task Book • JPR 13

8-9: Navigating Floodwater Covered Terrain

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 23.2.9

Job Performance Requirement

Navigate terrain covered in floodwater, given a floodwater incident, a floodwater rescue tool kit, and practices identified by the AHJ, so that the positions of the rescuers are known, hazards are avoided, search progress is documented, and geographic baselines are established.

Requisite Knowledge

1. Describe use and implementation of a GPS and alternate mapping techniques

Requisite Skills

1. Establish a baseline location using a GPS or other improvised method from which to conduct a search or coordinate the movement of resources
2. Use methods to determine the location of submerged hazards and geographical features

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-12 Water Rescue Technician (2021) • Topic 2-12	N/A	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 13 Water Rescue Technician (2021) Instructor Task Book • JPR 13

8-10: Terminating an Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 23.2.10

Job Performance Requirement

Terminate an incident, given PPE specific to the incident and a floodwater rescue tool kit, so that rescuers and bystanders are protected and accounted for during termination operations; scene documentation is performed; scene control is transferred to a responsible party; potential or existing hazards are communicated to that responsible party; debriefing, post-incident analysis, and critique are considered; and command is terminated.

Requisite Knowledge

1. Describe PPE characteristics
2. Describe hazard and risk identification
3. Describe isolation techniques
4. Describe statutory requirements identifying responsible parties
5. Describe accountability system use
6. Describe reporting methods
7. Describe post-incident analysis techniques

Requisite Skills

1. Select and use hazard-specific PPE
2. Decontaminate PPE
3. Use barrier protection techniques
4. Collect data
5. Use record-keeping/reporting protocols
6. Conduct post-incident analysis activities

Content Modification

Block	Modification	Justification
RS5	Added “Use”.	NFPA did not provide a verb.

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-22 Water Rescue Technician (2021) • Topic 2-26	Water Rescue Awareness and Operations (2021) • Skill 14 Water Rescue Technician (2021) • Skill 51	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 23, 24 Water Rescue Technician (2021) Instructor Task Book • JPR 27, 28

8-11: Performing a Non-entry Floodwater Rescue from a Rescue Platform

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 23.2.11

Job Performance Requirement

Perform a nonentry floodwater rescue from a rescue platform such as a vessel, boat, watercraft, or other waterborne transportation aid, given an operator, a simulated flood environment, water rescue PPE, and a floodwater rescue tool kit, so that the assignment is completed, all performance parameters are achieved, movement is controlled, hazards are continually assessed, and any related distress signals are communicated.

Requisite Knowledge

1. Describe limitations
2. Describe manufacturer's recommendations
3. Describe operation of the waterborne transportation device
4. Describe regulatory and applicable laws of safe water transportation according to the AHJ

Requisite Skills

1. Enter and exit the waterborne transportation aid in a floodwater condition
2. Correct a capsized waterborne transportation aid
3. Apply packaging and movement techniques to water-bound victims

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Technician (2021) • Topic 2-19	Water Rescue Technician (2021) • Skill 24	Water Rescue Technician (2021) Instructor Task Book • JPR 20, 28

Section 9: Technician

9-1: Performing an Entry Rescue

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
   - Paragraph 23.3.1

Job Performance Requirement

Perform an entry rescue in the floodwater environment, given an incident scenario, PPE, and floodwater rescue tool kit, so that rescue is accomplished, and adopted policies and safety procedures are followed.

Requisite Knowledge

1. Describe types and capabilities of PPE
2. Describe the effects of hydrodynamic forces on rescuers and victims
3. Describe hydrology and characteristics of water
4. Describe behaviors of water-bound victims
5. Describe water rescue rope-handling techniques
6. Describe incident-specific hazard identification
7. Describe criteria for selecting victim retrieval locations based on water environment and conditions
8. Describe hazards and limitations of shore-based rescue
9. Describe local policies/procedures for rescue team activation
10. Describe information on local water environments
11. Describe methods of breaching or defeating structural components of vehicle or structures

Requisite Skills

1. Select PPE specific to the water environment
2. Don PPE
3. Identify water hazards (i.e., upstream or downstream, current or tides)
4. Identify hazards directly related to the specific rescue
5. Demonstrate appropriate victim removal techniques

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Technician (2021) • Topic 2-22	Water Rescue Technician (2021) • Skill 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48	Water Rescue Technician (2021) Instructor Task Book • JPR23, 28

9-2: Developing an Incident Action Plan to Use Watercraft

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
    - Paragraph 23.3.2

Job Performance Requirement

Develop an incident action plan for the use of watercraft to support floodwater search and rescue operations, given a watercraft, operator(s), policies, and procedures used by the AHJ, so that floodwater-specific hazards are addressed; watercraft pre-deployment checks are completed; watercraft launch or recovery is achieved; rescuers are deployed and recovered; both onboard and rescue operations conform with watercraft operational protocols and capabilities; communications are clear and concise; and the candidate is familiar with watercraft nomenclature, operational protocols, design limitations, and launch/recovery site issues.

Requisite Knowledge

1. Describe entry/exit procedures
2. Describe communications techniques
3. Describe boat operation techniques
4. Describe design limitations
5. Describe climactic conditions
6. Describe characteristics of floodwater events
7. Describe specific hazards presented by floodwater events in the potential rescue environment

Requisite Skills

1. Implement access and egress procedures and communications with watercraft crew
2. Use emergency/safety equipment
3. Identify hazards
4. Operate within the rescue environment

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Water Rescue Awareness and Operations (2021) • Topic 2-8 Water Rescue Technician (2021) • Topic 2-8	N/A	Water Rescue Awareness and Operations (2021) Instructor Task Book • JPR 9 Water Rescue Technician (2021) Instructor Task Book • JPR 9

Water Rescue Awareness and Operations (2021)

Course Plan

Course Details

Description: Topics include dynamic hydrology; recognizing and isolating hazards to rescuers and victims; managing a water rescue incident; incident size up and communication; working with air assets and watercraft; selecting and using PPE and rescue equipment; searching for and managing victims; constructing and using technical rope rescue systems and skills; dynamic swimming; performing non-entry rescues from the shore; and terminating an incident. This course incorporates awareness and operations training based on NFPA 1006 (2021).

Designed For: Public safety members with river and flood rescue responsibilities.

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: 8 hours

(6.5 lecture / 1.5 application)

Max Class Size: 50

Instructor Level: SFT Registered Water Rescue Awareness and Operations Instructor

Instructor/Student Ratio: 1:50 (lecture)

1:25 (skills/teaching demonstrations)

Restrictions: All instructors counted toward student ratios, including application components, must be SFT Registered Water Rescue Awareness and Operations Instructors

SFT Designation: FSTEP

Table of Contents

Required Resources

Instructor Resources

To teach this course, instructors need:

- NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
- NFPA 2500: Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services (2021)
- FIRECOPE ICS 162 Technical Search and Rescue Incident Operational System Description
- ICS 420-1 – Field Operations Guide (FEMA, current edition)
- Emergency Response Guidebook (DOT, current edition)
- Full personal protective equipment per AHJ requirements (including Type 5 PFD, helmet, gloves, close-toed footwear, whistle (pealess), knife, head lamp, strobe light)

Recommended resources:

- *Water Rescue: Principles and Practice to NFPA 1006 and 1670: Surface, Swiftwater, Dive, Ice, Surf, and Flood* (Treinish, Steve; Jones & Bartlett; 3rd edition, 2021)
- *Swiftwater Rescue* (Slim Ray; CFS Press; expanded edition, 2013)
- *River Rescue: A Manual for Whitewater Safety* (Bechdel, Ray, & AtLee; CFS Press, 4th edition, 2009)

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:

- Any textbook required by the instructor
- Full personal protective equipment per AHJ requirements (including Type 5 PFD, helmet, gloves, close-toed footwear, whistle (pealess), knife, head lamp, strobe light)

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

- A Water Rescue Awareness and Operations training site with the NFPA 1006 required facilities, structures, work areas, materials, props, tools, and equipment of adequate size, type, and quantity to fully and safely support the cognitive and psychomotor training required to deliver the curriculum

Equipment

Student safety is of paramount importance when conducting the type of high-risk training associated with this Water Rescue Awareness and Operations course.

- The equipment listed below is the minimum for the delivery of this course.
- The student is responsible for providing their PPE and ensuring that all PPE meets AHJ and site requirements.
- For all tools and equipment, ensure that you have the power source, operating supplies (blades, fuel, etc.), cleaning supplies, and appropriate PPE.

The following equipment is required to deliver this course:

Quantity Per 8-person Squad	Equipment
Determined by scenario	Rope, water rescue throw bags
Determined by scenario	Personal floatation device with blow out ring (Type V, good working condition)
Determined by scenario	Whistle, pealess
Determined by scenario	Cutting tool, knife with protective sheath attached to PPE
Determined by scenario	Light, strobe attached to PPE
1	Hose Inflation kit • 2½" fire hose (length determined by AHJ) • 2½" plug • 2½" cap with inflation
Per Course	**Optional**
1	Boat, self-bailing raft, or Inflatable Rescue Boat (AHJ) or prop • With supplies for rigging (e.g., soft and hardware)
1	Boat inflation device

The provider or agency assumes all responsibility, liability, and maintenance for the engineering design, strength, stability, and adequacy of all props. The provider or agency further assumes all responsibility, liability, and maintenance for all tools, equipment, and supplies used at the site for the delivery of a Water Rescue Awareness and Operations class.

Personnel

The following personnel are required to deliver this course:

- Any instructor counted toward student ratios must be an SFT Registered Water Rescue Awareness and Operations (2021) Instructor.

Time Table

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.25	0.0	
Unit 1 Totals	**0.25**	**0.0**	**0.25**
Unit 2: Water Rescue Concepts and Skills			
Topic 2-1: Managing a Water Rescue Incident	0.25	0.0	
Topic 2-2: Describing Dynamic Hydrology	0.50	0.0	
Topic 2-3: Recognizing Hazards and Initiating Isolation Procedures	0.25	0.0	
Topic 2-4: Assessing Hazards to Rescuers and Victims	0.50	0.0	
Topic 2-5: Developing a Site Survey for an Existing Water Hazard	0.25	0.0	
Topic 2-6: Sizing Up a Water Rescue Incident	0.25	0.0	
Topic 2-7: Communicating in a Dynamic Water Environment	0.25	0.25	
Topic 2-8: Developing and Implementing an Incident Action Plan to Use Watercraft	0.25	0.0	
Topic 2-9: Implementing an Incident Action Plan to Use Air Assets	0.25	0.0	
Topic 2-10: Selecting and Using Personal Protective Equipment	0.25	0.25	
Topic 2-11: Operating Water Rescue Equipment	0.50	0.0	
Topic 2-12: Describing Flood Hazards and Evacuation Procedures	0.25	0.0	
Topic 2-13: Limiting Exposure to Potentially Contaminated Floodwater	0.25	0.0	
Topic 2-14: Supporting an Operations- or Technician-level Incident	0.25	0.0	
Topic 2-15: Performing a Victim Search	0.25	0.0	
Topic 2-16: Managing a Victim	0.25	0.0	
Topic 2-17: Demonstrating Boat Rigging	0.25	0.50	
Topic 2-18: Performing a Non-Entry Rescue from Shore	0.25	0.25	
Topic 2-19: Constructing and Using Technical Rope Rescue Systems and Skills	0.25	0.25	
Topic 2-20: Swimming in Dynamic Water	0.25	0.0	
Topic 2-21: Directing a Rescue Team During Operations	0.25	0.0	
Topic 2-22: Terminating an Incident	0.25	0.0	
Unit 2 Totals	**6.25**	**1.5**	**7.75**

Segment	Lecture	Application	Unit Total
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	**6.5**	**1.5**	**8.0**

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: Water Rescue Concepts and Skills

Topic 2-1: Managing a Water Rescue Incident

Terminal Learning Objective

At the end of this topic a student, given water rescue scenarios and AHJ policies, procedures, and standards, will be able to manage a water rescue incident in accordance with local, state, and federal standards, policies, and procedures.

Enabling Learning Objectives

1. Describe water rescue scope of practice and standards
   - NFPA 1006 (current edition)
     - Surface water
     - Swiftwater
     - Floodwater
   - NFPA 2500 (current edition)
   - FIRESCOPE 162, Chapter 12 (current edition)
   - AHJ policies, procedures, and standards
2. Describe policies/procedures for rescue team activation
   - Local
   - State
   - Federal
3. Describe legal considerations and practices
   - Training and certification requirements
   - Negligence
   - Abandonment
4. Describe the discipline-specific components of the Incident Command System
   - Upstream spotter
   - Downstream safety
   - Rigging team (if needed)
   - Rescue team lead
   - Rescuer/rescue team
   - Receiving team
5. Describe rescue priorities
   - Low risk to high risk
     - Talk
     - Reach
     - Throw
     - Boat (row)
     - Swim (go)
     - Tethered swimmer (tow)
     - Helicopter (helo)
   - Rescue vs. recovery
   - Incident within an incident

- Safety priorities
    - Rescuer (self)
    - Rescue team
    - Victim(s)

6. Describe how to recognize the need for technical rescue resources
    - Identify the need
    - Identify available resources
        - AHJ resources
        - Local/regional resources
        - State resources
            - FIRESCOPE/Cal OES
        - Federal resources
            - FEMA USAR
    - Initiate the response system
        - Apply operational protocols
        - Select and use planning forms
        - Request support operations and resources
    - Secure and render scene safe until additional resources arrive
        - Implement safety measures
    - Incorporate awareness-level personnel into the operational plan

Discussion Question

1. What type of waterways are present in your AHJ?
2. What type of water rescue incidents are common to your AHJ?
3. What are your legal responsibilities regarding water rescue?
4. What are some key water rescue ICS positions?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 1-3, CTS 4-3, CTS 7-3

Topic 2-2: Describing Dynamic Hydrology

Terminal Learning Objective

At the end of this topic a student, given a dynamic water environment, will be able to describe dynamic hydrology as it relates to rivers, channels, and floods so that hydrology impacts are avoided or mitigated during water rescue operations.

Enabling Learning Objectives

1. Describe the forces of dynamic water
2. Describe how to calculate current speed
3. Describe how to calculate water volume (cubic feet of water per second) in a river/channel
4. Describe river orientation and where to place personnel
    - Upstream
    - Downstream
    - River right
    - River left
5. Describe features created by moving water and how they impact water rescue operations
    - Laminar flow
    - Helical flow
    - Eddies
    - Eddy lines
    - Strainers/sieves
        - Natural
        - Manmade
    - Pillows
    - Hole/hydraulic
        - Smiling (closed)
        - Frowning (open)
    - Standing waves (haystacks)
    - Aerated water
    - Current vectors
    - Manmade features
        - Low-head dams
        - Drainage culverts
            - Trapezoid
            - Rectangle
        - Hydroelectric facilities
6. Describe the effects of hydrodynamic forces on rescuers and victims
7. Describe criteria for selecting victim retrieval locations based on water environment and conditions
8. Identify river classifications
    - Class 1 through 6

- Change based on conditions

Discussion Questions

1. How does cubic feet per second (cfs) impact water hydrology?
2. How do water speed and volume impact rescue operations?
3. What additional considerations are associated with operations involving manmade features?

Application

1. Determined by instructor

Instructor Notes

1. For any topic taught in a classroom, supplement with images and videos as visual aids.

CTS Guide Reference: None

Topic 2-3: Recognizing 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 associated with water rescue 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 victims are minimized; and rescue time constraints are taken into account.

Enabling Learning Objectives

1. Describe hazards created by or associated with surface or dynamic water
2. Describe types and natures of water rescue incident hazards
   - Surface water
   - Swiftwater
   - River/Floodwater
3. Describe types of mitigation and isolation equipment and their use
4. Describe resource capabilities and limitations
5. Describe operational requirement concerns
6. Describe common types of rescuer and victim risks
7. Describe methods for controlling access to the scene
8. Initiate mitigation and isolation procedures
   - Identify incident hazards
   - Identify resource capabilities and limitations
   - Assess potential hazards to rescuers and bystanders
   - Place scene control barriers
   - Operate control and mitigation equipment

Discussion Questions

1. When assessing a waterway, what are the most dangerous hazards?

Application

1. Conduct an incident hazard assessment and isolate hazards

Instructor Notes

1. None

CTS Guide Reference: CTS 1-2, CTS 4-2, CTS 7-2

Topic 2-4: Assessing Hazards to Rescuers and Victims

Terminal Learning Objective

At the end of this topic a student, given an incident scenario and a tool cache, will be able to assess dynamic water conditions, characteristics, and features in terms of hazards to the rescuer and victims so that the flow and conditions are estimated accurately, mechanisms of entrapment are considered, hazards are assessed, the depth and surrounding terrain are evaluated, and findings are documented.

Enabling Learning Objectives

1. Describe how to interpret information sources and identify their impact on operational decision making
    - Flow
    - Maps and charts
    - Local terrain data
    - Weather forecasts
    - Local water hazards and conditions
    - Common event characteristics
        - Surface water
        - Swiftwater
        - Floodwater
    - Entrapment mechanisms
    - Human physiology and survival factors
        - Mechanical effect of water on human body
        - Heat transfer properties
        - Trauma
        - Injuries
2. Identify current vectors for safe navigation
3. Identify areas and features that are safe zones in dynamic water environments
4. Determine flow and environmental factors and their effects on victims and rescuers
5. Acquire and interpret weather forecasts and local terrain data and evaluate their impact on victims and rescuers
6. Interpret maps or charts

Discussion Question

1. Where are safe zones typically located?
2. What is the leading cause of illness and injury around water?

Application

1. Assess hazards to rescuers and victim(s)

Instructor Notes

1. None

CTS Guide Reference: CTS 5-3, CTS 8-2

Topic 2-5: Developing a Site Survey for an Existing Water Hazard

Terminal Learning Objective

At the end of this topic a student, given historical data, specific PPE for conducting site inspections, flow insurance rate maps, tide tables, and meteorological projections, will be able to develop a site survey for an existing water hazard so that life safety hazards are anticipated, risk/benefit analysis is included, site inspections are completed, water conditions are projected, site-specific hazards are identified, routes of access and egress are identified, boat ramps (put-in and take-out points) are identified, the method of entrapment is considered, and areas with a high probability for victim location are determined.

Enabling Learning Objectives

1. Describe requisite contents of a site survey
2. Describe types, sources, and information provided by reference materials
3. Describe hydrology and the influence of hydrology on rescues
4. Describe types of hazards associated with water rescue practices scenarios, inspections practices, and considerations techniques
5. Describe risk/benefit analysis
6. Describe identification of hazard-specific PPE
7. Describe factors influencing access and egress routes
8. Describe behavioral patterns of victims
9. Describe environmental conditions that influence victim location
10. Interpret reference materials
11. Perform a scene assessment
12. Evaluate site conditions
13. Complete risk/benefit analysis
14. Select and use necessary PPE

Discussion Questions

1. What are the key components of a site survey?
2. Does your AHJ have any unique environmental conditions that impact your water rescue environment?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 2-1

Topic 2-6: Sizing Up a Water Rescue Incident

Terminal Learning Objective

At the end of this topic a student, given a water incident, background information and applicable reference materials, will be able to size up a water rescue incident so that the scope of the rescue is determined; the operational mode is defined; resource availability, response times, and types of rescues are determined; the number of victims is identified; the last reported location of all the victims 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. Describe how to conduct a size up
   - Determine scope of the rescue
   - Define operational mode
   - Determine resource availability, capability, and response times
   - Determine types of rescues
   - Identify number of victims
   - Establish place last seen (PLS) and time last seen (TLS) of all the victims
   - Evaluate environmental conditions that influence victim location
   - Identify and interview witnesses and reporting parties
   - Assess resource needs
   - Identify primary search parameters
   - Identify factors influencing access and egress routes
   - Obtain information required to develop an initial incident action plan
2. Describe types of reference materials and their uses
3. Describe how to conduct a risk/benefit assessment
4. Describe information-gathering techniques and how that information is used in the size-up process
5. Describe elements of an incident action plan and related information
6. Describe how size up relates to the incident management system
7. Read technical rescue reference materials
8. Evaluate site conditions
9. Relay information
10. Manage witnesses
11. Use information-gathering sources

Discussion Questions

1. Determined by instructor

Application

1. Size up a water rescue incident

Instructor Notes

1. None

CTS Guide Reference: CTS 1-1, CTS 2-4, CTS 4-1, CTS 7-1

Topic 2-7: Communicating in a Water Environment

Terminal Learning Objective

At the end of this topic a student, given a water incident, whistles, and hand signals, will be able communicate with other rescuers during an operation so that commands are shared, and rescue objectives are met.

Enabling Learning Objectives

1. Describe communication challenges in a water rescue environment
2. Describe ways to communicate in a water rescue environment
   - Verbal
   - Hand signals
   - Whistle blasts
   - Radio
3. Demonstrate forms of communication

Discussion Questions

1. What do the various hand signals mean?
2. What do the various whistle blasts mean?
3. What barriers are involved with each type of communication?

Application

1. Communicate using verbal commands
2. Communicate using hand signals
3. Communicate using whistle blasts
4. Communicate using radios

Instructor Notes

1. None

CTS Guide: None

Topic 2-8: Developing and Implementing an Incident Action Plan to Use Watercraft

Terminal Learning Objective

At the end of this topic a student, given an incident action plan (IAP), a watercraft, defined resources, and AHJ policies and procedures, will be able to develop and implement an IAP, as a member of a team, for the use of watercraft to support water search and rescue operations, so that hazards are addressed; watercraft pre-deployment checks are completed; watercraft launch or recovery is achieved; rescuers are deployed and recovered; both onboard and rescue operations conform with watercraft operational protocols and capabilities; communications are clear and concise; the candidate is familiar with watercraft nomenclature, operational protocols, design limitations, and launch/recovery site issues; and operational objectives are achieved.

Enabling Learning Objectives

1. Describe the components of an IAP
    - Communications Plan
    - Safety Plan
    - Operations Plan
        - PACE (primary, alternate, contingency, emergency)
    - Medical Plan
2. Describe how to combine multiple actions and information sources into a cohesive plan
    - Formal vs. informal
    - AHJ tactical worksheet
3. Use a tactical worksheet

Discussion Question

1. What are key components of an IAP?
2. What are the advantages of using a tactical worksheet?
3. Who is responsible for developing the IAP?
4. How does an IAP support Leader's Intent?

Application

1. Determined by instructor

Instructor Notes

1. Use the course delivery IAP as an example. Walk the students through it.

CTS Guide Reference: CTS 2-7, CTS 8-4, CTS 9-2

Topic 2-9: Implementing an Incident Action Plan to Use Air Assets

Terminal Learning Objective

At the end of this topic a student, given an incident action plan (IAP), access to air assets, and AHJ policies and procedures, will be able to implement an action plan for the use of air assets to support water search and rescue operations so that air-to-ground communication is established and maintained; applications are within the capabilities and skill levels of the helicopter service; hazards are addressed; rescuers are deployed and recovered as required; victim is extracted from water hazards consistent with existing or anticipated bodies of water in the AHJ; onboard and rescue operations conform with aircraft operational protocols and capabilities; air crew and ground personnel safety are not compromised; communications are clear and concise; all personnel are familiar with aircraft nomenclature, operational protocols, and design limitations; landing zones are designated and secured; and fire suppression resources are available at the landing zone.

Enabling Learning Objectives

1. Describe means of contacting and accessing agencies with air assets
2. Describe the role of aircraft in the support of water events
3. Describe the limitations of the available aircraft in the conditions associated with the rescue environment
4. Describe the role of the rescuer as part of an aviation team
5. Describe basic safety considerations for working around aircraft
    - Aircraft personnel who provide instruction/authority
    - Proper way to approach and leave the area
    - Proper way to enter and exit aircraft
    - Working near/under rotor wash
    - Landing zone requirements
    - Crash survival principals
    - Ancillary aircraft rescue equipment
6. Describe how to establish and control landing zones
7. Describe how to rig aircraft for anticipated rescue procedures
8. Implement a notification plan to request air assets
9. Develop a list of tactical objectives to be achieved by the aircraft
10. Communicate mission priorities with the aircrew or operator of the aircraft

Discussion Question

1. Who gives the authority to approach or enter an aircraft?
2. What are the safety concerns when working around aircraft?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 2-8, CTS 8-5

Topic 2-10: Selecting and Using Personal Protective Equipment

Terminal Learning Objective

At the end of this topic a student, given a water rescue assignment, personal protective and life support equipment (PPE) and United States Coast Guard (USCG) standards for personal flotation devices (PFD), will be able to identify, select, don, doff, and maintain PPE for water rescue operations so that rescuer is protected from temperature extremes and environmental hazards, PPE is appropriate to incident response needs and donned and worn correctly, swimming ability is maximized, and AHJ protocols are followed.

Enabling Learning Objectives

1. Describe the types and uses of and selection criteria for PPE
    - Personal flotation device (PFD)
        - Type III (USCG)
        - Type V (USCG)
    - Dry suit/wetsuit
    - Thermal protection
    - Helmet
    - Gloves
    - Close-toed footwear
    - Whistle (pealess)
    - Knife
    - Headlamp
    - Strobe light
2. Identify manufacturer's recommendations for PPE
3. Describe how to don and doff PPE
    - AHJ protocols for equipment positioning
4. Describe personal escape techniques
    - Applications
    - Capabilities
    - Equipment and procedures for signaling distress
5. Describe how to care for and maintain PPE
6. Inspect PPE
7. Use pre-operation checklists
8. Select personal flotation devices, water rescue helmets, and personal protective clothing and equipment
9. Don and doff PPE
10. Communicate distress signals
11. Use emergency escape procedures

Discussion Questions

1. What types of PPE are appropriate for different types of water environments?
2. How do you care for and maintain PPE?
3. What is the most important piece of PPE?

Application

1. Inspect PPE

2. Don, doff, and use PPE

Instructor Notes

1. Have students practice donning and doffing in the classroom.

CTS Guide: CTS 2-2

Topic 2-11: Operating Water Rescue Equipment

Terminal Learning Objective

At the end of this topic a student, given rescue equipment, a victim, and a water environment, will be able to identify and operate basic equipment used for water rescue operations so that equipment is used in accordance with manufacturer specifications and AHJ policies and procedures.

Enabling Learning Objectives

1. Describe the use, limitations, and safety considerations of water rescue equipment
    - Throw bag
        - Throws and recoils
        - Timeframe
        - Distance
        - Accuracy
    - Line capture
    - Line throwing devices
    - Rope rescue equipment
        - Hardware and software determined by AHJ
    - Hose inflation kit (site dependent)
    - PFD blowout ring
2. Describe how to maintain and store water rescue equipment
3. Operate equipment
4. Maintain and store equipment

Discussion Questions

1. What types of equipment are used in dynamic vs. static water conditions?
2. What types of equipment do your AHJ resources carry?
3. How does the rope in a throw bag differ from other types of rescue rope?

Application

1. Use water rescue equipment
2. Operate a PFD quick release buckle system (if available)

Instructor Notes

1. Demonstrate and let students practice using equipment.
2. Rigging and operating watercraft is covered in Topic 2-17.

CTS Guide: None

Topic 2-12: Describing Flood Hazards and Evacuation Procedures

Terminal Learning Objective

At the end of this topic a student, given floodwater scenarios, the ICS 420-1 Field Operations Guide, and the DOT Emergency Response Guidebook (ERG), will be able to describe types and causes of floods, hazards, and evacuation procedures associated with flood rescue operations so that floodwater operations are conducted in accordance with AHJ standards, policies, and procedures.

Enabling Learning Objectives

1. Describe types of floods
    - Tidal floods (tsunamis, storm surges, king tides, etc.)
    - Water overflowing typical boundaries (rivers, lakes, tides, etc.)
    - Structure failure (dam break, levee failure, terrorism, etc.)
    - Flash floods
    - Mud or debris flow
2. Describe the evolution of a flood
    - Rise
    - Stasis
    - Drain
3. Describe flood environment hazards
    - Utilities
    - Contaminants
    - Hazardous materials
    - Insects and animals
    - Submerged objects (fences, structures, signs, vehicles, etc.)
    - Differential pressure/drains
    - Individuals with harmful intent
4. Describe how to manage and navigate terrain and environment hazards covered with floodwater or subject to differential pressures
    - Survey rescue environment for hazard indicators
    - Avoid, isolate, or control identified hazards
    - Floodwater can eradicate, displace, or cover buildings, roads, and signs typically used to provide orientation and document search progress
        - Use GPS and alternate mapping techniques
        - Establish geographic baselines
        - Coordinate rescuer positions and resource locations
        - Avoid submerged hazards and geographic features
        - Document search progress
5. Describe hazardous material exposure, protection, and decontamination
6. Describe basic flood search, rescue, and evacuation procedures
7. Describe considerations for pets and livestock

Discussion Questions

1. What types of floods are common in your jurisdiction?

2. What are common hazards associated with floods?
3. What is your AHJ's plan for dealing with household pets and service animals?
4. How does your AHJ navigate areas covered by floodwater?

Application

1. Determined by instructor

Instructor Notes

1. ELO 5: Keep this at the initial/basic awareness/operations level. The intent is to introduce these concepts.

CTS Guide: CTS 8-8, CTS 8-9

Topic 2-13: Limiting Exposure to Potentially Contaminated Floodwater

Terminal Learning Objective

At the end of this topic a student, given a floodwater event, a tool cache, AHJ protocols and practices, and access to the required engineering controls and decontamination tools, will be able to limit exposure of victims and rescuers to potentially contaminated floodwater so that the sources of potential contamination are identified and their effects and those of cross-contamination are minimized.

Enabling Learning Objectives

1. Identify contamination sources
2. Identify routes of exposure
3. Identify indicators of the presence of contaminants
4. Describe methods to limit exposure to contaminated water
5. Describe decontamination methods for specific contaminants
6. Use engineering controls and personal protective equipment (PPE)
7. Use practices that limit exposure to contaminants
8. Remove of potential contaminants or render them inert

Discussion Question

1. What types of contaminants can occur in floodwater?
2. How can contaminants enter your body?
3. How can your PPE help protect you from routes of exposure?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 8-6

Topic 2-14: Supporting an Operations- or Technician-level Incident

Terminal Learning Objective

At the end of this topic a student, given a water incident, a designated mission, an incident action plan, safety equipment, and resources from the tool cache, will be able to support water rescue operations, so that the assignment is carried out, skills are demonstrated in a controlled environment, performance parameters are achieved, hazards are continually assessed, environmental concerns are managed, progress is reported to command, personnel accountability is maintained, personnel rehabilitation is facilitated, the incident action plan is supported, and emergency procedures are demonstrated.

Enabling Learning Objectives

1. Describe AHJ operational protocols
2. Describe scene support requirements
3. Describe support procedures
    - Search patterns
    - Equipment setup
    - Communications
    - Upstream or downstream safety spotter
    - Personnel accountability
    - Tend to an in-water rescuer
    - Scene control and access
    - Liaison with victim, family, bystanders, agency, etc.
4. Identify how to avoid becoming a hazard or victim
5. Execute basic support skills

Discussion Question

1. How can you support an operations- or technician-level incident?
2. In what ways can a rescuer become a hazard or victim?'

Application

1. Support an operations- or technician-level incident

Instructor Notes

1. None

CTS Guide Reference: CTS 1-4, CTS 2-12, CTS 4-4, CTS 5-2, CTS 7-4, CTS 8-1

Topic 2-15: Performing a Victim Search

Terminal Learning Objective

At the end of this topic a student, given a water rescue scenario, topographical maps of a search area, descriptions of all missing persons and incident history, hydrological data including speed and direction of currents or tides, and a tool cache, will be able to perform a victim search so that all accessible areas of the incident are surveyed and victim locations are marked, areas with high probability of detection are differentiated from other areas, witnesses are interviewed, critical interview information is recorded, passive and active search tactics are implemented, personnel resources are considered and used, and search parameters are communicated.

Enabling Learning Objectives

1. Describe search fundamentals
    - LAST (locate, access, stabilize, transport)
    - PLS (point last seen)
    - TLS (time last seen)
    - POD (probability of detection)
2. Describe how to manage witnesses
    - Critical interview questions and practices
3. Identify different tools used for searches
4. Describe reconnaissance, hasty (rapid), primary, and secondary (low and high) search types
    - Conduct search
    - Mark victim locations
    - Share findings
5. Identify high-probability victim locations
    - Consider human instinct or behavior during incident
    - Consider both land- and water-based locations
    - Swiftwater
        - PLS
        - High POD points
        - Anywhere that allows water but not objects to pass through
            - Strainers
            - Eddies
            - Obstructions
        - Shoreline
    - Floodwater
        - Entrapment or refuge areas
        - Highest points (roofs, attics, etc.)
        - Vehicles (may be submerged or floating)
        - Under or on highway overpasses, trees, towers, power poles
6. Describe how to mark victim locations
7. Describe how to communicate victim locations
8. Describe how to incorporate spotters

- Purpose
- Selecting positions

9. Define search parameters
    -

Discussion Questions

1. What are the differences between the types of searches?
2. What considerations factor into a successful search plan?

Application

1. Determined by instructor

Instructor Notes

1. ELO 4: The types of searches are delineated in FIRESCOPE ICS-162.

CTS Guide: CTS 2-3, CTS 8-7

Topic 2-16: Managing a Victim

Terminal Learning Objective

At the end of this topic a student, given a water incident and rescue equipment, will be able to manage a victim so that so that incidents are managed and risks to rescuers and the victim are minimized.

Enabling Learning Objectives

1. Describe typical victim behaviors
    - Cooperative vs. combative
    - Fear responses
    - Panic
    - Counter-panic/disassociation
2. Describe how to manage family and bystanders
    - Panic
    - Counter-panic
    - Fear
    - Grief
3. Describe victim medical considerations
    - Incident-related Injuries
    - Pre-existing conditions (diabetes, asthma, etc.)
    - Working with special needs populations
4. Describe how to approach a victim
5. Describe c-spine application techniques in a water environment

Discussion Questions

1. When does a victim become a patient?
2. What are some methods for handling a combative victim?
3. What are the options for, and risks involved with, immobilizing a patient?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide: None

Topic 2-17: Demonstrating Boat Rigging

Terminal Learning Objective

At the end of this topic a student, given a rescue watercraft and equipment, will be able to rig a rescue watercraft so that objectives are met and watercraft is rigged in accordance with manufacturer specifications and AHJ policies and procedures.

Enabling Learning Objectives

1. Describe common types of rescue watercraft
    - Rafts
        - Design
        - Construction materials
        - Capability
        - Inflation
        - Rigging
        - Components (D-rings, valves, handles, thwarts, etc.)
        - Attachments (oar frame, flip lines, painter/bow line, drift sock, etc.)
        - Maintenance and repair
        - Operational safety
    - IRBs (inflatable rescue boat)
        - Design
        - Construction materials
        - Capability
        - Inflation
        - Rigging
        - Components (D-rings, valves, handles, drain plug, scuppers, etc.)
        - Attachments (flip lines, painter/bow line, drift sock, motor, prop guards, tow bridles, etc.)
        - Maintenance and repair
        - Operational safety
    - Jon boats
        - Design
        - Construction materials
        - Capability
        - Rigging
        - Components (D-rings, handles, pump, etc.)
        - Attachments (painter/bow line, motor, prop guards, tow bridles, etc.)
        - Maintenance and repair
        - Operational safety
    - Personal watercraft
        - Design
        - Construction materials
        - Capability
        - Rigging
        - Components (D-rings, handles, pump, motor, etc.)

    - Attachments (tow bridles, etc.)
    - Maintenance and repair
    - Operational safety
2. Describe watercraft terminology
3. Rig a watercraft

Discussion Questions

1. What are the pros and cons of each type of rescue boat?
2. What type of boats and equipment does your AHJ have?

Application

1. Rig a watercraft

Instructor Notes

1. None

CTS Guide: None

Topic 2-18: Performing a Non-Entry Rescue from Shore

Terminal Learning Objective

At the end of this topic a student, given a water rescue scenario, PPE, and a tool cache, will be able to perform a non-entry rescue in the water environment so that the deployed equipment reaches the victim(s), the rescue equipment does not slip through the rescuer's hands, the victim is moved to the rescuer's shoreline, the victim is not pulled beneath the surface by rescuer efforts, the rescuer is not pulled into the water by the victim, neither the rescuer nor the victim is tied to or entangled in a rescue device, and the rescue is accomplished in accordance with policies and safety procedures.

Enabling Learning Objectives

1. Identify potential non-entry rescue scenarios
   - Can reach the victim from shore using tools
   - Setting up downstream safety for a technical rescue
2. Identify scenarios when non-entry rescue may not be appropriate
   - People (victim and rescuer) conditions (short term/long term)
   - Environmental conditions (short term/long term)
   - Tools available (short term/long term)
3. Identify considerations for non-entry rescue
   - Hydrology and water characteristics
   - Victim behavior
   - Environmental conditions
   - Environmental hazards
   - Incident-specific hazards
   - Time restrictions
4. Identify PPE and tools used for non-entry rescue
   - Types and capabilities
   - Water rescue reach device
   - Water rescue rope
5. Describe hazards and limitations of shore-based rescue
6. Select and use task-specific PPE
7. Identify water hazards (i.e., upstream or downstream, current or tide)
8. Identify hazards directly related to the specific rescue
9. Demonstrate appropriate shore-based victim removal techniques

Discussion Question

1. What tools does your AHJ have/use for non-entry water rescue?
2. What are some potential non-entry rescue scenarios?
3. What are some scenarios where non-entry rescue may not be appropriate?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 2-5, CTS 2-6, CTS 5-4, CTS 8-3

Topic 2-19: Constructing and Using Technical Rope Rescue Systems and Skills

Terminal Learning Objective

At the end of this topic a student, given a scenario, PPE, a victim or load, and rescue equipment, will be able to construct and use rope systems and skills to meet water rescue needs of the AHJ so that the movement is controlled, the victim or load is held in place when needed, and operating methods do not stress the system.

Enabling Learning Objectives

1. Describe how to work with ropes, knots, and anchors
2. Describe the capabilities, limitations, and uses for rope systems specific to the water rescue environment
3. Describe how to build and use ropes systems for water rescue
    - Mechanical advantage system
    - Raising and lowering system
    - Horizontal transport system
        - Tension diagonal
4. Describe how to use line throwing and crossing equipment and techniques
5. Describe methods to increase the efficiency of load movement
6. Describe interference concerns and obstacle negation when using rope systems
7. Describe system safety check protocols
8. Describe how to evaluate system components for compromised integrity
9. Describe common personnel assignments and duties
10. Describe common and critical operational commands
11. Determine incident needs
12. Complete a system safety check
13. Evaluate system components for compromised integrity
14. Select personnel
15. Communicate with personnel
16. Evaluate for potential problems

Discussion Questions

1. What is the optimal angle for a tension diagonal
2. How do rope systems increase risk or hazard to rescue operations?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide: CTS 2-11, CTS 5-1

Topic 2-20: Swimming in Dynamic Water

Terminal Learning Objective

At the end of this topic a student, given a course that is representative of the bodies of water existing or anticipated within the AHJ's geographic confines, water rescue PPE, will be able to describe how to use survival swimming and self-rescue skills to negotiate a designated water scenario so that the risk of injury is minimized, flotation is maintained, the specified objective is reached, all performance parameters are achieved, movement is controlled, hazards are continually assessed, distress signals are demonstrated, and rapid intervention for the rescuer has been considered for deployment.

Enabling Learning Objectives

1. Describe the difference between offensive and safety (defensive) swimming postures
2. Describe dynamic water swimming techniques
    - Basic swim
    - Ferry angle
    - Eddy hopping
    - Surfing
3. Describe how to avoid hydrology and hazards specific to swimmers
    - Shoreline
    - In-water
        - Strainers
        - Holes
        - Foot entrapments
        - Suspended loads
    - Climatic
4. Describe how to select water rescue PPE based on water conditions and hazards
5. Describe personnel accountability methods

Discussion Question

1. How are offensive and defensive swimming different?
2. What swimming technique would you use to avoid a strainer?
3. How would the current vector impact your ferry angle?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 2-10, CTS 3-1, CTS 6-2

Topic 2-21: Directing a Rescue Team During Non-Entry Rescue Operations

Terminal Learning Objective

At the end of this topic a student, given incident checklists, maps, topographic surveys, and charts, will be able to direct a rescue team during non-entry operations so that teams are managed, personnel are supervised, hazards are assessed and identified, team health and safety is ensured, qualifications/abilities of rescuers are verified, briefing is conducted, and debriefing is performed.

Enabling Learning Objectives

1. Describe supervisory practices
2. Describe emergency procedures
3. Describe communications procedures
4. Describe local protocols
5. Describe safety checks
6. Describe personnel accountability techniques
7. Implement
    - Emergency procedures
    - Communications procedures
    - Incident management
    - Personnel accountability
    - Resource management

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide: CTS 3-5

Topic 2-22: Terminating an Incident

Terminal Learning Objective

At the end of this topic a student, given PPE specific to the incident, isolation barriers, and a tool cache, will be able to terminate an incident so that rescuers and bystanders are protected and accounted for during termination operations; the party responsible is notified of any modifications or damage created during the operational period; documentation of loss or material use is accounted for; scene documentation is performed; scene control is transferred to a responsible party; potential or existing hazards are communicated to that responsible party; debriefing, post-incident analysis, and critique are conducted; and command is terminated.

Enabling Learning Objectives

1. Describe PPE characteristics
   - PPE requirements change in IDLH vs non-IDLH
   - Decontamination requirements
2. Identify hazard and risk identification
   - Reevaluate mitigated and ongoing hazards
   - Resources in transition
   - Complacency
   - Normalized deviance
   - Fatigue
3. Describe equipment/vessel removal procedures
   - When to leave in place
   - Systematic breakdown and removal
4. Describe isolation techniques
5. Identify statutory requirements
   - Determined by AHJ
6. Identify responsible parties
7. Describe accountability system use
   - PAR – personnel accountability report
8. Describe documentation and reporting methods
   - Determined by AHJ
9. Describe post-incident analysis techniques
   - Determined by AHJ
   - Critical incident stress debriefing
10. Select and use hazard-specific PPE
11. Decontaminate PPE
12. Use barrier protection techniques
13. Implement data collection and record-keeping/reporting protocols
14. Conduct post-incident analysis activities

Discussion Question

1. What hazards and risks can arise during incident termination?
2. Who are some examples of responsible parties that may assume responsibility for the scene when the incident terminates?

3. What critical incident stress management resources are available to you?

Application

1. Terminate an incident

Instructor Notes

1. None

CTS Guide Reference: CTS 2-13, 5-5, 8-10

Drill Ground Activities and Evolutions

Activities and Evolutions

The following components must be covered in the drill ground activities and/or evolutions but can be combined and completed in the order that best suits the props available and AHJ policies and procedures.

Because this class does not include water access or entry, the activities can be done using photos and/or videos to simulate the water rescue incidents.

Drill ground activities must incorporate the following learning objectives:

- Conduct an incident hazards assessment and isolate hazards
- Assess hazards to rescuers and victim(s)
- Size up a water rescue incident
- Communicate using verbal commands
- Communicate using hand signals
- Communicate using whistle blasts
- Communicate using radios
- Inspect PPE
- Don, doff, and use PPE
- Use water rescue equipment
- Support an operations- or technician-level incident
- Terminate an incident

Drill ground activities must address the following operations:

- Rig a watercraft
- Operate a PFD quick release buckle system (if available)

Safety Notes

If this course is taught near water, use the following guidelines for student safety and site selection.

Student Safety

Before conducting any in-water training you, as the instructor, are responsible for ensuring the safety of everyone involved in the training exercise.

Never put students in a position where they must act as the sole rescuer of other students. Their presence in the class implies that their knowledge and skill levels are not sufficient to operate without direct supervision.

Always be in a position from which you can rescue students. Drills, simulations, or training areas where students cannot be rapidly rescued are not suitable and must be avoided.

Site Selection
The body of water used for training should be no more complex than a Class III and should provide a means for safe and effective rescue of both students and instructors.

An ideal training area offers a variety of water features that provide opportunities to have students complete all skills.

Water depth and consistency should be suitable to perform all required tasks.

The bank of the body of water should provide a safe means of ingress and egress.

Be cautious when training in small waterways and creeks. These bodies of water don't usually carry heavy water flows and are often strainer choked and full of debris. Do a complete and comprehensive survey before training in these bodies of water.

Scrutinize irrigation canals and manmade dams. These structures often have debris such as rebar and rip rap in them that are hazardous to swimmers. They can also have rapidly changing water levels.

Low head dams are extremely hazardous and should never be used for training purposes. They offer no way out, and rescue is difficult at best. Training in and around them is inviting disaster.

Site Assessment and Safety
Be thoroughly familiar with the training area to identify and mitigate all hazards.

- Arrive early at the training site to assess conditions.
- Scout the training area for strainers, sweepers, exposed rebar, or other debris that could snag a student.
- Assess the area for foot and body entrapment hazards such as underwater ledges and submerged debris and logs.
- Anticipate projected water levels and know if the waterway is influenced by dam release or prone to sudden changes due to hydroelectric activities or precipitation.
- The area may have a rapid current with wave trains.
- Avoid areas with large holes or other dangerous currents.
- Monitor the weather for potential impact on water flows.
- Pre-plan the "no go" zone location.

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.

Water Rescue Awareness and Operations (2021) Training Record

Name: _____

SFT ID Number: _____

Skill		Course Plan Topic	Evaluator Initials
1.	Conduct an incident hazard assessment and isolate hazards	2-3	
2.	Assess hazards to rescuers and victim(s)	2-4	
3.	Size up a water rescue incident	2-6	
4.	Communicate using verbal commands	2-7	
5.	Communicate using hand signals	2-7	
6.	Communicate using whistle blasts	2-7	
7.	Communicate using radios	2-7	
8.	Inspect PPE	2-10	
9.	Don, doff, and use PPE	2-10	
10.	Use water rescue equipment	2-11	
11.	Operate a PFD quick release buckle system	2-11	
12.	Support an operations- or technician-level incident	2-14	
13.	Rig a watercraft	2-17	
14.	Terminate an incident	2-22	

A candidate has successfully completed the skill when they perform it to the corresponding Terminal Learning Objective standard found in State Fire Training's Water Rescue Awareness and Operations (2021) course.

SFT Course ID: _____

Course Delivery Date: _____

Instructor of Record: _____

Instructor SFT ID Number: _____

Water Rescue Technician (2021)

Course Plan

Course Details

Description: This course provides the knowledge and skills to prepare an emergency responder to conduct rescue operations in surface water, swiftwater, and floodwater in a safe and effective manner in accordance with AHJ policies and procedures. Topics include dynamic hydrology; recognizing and isolating hazards to rescuers and victims; managing a water rescue incident; incident size up and communication; working with air assets and watercraft; selecting and using PPE and rescue equipment; searching for and managing victims; constructing and using technical rope rescue systems and skills; dynamic swimming; performing non-entry and entry rescues from the shore or a platform; rescuing victims from a waterborne vehicle; and terminating an incident. This course incorporates awareness, operations, and technician training based on NFPA 1006 (2021).

Designed For: Public safety members with river and flood rescue responsibilities.

Prerequisites: Rope Rescue Awareness and Operations (SFT, FEMA, or IFSAC/Pro Board) **or** Low Angle Rope Rescue **and** Rescue Systems 1

Common Passenger Vehicle **or** Auto Extrication **or** Vehicle Extrication

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: 40 hours

(9.5 lecture / 30.5 application)

Max Class Size: 24

Instructor Level: SFT Registered Water Rescue Technician Instructor

Instructor/Student Ratio: 1:24 (lecture)

1:8 (skills/teaching demonstrations)

Restrictions: All instructors counted toward student ratios, including application components, must be SFT Registered Water Rescue Technician Instructors.

SFT recommends that students complete the requirements of their AHJ's swim test prior to course participation.

SFT Designation: FSTEP

Table of Contents

Required Resources

Instructor Resources

To teach this course, instructors need:

- NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
- NFPA 2500: Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services (2021)
- FIRECOPE ICS 162 Technical Search and Rescue Incident Operational System Description
- ICS 420-1 – Field Operations Guide (FEMA, current edition)
- Emergency Response Guidebook (DOT, current edition)
- Full personal protective equipment per AHJ requirements (including Type 5 PFD, dry suit or wetsuit, thermal protection, helmet, gloves, close-toed footwear, whistle (pealess), knife, head lamp, strobe light)

Recommended resources:

- *Water Rescue: Principles and Practice to NFPA 1006 and 1670: Surface, Swiftwater, Dive, Ice, Surf, and Flood* (Treinish, Steve; Jones & Bartlett; 3rd edition, 2021)
- *Swiftwater Rescue* (Slim Ray; CFS Press; expanded edition, 2013)
- *River Rescue: A Manual for Whitewater Safety* (Bechdel, Ray, & AtLee; CFS Press, 4th edition, 2009)

Online Instructor Resources

The following instructor resources are available online at https://osfm.fire.ca.gov/what-we-do/state-fire-training/fire-service-training-and-education-program

- None

Student Resources

To participate in this course, students need:

- Any textbook required by the instructor
- Full personal protective equipment per AHJ requirements (including Type 5 PFD, dry suit or wetsuit, thermal protection, helmet, gloves, close-toed footwear, whistle (pealess), knife, head lamp, strobe light)

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
- A Water Rescue Technician training site with the NFPA 1006 required facilities, structures, work areas, materials, props, tools, and equipment of adequate size, type, and quantity to fully and safely support the cognitive and psychomotor training required to deliver the curriculum
    - Minimum requirement is a waterway with Class 2 water features

Equipment

Student safety is of paramount importance when conducting the type of high-risk training associated with this Water Rescue Technician course.

- The equipment listed below is the minimum for the delivery of this course.
- The student is responsible for providing their PPE and ensuring that all PPE meets AHJ and site requirements.
- For all tools and equipment, ensure that you have the power source, operating supplies (blades, fuel, etc.), cleaning supplies, and appropriate PPE.

The following equipment is required to deliver this course:

Quantity Per 8-person Squad	Equipment
1	Basic Life Support/First Aid Kit (AHJ)
1	Backboard, long
8	Rope, water rescue throw bags
1	Stokes basket w/floatation
2	Rescue board
4	Fins (pairs)
8	Personal floatation device with blow out ring (Type V, good working condition)
8	Whistle, pealess
8	Cutting tool, knife with protective sheath attached to PPE
8	Light, strobe attached to PPE
2	Vessel, self-bailing raft or Inflatable Rescue Boat (AHJ), 12’-14’ recommended minimum
1	Vessel inflation device
8	Paddles, length per AHJ
2	Walking pole 6’-8’ (pike pole, etc.)
1	Strainer, manmade or natural (safe for evolutions)
2	Descent control device, (AHJ)
Determined by scenario	Glow sticks (various color)

Per Course	Cache List
4	Rope, static kernmantle, general use, w/rope bag (length based on site)
40	Carabiner, locking (general or technical use)
2	Collection plate (AHJ)
Determined by scenario	Edge protection
10	Prusik loops, short, 8mm
10	Prusik loops, long, 8mm
6	Pulley, prusik minding
8	Webbing, green, 1”x5’
8	Webbing, yellow, 1”x12’
8	Webbing, blue, 1”x15’
8	Webbing, orange, 1”x20’
1	Mechanical line throwing device
1	Hose Inflation kit • 2½” fire hose (length determined by AHJ) • 2½” plug • 2½” cap with inflation
Per Course	**Optional**
Determined by scenario	Mechanical rope grab
Determined by scenario	Pickets, steel or equivalent
Determined by scenario	Sledgehammer
Determined by scenario	Anchor straps
Determined by scenario	Load release device (manufactured or improvised)
Determined by scenario	Marker buoys
Determined by scenario	Line capture device

The provider or agency assumes all responsibility, liability, and maintenance for the engineering design, strength, stability, and adequacy of all props. The provider or agency further assumes all responsibility, liability, and maintenance for all tools, equipment, and supplies used at the site for the delivery of a Water Rescue Technician class.

Personnel

The following personnel are required to deliver this course:

- Any instructor counted toward student ratios must be an SFT Registered Water Rescue Technician (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: Water Rescue Concepts and Skills			
Topic 2-1: Managing a Water Rescue Incident	0.25	0.0	
Topic 2-2: Describing Dynamic Hydrology	0.50	0.0	
Topic 2-3: Recognizing Hazards and Initiating Isolation Procedures	0.25	1.0	
Topic 2-4: Assessing Hazards to Rescuers and Victims	0.50	1.0	
Topic 2-5: Developing a Site Survey for an Existing Water Hazard	0.25	0.0	
Topic 2-6: Sizing Up a Water Rescue Incident	0.25	1.0	
Topic 2-7: Communicating in a Water Environment	0.25	1.0	
Topic 2-8: Developing and Implementing an Incident Action Plan to Use Watercraft	0.25	0.0	
Topic 2-9: Implementing an Incident Action Plan to Use Air Assets	0.25	0.0	
Topic 2-10: Selecting and Using Personal Protective Equipment	0.50	1.0	
Topic 2-11: Operating Water Rescue Equipment	0.50	1.0	
Topic 2-12: Describing Flood Hazards and Evacuation Procedures	0.25	0.0	
Topic 2-13: Limiting Exposure to Potentially Contaminated Floodwater	0.25	0.0	
Topic 2-14: Supporting an Operations- or Technician-level Incident	0.25	1.0	
Topic 2-15: Performing a Victim Search	0.25	2.0	
Topic 2-16: Managing a Victim	0.25	2.0	
Topic 2-17: Operating a Rescue Watercraft	0.25	2.5	
Topic 2-18: Performing a Non-Entry Rescue from Shore	0.50	3.0	
Topic 2-19: Performing a Non-Entry Rescue from a Platform	0.50	3.0	
Topic 2-20: Constructing and Using Technical Rope Rescue Systems and Skills	0.50	1.5	
Topic 2-21: Swimming in Dynamic Water	0.50	3.0	
Topic 2-22: Performing an Entry Rescue from Shore	0.50	2.0	
Topic 2-23: Performing an Entry Rescue from a Platform	0.50	2.0	

Segment	Lecture	Application	Unit Total
Topic 2-24: Rescuing Victims from a Waterborne Vehicle	0.50	2.0	
Topic 2-25: Directing a Rescue Team During Operations	0.25	0.0	
Topic 2-26: Terminating an Incident	0.25	0.50	
Unit 2 Totals	**9.0**	**30.5**	**39.5**
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	**9.5**	**30.5**	**40.0**

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: Water Rescue Concepts and Skills

Topic 2-1: Managing a Water Rescue Incident

Terminal Learning Objective

At the end of this topic a student, given water rescue scenarios and AHJ policies, procedures, and standards, will be able to manage a water rescue incident in accordance with local, state, and federal standards, policies, and procedures.

Enabling Learning Objectives

1. Describe water rescue scope of practice and standards
    - NFPA 1006 (current edition)
        - Surface water
        - Swiftwater
        - Floodwater
    - NFPA 2500 (current edition)
    - FIRESCOPE 162, Chapter 12 (current edition)
    - AHJ policies, procedures, and standards
2. Describe policies/procedures for rescue team activation
    - Local
    - State
    - Federal
3. Describe legal considerations and practices
    - Training and certification requirements
    - Negligence
    - Abandonment
4. Describe the discipline-specific components of the Incident Command System
    - Upstream spotter
    - Downstream safety
    - Rigging team (if needed)
    - Rescue team lead
    - Rescuer/rescue team
    - Receiving team
5. Describe rescue priorities
    - Low risk to high risk
        - Talk
        - Reach
        - Throw
        - Boat (row)
        - Swim (go)
        - Tethered swimmer (tow)
        - Helicopter (helo)
    - Rescue vs. recovery
    - Incident within an incident

- Safety priorities
    - Rescuer (self)
    - Rescue team
    - Victim(s)

6. Describe how to recognize the need for technical rescue resources
    - Identify the need
    - Identify available resources
        - AHJ resources
        - Local/regional resources
        - State resources
            - FIRESCOPE/Cal OES
        - Federal resources
            - FEMA USAR
    - Initiate the response system
        - Apply operational protocols
        - Select and use planning forms
        - Request support operations and resources
    - Secure and render scene safe until additional resources arrive
        - Implement safety measures
    - Incorporate awareness-level personnel into the operational plan

Discussion Question

1. What type of waterways are present in your AHJ?
2. What type of water rescue incidents are common to your AHJ?
3. What are your legal responsibilities regarding water rescue?
4. What are some key water rescue ICS positions?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 1-3, CTS 4-3, CTS 7-3

Topic 2-2: Describing Dynamic Hydrology

Terminal Learning Objective

At the end of this topic a student, given a dynamic water environment, will be able to describe dynamic hydrology as it relates to rivers, channels, and floods so that hydrology impacts are avoided or mitigated during water rescue operations.

Enabling Learning Objectives

1. Describe the forces of dynamic water
2. Describe how to calculate current speed
3. Describe how to calculate water volume (cubic feet of water per second) in a river/channel
4. Describe river orientation and where to place personnel
    - Upstream
    - Downstream
    - River right
    - River left
5. Describe features created by moving water and how they impact water rescue operations
    - Laminar flow
    - Helical flow
    - Eddies
    - Eddy lines
    - Strainers/sieves
        - Natural
        - Manmade
    - Pillows
    - Hole/hydraulic
        - Smiling (closed)
        - Frowning (open)
    - Standing waves (haystacks)
    - Aerated water
    - Current vectors
    - Manmade features
        - Low-head dams
        - Drainage culverts
            - Trapezoid
            - Rectangle
        - Hydroelectric facilities
6. Describe the effects of hydrodynamic forces on rescuers and victims
7. Describe criteria for selecting victim retrieval locations based on water environment and conditions
8. Identify river classifications
    - Class 1 through 6

- Change based on conditions

Discussion Questions

1. How does cubic feet per second (cfs) impact water hydrology?
2. How do water speed and volume impact rescue operations?
3. What additional considerations are associated with operations involving manmade features?

Application

1. Determined by instructor

Instructor Notes

1. For any topic taught in a classroom, supplement with images and videos as visual aids.

CTS Guide Reference: None

Topic 2-3: Recognizing 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 associated with water rescue 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 victims are minimized; and rescue time constraints are taken into account.

Enabling Learning Objectives

1. Describe hazards created by or associated with surface or dynamic water
2. Describe types and natures of water rescue incident hazards
   - Surface water
   - Swiftwater
   - River/Floodwater
3. Describe types of mitigation and isolation equipment and their use
4. Describe resource capabilities and limitations
5. Describe operational requirement concerns
6. Describe common types of rescuer and victim risks
7. Describe methods for controlling access to the scene
8. Initiate mitigation and isolation procedures
   - Identify incident hazards
   - Identify resource capabilities and limitations
   - Assess potential hazards to rescuers and bystanders
   - Place scene control barriers
   - Operate control and mitigation equipment

Discussion Questions

1. When assessing a waterway, what are the most dangerous hazards?

Application

1. Conduct an incident hazard assessment and isolate hazards

Instructor Notes

1. None

CTS Guide Reference: CTS 1-2, CTS 4-2, CTS 7-2

Topic 2-4: Assessing Hazards to Rescuers and Victims

Terminal Learning Objective

At the end of this topic a student, given an incident scenario and a tool cache, will be able to assess dynamic water conditions, characteristics, and features in terms of hazards to the rescuer and victims so that the flow and conditions are estimated accurately, mechanisms of entrapment are considered, hazards are assessed, the depth and surrounding terrain are evaluated, and findings are documented.

Enabling Learning Objectives

1. Describe how to interpret information sources and identify their impact on operational decision making
    - Flow
    - Maps and charts
    - Local terrain data
    - Weather forecasts
    - Local water hazards and conditions
    - Common event characteristics
        - Surface water
        - Swiftwater
        - Floodwater
    - Entrapment mechanisms
    - Human physiology and survival factors
        - Mechanical effect of water on human body
        - Heat transfer properties
        - Trauma
        - Injuries
2. Identify current vectors for safe navigation
3. Identify areas and features that are safe zones in dynamic water environments
4. Determine flow and environmental factors and their effects on victims and rescuers
5. Acquire and interpret weather forecasts and local terrain data and evaluate their impact on victims and rescuers
6. Interpret maps or charts

Discussion Question

1. Where are safe zones typically located?
2. What is the leading cause of illness and injury around water?

Application

1. Assess hazards to rescuers and victim(s)

Instructor Notes

1. None

CTS Guide Reference: CTS 5-3, CTS 8-2

Topic 2-5: Developing a Site Survey for an Existing Water Hazard

Terminal Learning Objective

At the end of this topic a student, given historical data, specific PPE for conducting site inspections, flow insurance rate maps, tide tables, and meteorological projections, will be able to develop a site survey for an existing water hazard so that life safety hazards are anticipated, risk/benefit analysis is included, site inspections are completed, water conditions are projected, site-specific hazards are identified, routes of access and egress are identified, boat ramps (put-in and take-out points) are identified, the method of entrapment is considered, and areas with a high probability for victim location are determined.

Enabling Learning Objectives

1. Describe requisite contents of a site survey
2. Describe types, sources, and information provided by reference materials
3. Describe hydrology and the influence of hydrology on rescues
4. Describe types of hazards associated with water rescue practices scenarios, inspections practices, and considerations techniques
5. Describe risk/benefit analysis
6. Describe identification of hazard-specific PPE
7. Describe factors influencing access and egress routes
8. Describe behavioral patterns of victims
9. Describe environmental conditions that influence victim location
10. Interpret reference materials
11. Perform a scene assessment
12. Evaluate site conditions
13. Complete risk/benefit analysis
14. Select and use necessary PPE

Discussion Questions

1. What are the key components of a site survey?
2. Does your AHJ have any unique environmental conditions that impact your water rescue environment?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 2-1

Topic 2-6: Sizing Up a Water Rescue Incident

Terminal Learning Objective

At the end of this topic a student, given a water incident, background information and applicable reference materials, will be able to size up a water rescue incident so that the scope of the rescue is determined; the operational mode is defined; resource availability, response times, and types of rescues are determined; the number of victims is identified; the last reported location of all the victims 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. Describe how to conduct a size up
   - Determine scope of the rescue
   - Define operational mode
   - Determine resource availability, capability, and response times
   - Determine types of rescues
   - Identify number of victims
   - Establish place last seen (PLS) and time last seen (TLS) of all the victims
   - Evaluate environmental conditions that influence victim location
   - Identify and interview witnesses and reporting parties
   - Assess resource needs
   - Identify primary search parameters
   - Identify factors influencing access and egress routes
   - Obtain information required to develop an initial incident action plan
2. Describe types of reference materials and their uses
3. Describe how to conduct a risk/benefit assessment
4. Describe information-gathering techniques and how that information is used in the size-up process
5. Describe elements of an incident action plan and related information
6. Describe how size up relates to the incident management system
7. Read technical rescue reference materials
8. Evaluate site conditions
9. Relay information
10. Manage witnesses
11. Use information-gathering sources

Discussion Questions

1. Determined by instructor

Application

1. Size up a water rescue incident

Instructor Notes

1. None

CTS Guide Reference: CTS 1-1, CTS 2-4, CTS 4-1, CTS 7-1

Topic 2-7: Communicating in a Water Environment

Terminal Learning Objective

At the end of this topic a student, given a water incident, whistles, and hand signals, will be able communicate with other rescuers during an operation so that commands are shared and rescue objectives are met.

Enabling Learning Objectives

1. Describe communication challenges in a water rescue environment
2. Describe ways to communicate in a water rescue environment
   - Verbal
   - Hand signals
   - Whistle blasts
   - Radio
3. Demonstrate forms of communication

Discussion Questions

1. What do the various hand signals mean?
2. What do the various whistle blasts mean?
3. What barriers are involved with each type of communication?

Application

1. Communicate using verbal commands
2. Communicate using hand signals
3. Communicate using whistle blasts
4. Communicate using radios

Instructor Notes

1. None

CTS Guide: None

Topic 2-8: Developing and Implementing an Incident Action Plan to Use Watercraft

Terminal Learning Objective

At the end of this topic a student, given an incident action plan (IAP), a watercraft, defined resources, and AHJ policies and procedures, will be able to develop and implement an IAP, as a member of a team, for the use of watercraft to support water search and rescue operations, so that hazards are addressed; watercraft pre-deployment checks are completed; watercraft launch or recovery is achieved; rescuers are deployed and recovered; both onboard and rescue operations conform with watercraft operational protocols and capabilities; communications are clear and concise; the candidate is familiar with watercraft nomenclature, operational protocols, design limitations, and launch/recovery site issues; and operational objectives are achieved.

Enabling Learning Objectives

1. Describe the components of an IAP
    - Communications Plan
    - Safety Plan
    - Operations Plan
        - PACE (primary, alternate, contingency, emergency)
    - Medical Plan
2. Describe how to combine multiple actions and information sources into a cohesive plan
    - Formal vs. informal
    - AHJ tactical worksheet
3. Use a tactical worksheet

Discussion Question

1. What are key components of an IAP?
2. What are the advantages of using a tactical worksheet?
3. Who is responsible for developing the IAP?
4. How does an IAP support Leader's Intent?

Application

1. Determined by instructor

Instructor Notes

1. Use the course delivery IAP as an example. Walk the students through it.

CTS Guide Reference: CTS 2-7, CTS 8-4, CTS 9-2

Topic 2-9: Implementing an Incident Action Plan to Use Air Assets

Terminal Learning Objective

At the end of this topic a student, given an incident action plan (IAP), access to air assets, and AHJ policies and procedures, will be able to implement an action plan for the use of air assets to support water search and rescue operations so that air-to-ground communication is established and maintained; applications are within the capabilities and skill levels of the helicopter service; hazards are addressed; rescuers are deployed and recovered as required; victim is extracted from water hazards consistent with existing or anticipated bodies of water in the AHJ; onboard and rescue operations conform with aircraft operational protocols and capabilities; air crew and ground personnel safety are not compromised; communications are clear and concise; all personnel are familiar with aircraft nomenclature, operational protocols, and design limitations; landing zones are designated and secured; and fire suppression resources are available at the landing zone.

Enabling Learning Objectives

1. Describe means of contacting and accessing agencies with air assets
2. Describe the role of aircraft in the support of water events
3. Describe the limitations of the available aircraft in the conditions associated with the rescue environment
4. Describe the role of the rescuer as part of an aviation team
5. Describe basic safety considerations for working around aircraft
    - Aircraft personnel who provide instruction/authority
    - Proper way to approach and leave the area
    - Proper way to enter and exit aircraft
    - Working near/under rotor wash
    - Landing zone requirements
    - Crash survival principals
    - Ancillary aircraft rescue equipment
6. Describe how to establish and control landing zones
7. Describe how to rig aircraft for anticipated rescue procedures
8. Implement a notification plan to request air assets
9. Develop a list of tactical objectives to be achieved by the aircraft
10. Communicate mission priorities with the aircrew or operator of the aircraft

Discussion Question

1. Who gives the authority to approach or enter an aircraft?
2. What are the safety concerns when working around aircraft?

Application

1. Determined by instructor

Instructor Notes

1. SFT strongly recommends working with aircraft during the course when possible.

CTS Guide Reference: CTS 2-8, CTS 8-5

Topic 2-10: Selecting and Using Personal Protective Equipment

Terminal Learning Objective

At the end of this topic a student, given a water rescue assignment, personal protective and life support equipment (PPE) and United States Coast Guard (USCG) standards for personal flotation devices (PFD), will be able to identify, select, don, doff, and maintain PPE for water rescue operations so that rescuer is protected from temperature extremes and environmental hazards, PPE is appropriate to incident response needs and donned and worn correctly, swimming ability is maximized, and AHJ protocols are followed.

Enabling Learning Objectives

1. Describe the types and uses of and selection criteria for PPE
    - Personal flotation device (PFD)
        - Type III (USCG)
        - Type V (USCG)
    - Dry suit/wetsuit
    - Thermal protection
    - Helmet
    - Gloves
    - Close-toed footwear
    - Whistle (pealess)
    - Knife
    - Headlamp
    - Strobe light
2. Identify manufacturer's recommendations for PPE
3. Describe how to don and doff PPE
    - AHJ protocols for equipment positioning
4. Describe personal escape techniques
    - Applications
    - Capabilities
    - Equipment and procedures for signaling distress
5. Describe how to care for and maintain PPE
6. Inspect PPE
7. Use pre-operation checklists
8. Select personal flotation devices, water rescue helmets, and personal protective clothing and equipment
9. Don and doff PPE
10. Communicate distress signals
11. Use emergency escape procedures

Discussion Questions

1. What types of PPE are appropriate for different types of water environments?
2. How do you care for and maintain PPE?
3. What is the most important piece of PPE?

Application

1. Inspect PPE

2. Don, doff, and use PPE

Instructor Notes

1. Have students practice donning and doffing in the classroom or on shore before donning and doffing in the rescue environment.

CTS Guide: CTS 2-2

Topic 2-11: Operating Water Rescue Equipment

Terminal Learning Objective

At the end of this topic a student, given rescue equipment, a victim, and a water environment, will be able to identify and operate basic equipment used for water rescue operations so that equipment is used in accordance with manufacturer specifications and AHJ policies and procedures.

Enabling Learning Objectives

1. Describe the use, limitations, and safety considerations of water rescue equipment
    - Throw bag
        - Throws and recoils
        - Timeframe
        - Distance
        - Accuracy
    - Line capture
    - Line throwing devices
    - Walking or wading stick
    - Rope rescue equipment
        - Hardware and software determined by AHJ
    - Hose inflation kit (site dependent)
    - Swim aids
    - River board
    - PFD blowout ring
2. Describe how to maintain and store water rescue equipment
3. Operate equipment
4. Maintain and store equipment

Discussion Questions

1. What types of equipment are used in dynamic vs. static water conditions?
2. What types of equipment do your AHJ resources carry?
3. How does the rope in a throw bag differ from other types of rescue rope?

Application

1. Use water rescue equipment

Instructor Notes

1. Demonstrate and let students practice using equipment in the classroom or on shore before practicing in the rescue environment.
2. Rigging and operating watercraft is covered in Topic 2-16.

CTS Guide: None

Topic 2-12: Describing Flood Hazards and Evacuation Procedures

Terminal Learning Objective

At the end of this topic a student, given floodwater scenarios, the ICS 420-1 Field Operations Guide, and the DOT Emergency Response Guidebook (ERG), will be able to describe types and causes of floods, hazards, and evacuation procedures associated with flood rescue operations so that floodwater operations are conducted in accordance with AHJ standards, policies, and procedures.

Enabling Learning Objectives

1. Describe types of floods
    - Tidal floods (tsunamis, storm surges, king tides, etc.)
    - Water overflowing typical boundaries (rivers, lakes, tides, etc.)
    - Structure failure (dam break, levee failure, terrorism, etc.)
    - Flash floods
    - Mud or debris flow
2. Describe the evolution of a flood
    - Rise
    - Stasis
    - Drain
3. Describe flood environment hazards
    - Utilities
    - Contaminants
    - Hazardous materials
    - Insects and animals
    - Submerged objects (fences, structures, signs, vehicles, etc.)
    - Differential pressure/drains
    - Individuals with harmful intent
4. Describe how to manage and navigate terrain and environment hazards covered with floodwater or subject to differential pressures
    - Survey rescue environment for hazard indicators
    - Avoid, isolate, or control identified hazards
    - Floodwater can eradicate, displace, or cover buildings, roads, and signs typically used to provide orientation and document search progress
        - Use GPS and alternate mapping techniques
        - Establish geographic baselines
        - Coordinate rescuer positions and resource locations
        - Avoid submerged hazards and geographic features
        - Document search progress
5. Describe hazardous material exposure, protection, and decontamination
6. Describe basic flood search, rescue, and evacuation procedures
7. Describe considerations for pets and livestock

Discussion Questions

1. What types of floods are common in your jurisdiction?

2. What are common hazards associated with floods?
3. What is your AHJ's plan for dealing with household pets and service animals?
4. How does your AHJ navigate areas covered by floodwater?

Application

1. Determined by instructor

Instructor Notes

1. ELO 5: Keep this at the initial/basic awareness/operations level. The intent is to introduce these concepts.

CTS Guide: CTS 8-8, CTS 8-9

Topic 2-13: Limiting Exposure to Potentially Contaminated Floodwater

Terminal Learning Objective

At the end of this topic a student, given a floodwater event, a tool cache, AHJ protocols and practices, and access to the required engineering controls and decontamination tools, will be able to limit exposure of victims and rescuers to potentially contaminated floodwater so that the sources of potential contamination are identified and their effects and those of cross-contamination are minimized.

Enabling Learning Objectives

1. Identify contamination sources
2. Identify routes of exposure
3. Identify indicators of the presence of contaminants
4. Describe methods to limit exposure to contaminated water
5. Describe decontamination methods for specific contaminants
6. Use engineering controls and personal protective equipment (PPE)
7. Use practices that limit exposure to contaminants
8. Remove of potential contaminants or render them inert

Discussion Question

1. What types of contaminants can occur in floodwater?
2. How can contaminants enter your body?
3. How can your PPE help protect you from routes of exposure?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 8-6

Topic 2-14: Supporting an Operations- or Technician-level Incident

Terminal Learning Objective

At the end of this topic a student, given a water incident, a designated mission, an incident action plan, safety equipment, and resources from the tool cache, will be able to support water rescue operations, so that the assignment is carried out, skills are demonstrated in a controlled environment, performance parameters are achieved, hazards are continually assessed, environmental concerns are managed, progress is reported to command, personnel accountability is maintained, personnel rehabilitation is facilitated, the incident action plan is supported, and emergency procedures are demonstrated.

Enabling Learning Objectives

1. Describe AHJ operational protocols
2. Describe scene support requirements
3. Describe support procedures
    - Search patterns
    - Equipment setup
    - Communications
    - Upstream or downstream safety spotter
    - Personnel accountability
    - Tend to an in-water rescuer
    - Scene control and access
    - Liaison with victim, family, bystanders, agency, etc.
4. Identify how to avoid becoming a hazard or victim
5. Execute basic support skills

Discussion Question

1. How can you support an operations- or technician-level incident?
2. In what ways can a rescuer become a hazard or victim?'

Application

1. Support an operations- or technician-level incident

Instructor Notes

1. None

CTS Guide Reference: CTS 1-4, CTS 2-12, CTS 4-4, CTS 5-2, CTS 7-4, CTS 8-1

Topic 2-15: Performing a Victim Search

Terminal Learning Objective

At the end of this topic a student, given a water rescue scenario, topographical maps of a search area, descriptions of all missing persons and incident history, hydrological data including speed and direction of currents or tides, and a tool cache, will be able to perform a victim search so that all accessible areas of the incident are surveyed and victim locations are marked, areas with high probability of detection are differentiated from other areas, witnesses are interviewed, critical interview information is recorded, passive and active search tactics are implemented, personnel resources are considered and used, and search parameters are communicated.

Enabling Learning Objectives

1. Describe search fundamentals
    - LAST (locate, access, stabilize, transport)
    - PLS (point last seen)
    - TLS (time last seen)
    - POD (probability of detection)
2. Describe how to manage witnesses
    - Critical interview questions and practices
3. Identify different tools used for searches
4. Describe search types
    - Reconnaissance
    - Hasty (rapid)
    - Primary
    - Secondary
        - Low
        - High
5. Identify high-probability victim locations
    - Consider human instinct or behavior during incident
    - Consider both land- and water-based locations
    - Swiftwater
        - PLS
        - High POD points
        - Anywhere that allows water but not objects to pass through
            - Strainers
            - Eddies
            - Obstructions
        - Shoreline
    - Floodwater
        - Entrapment or refuge areas
        - Highest points (roofs, attics, etc.)
        - Vehicles (may be submerged or floating)
        - Under or on highway overpasses, trees, towers, power poles
6. Describe how to mark victim locations

7. Describe how to communicate victim locations
8. Describe how to incorporate spotters
    - Purpose
    - Selecting positions
9. Define search parameters
10. Perform reconnaissance, hasty (rapid), primary, and secondary searches
    - Conduct search
    - Mark victim locations
    - Share findings

Discussion Questions

1. What are the differences between the types of searches?
2. What considerations factor into a successful search plan?

Application

1. Define search parameters
2. Perform a reconnaissance victim search
3. Perform a hasty (rapid) victim search
4. Perform a primary victim search
5. Perform a secondary victim search

Instructor Notes

1. ELO 4: The types of searches are delineated in FIRESCOPE ICS-162.

CTS Guide: CTS 2-3, CTS 8-7

Topic 2-16: Managing a Victim

Terminal Learning Objective

At the end of this topic a student, given a water incident and rescue equipment, will be able to manage a victim so that so that incidents are managed and risks to rescuers and the victim are minimized.

Enabling Learning Objectives

1. Describe typical victim behaviors
    - Cooperative vs. combative
    - Fear responses
    - Panic
    - Counter-panic/disassociation
2. Describe how to manage family and bystanders
    - Panic
    - Counter-panic
    - Fear
    - Grief
3. Describe victim medical considerations
    - Incident-related Injuries
    - Pre-existing conditions (diabetes, asthma, etc.)
    - Working with special needs populations
4. Describe how to approach a victim
5. Describe c-spine application techniques in a water environment
6. Administer care to a water-bound victim

Discussion Questions

1. When does a victim become a patient?
2. What are some methods for handling a combative victim?
3. What are the options for, and risks involved with, immobilizing a patient?

Application

1. Determined by instructor

Instructor Notes

1. All the drill ground activities related to working with a victim are included in Topic 2-22: Performing an Entry Rescue from Shore.

CTS Guide: None

Topic 2-17: Operating a Rescue Watercraft

Terminal Learning Objective

At the end of this topic a student, given a rescue watercraft and equipment, will be able to maneuver a rescue watercraft and recover it from common watercraft-related emergencies so that objectives are met and watercraft is operated in accordance with manufacturer specifications and AHJ policies and procedures.

Enabling Learning Objectives

1. Describe common types of rescue watercraft
    - Rafts
        - Design
        - Construction materials
        - Capability
        - Inflation
        - Rigging
        - Components (D-rings, valves, handles, thwarts, etc.)
        - Attachments (oar frame, flip lines, painter/bow line, drift sock, etc.)
        - Maintenance and repair
        - Operational safety
    - IRBs (inflatable rescue boat)
        - Design
        - Construction materials
        - Capability
        - Inflation
        - Rigging
        - Components (D-rings, valves, handles, drain plug, scuppers, etc.)
        - Attachments (flip lines, painter/bow line, drift sock, motor, prop guards, tow bridles, etc.)
        - Maintenance and repair
        - Operational safety
    - Jon boats
        - Design
        - Construction materials
        - Capability
        - Rigging
        - Components (D-rings, handles, pump, etc.)
        - Attachments (painter/bow line, motor, prop guards, tow bridles, etc.)
        - Maintenance and repair
        - Operational safety
    - Personal watercraft
        - Design
        - Construction materials
        - Capability
        - Rigging

    - Components (D-rings, handles, pump, motor, etc.)
    - Attachments (tow bridles, etc.)
    - Maintenance and repair
    - Operational safety
2. Describe watercraft terminology
3. Describe crew positions
4. Describe navigation options
5. Describe how to how to paddle and/or maneuver a watercraft
6. Describe paddle commands and signals
    - Forward paddle
    - Back paddle
    - Left turn
    - Right turn
    - Stop
    - High side
    - Bump/brace
    - Pry stroke
    - Draw stroke
    - J stroke
7. Describe potential watercraft-related emergencies
    - Person(s) overboard
    - Flip over
    - Structural failure (puncture, leak, etc.)
    - Collision
    - Wrap around an object
8. Paddle and/or maneuver a watercraft
9. Rig a watercraft
10. Use paddle commands and signals

Discussion Questions

1. What are the pros and cons of each type of rescue boat?
2. What type of boats and equipment does your AHJ have?

Application

1. Rig a watercraft
2. Paddle and/or maneuver a watercraft
3. Use paddle commands and signals
4. Enter watercraft from the water (self-rescue / helping another rescuer)
5. Right a flipped boat
6. Unwrap a pinned boat (at least as a simulation)

Instructor Notes

1. None

CTS Guide: None

Topic 2-18: Performing a Non-Entry Rescue from Shore

Terminal Learning Objective

At the end of this topic a student, given a water rescue scenario, PPE, and a tool cache, will be able to perform a non-entry rescue in the water environment so that the deployed equipment reaches the victim(s), the rescue equipment does not slip through the rescuer's hands, the victim is moved to the rescuer's shoreline, the victim is not pulled beneath the surface by rescuer efforts, the rescuer is not pulled into the water by the victim, neither the rescuer nor the victim is tied to or entangled in a rescue device, and the rescue is accomplished in accordance with policies and safety procedures.

Enabling Learning Objectives

1. Identify potential non-entry rescue scenarios
   - Can reach the victim from shore using tools
   - Setting up downstream safety for a technical rescue
2. Identify scenarios when non-entry rescue may not be appropriate
   - People (victim and rescuer) conditions (short term/long term)
   - Environmental conditions (short term/long term)
   - Tools available (short term/long term)
3. Identify considerations for non-entry rescue
   - Hydrology and water characteristics
   - Victim behavior
   - Environmental conditions
   - Environmental hazards
   - Incident-specific hazards
   - Time restrictions
4. Identify PPE and tools used for non-entry rescue
   - Types and capabilities
   - Water rescue reach device
   - Water rescue rope
5. Describe hazards and limitations of shore-based rescue
6. Select and use task-specific PPE
7. Identify water hazards (i.e., upstream or downstream, current or tide)
8. Identify hazards directly related to the specific rescue
9. Demonstrate appropriate shore-based victim removal techniques

Discussion Question

1. What tools does your AHJ have/use for non-entry water rescue?
2. What are some potential non-entry rescue scenarios?
3. What are some scenarios where non-entry rescue may not be appropriate?

Application

1. Perform a non-entry rescue from shore

Instructor Notes

1. None

CTS Guide Reference: CTS 2-5, CTS 2-6, CTS 5-4, CTS 8-3

Topic 2-19: Performing a Non-Entry Rescue from a Platform

Terminal Learning Objective

At the end of this topic a student, given a water rescue scenario, PPE, an operator, a platform (such as a vessel, boat, watercraft, or other waterborne transportation aid), a water environment, and a tool cache, will be able to perform a non-entry rescue from a rescue platform so that the assignment is completed, all performance parameters are achieved, control and stability the vessel is maintained, hazards are continually assessed, risks to the victim and rescuers are minimized, victim is removed from the hazard, and any related distress signals are communicated.

Enabling Learning Objectives

1. Identify potential non-entry rescue scenarios
   - Can reach the victim from platform using tools
   - Setting up downstream safety for a technical rescue
2. Identify considerations for non-entry rescue
   - Hydrology and water characteristics
   - Victim behavior
   - Environmental conditions
   - Environmental hazards
   - Incident-specific hazards
   - Access and egress options
   - Time restrictions
   - How victim interaction impacts vessel dynamics
   - Vessel/platform capabilities and limitations
3. Identify PPE and tools used for non-entry rescue
   - Types and capabilities
4. Describe hazards and limitations of platform-based rescue
5. Select and use task-specific PPE
6. Identify water hazards (i.e., upstream or downstream, current or tide)
7. Identify hazards directly related to the specific rescue
8. Demonstrate appropriate shore-based victim removal techniques
9. Enter and exit the platform in a water condition
10. Demonstrate appropriate platform-based victim removal techniques
11. Apply packaging and movement techniques to water-bound victims

Discussion Question

1. What platforms or vessels are available in your AHJ?
2. How does working with victim impact the platform or vessel's dynamics?

Application

1. Perform a non-entry rescue from a platform

Instructor Notes

1. None

CTS Guide Reference: CTS 2-9, CTS 8-11

Topic 2-20: Constructing and Using Technical Rope Rescue Systems and Skills

Terminal Learning Objective

At the end of this topic a student, given a water environment, PPE, a victim or load, and rescue equipment, will be able to construct and use rope systems and skills to meet water rescue needs of the AHJ so that the movement is controlled, the victim or load is held in place when needed, and operating methods do not stress the system.

Enabling Learning Objectives

1. Describe how to work with ropes, knots, and anchors
2. Describe the capabilities, limitations, and uses for rope systems specific to the water rescue environment
3. Describe how to build and use ropes systems for water rescue
    - Mechanical advantage system
    - Raising and lowering system
    - Horizontal transport system
        - Tension diagonal
        - Boat on a high line
    - Tethering systems
        - Point systems (1, 2, 3, 4) with boats and boards
        - Kiting
4. Describe how to use line throwing and crossing equipment and techniques
5. Describe methods to increase the efficiency of load movement
6. Describe interference concerns and obstacle negation when using rope systems
7. Describe system safety check protocols
8. Describe how to evaluate system components for compromised integrity
9. Describe common personnel assignments and duties
10. Describe common and critical operational commands
11. Determine incident needs
12. Complete a system safety check
13. Evaluate system components for compromised integrity
14. Select personnel
15. Communicate with personnel
16. Manage movement of the load
17. Evaluate for potential problems

Discussion Questions

1. What type of systems are used in your AHJ?
2. What are the advantages and disadvantages of different systems?
3. How can you adopt a minimalistic approach to your rope systems?
4. How does perpendicular hydraulic force impact rope systems?

Application

1. Participate in line crossing (solo or as a member of a team)
2. Build and use a mechanical advantage system
3. Build and use a raising and lowering system
4. Build and use a tension diagonal

5. Build and use a rope system to control a vessel on a high line
6. Build and use a two-point tether on a vessel

Instructor Notes

1. ELO 2: For the horizontal transport systems, you must teach the tension diagonal. The boat on the high line can be accomplished using any rope system that allows you to control the boat upstream, downstream, river right, and river left.
2. Techniques covered in this topic fulfill the requirements of NFPA 1006 paragraphs 5.3.5 and 5.3.6, which are required for NFPA 1006 Swiftwater Rescue Technician certification.

CTS Guide: CTS 2-11, CTS 5-1

Topic 2-21: Swimming in Dynamic Water

Terminal Learning Objective

At the end of this topic a student, given a course that is representative of the bodies of water existing or anticipated within the AHJ's geographic confines, water rescue PPE, and swim aids as required, will be able to use survival swimming and self-rescue skills to negotiate a designated water course so that the risk of injury is minimized, flotation is maintained, the specified objective is reached, all performance parameters are achieved, movement is controlled, hazards are continually assessed, distress signals are demonstrated, and rapid intervention for the rescuer has been staged for deployment.

Enabling Learning Objectives

1. Describe the difference between offensive and safety (defensive) swimming postures
2. Describe dynamic water swimming techniques
   - Basic swim
   - Ferry angle
   - Eddy hopping
   - Surfing
3. Describe how to avoid hydrology and hazards specific to swimmers
   - Shoreline
   - In-water
     - Strainers
     - Holes
     - Foot entrapments
     - Suspended loads
   - Climatic
4. Describe how to select water rescue PPE and swim aids based on water conditions and hazards
5. Describe personnel accountability methods
6. Swim and float in different water conditions with and without flotation aids or swim aids as required
   - Don and doff PPE
   - Select and use swim aids
   - Evaluate water conditions to identify entry points and hazards
   - Utilize communications systems
   - Implement personnel accountability protocols
   - Apply water survival skills

Discussion Question

1. How are offensive and defensive swimming different?
2. What swimming technique would you use to avoid a strainer?
3. How would the current vector impact your ferry angle?

Application

1. Swim and float in different water conditions with and without flotation aids or swim aids

Instructor Notes

1. None

CTS Guide Reference: CTS 2-10, CTS 3-1, CTS 6-2

Topic 2-22: Performing an Entry Rescue from Shore

Terminal Learning Objective

At the end of this topic a student, given an incident scenario, PPE, a victim, and a water rescue tool cache, will be able to perform an entry rescue in the water environment so that victim contact is maintained, the rescuer maintains control of the victim, the rescuer and the victim reach safety at a predetermined area, medical conditions and treatment options are considered, and adopted policies and safety procedures are followed.

Enabling Learning Objectives

1. Identify potential entry rescue scenarios
   - Cannot reach the victim from shore using tools
   - Setting up downstream safety for a technical rescue
2. Identify scenarios when entry rescue may not be appropriate
   - People (victim and rescuer) conditions (short term/long term)
   - Environmental conditions (short term/long term)
   - Tools available (short term/long term)
3. Identify considerations for entry rescue
   - Hydrology and water characteristics
   - Victim behavior
   - Environmental conditions
   - Environmental hazards
   - Incident-specific hazards
   - Time restrictions
   - Rescuer capacity
4. Identify PPE and tools used for entry rescue
   - Types and capabilities
5. Describe hazards and limitations of shore-based entry rescue
6. Describe techniques used for entry rescue incidents
   - Swim (go)
     - Shallow water crossing
       - Single person
       - Line astern
       - Wedge (with and without stokes)
     - Free swim (swim to victim and swim them to shore)
       - With fins
       - Without fins
     - Board swim (rescuer travels to victim on board, puts victim on board, and travels back)
   - Tethered swim (tow)
     - Rescuer tethered to line swims to victim and is pulled back by tether
     - Two-point or “V lower” (rescuer clipped to rope controlled by a team at each end)
7. Describe how to operate PFD quick release buckle systems (blow out)
8. Describe how to release victims from limb entrapment

9. Describe how to manage victims in the water
    - Victim responses
        - Cooperative
        - Combative (stressed or panicked)
        - Non-responsive
    - Maintaining separation
        - Create and maintain personal safety
        - Perform self-defense techniques
        - Prevent rescuer submersion
10. Demonstrate appropriate shore-based victim removal techniques

Discussion Question

1. How do you select an entry rescue technique based on rescue priorities?
2. How does the victim's condition impact the entry rescue technique?

Application

1. Perform a single-person shallow water crossing
2. Perform a shallow water crossing using the line astern method
3. Perform a shallow water crossing using the wedge method with stokes
4. Perform a shallow water crossing using the wedge method without stokes
5. Free swim to/with a victim using fins
6. Free swim to/with a victim without using fins
7. Board swim to/with a victim
8. Swim to/with a victim while tethered to a line
9. Swim to/with a victim using a two-point or "V lower" tether
10. Operate a PFD quick release buckle system
11. Manage a cooperative victim
12. Manage a combative victim (release oneself from the grasp of a panicked victim using blocks, releases, and escapes)
13. Manage a non-responsive victim
14. Release a waterborne victim from limb entrapment
15. Apply a c-spine to a waterborne victim
16. Perform an entry rescue from the shore

Instructor Notes

1. Conduct at least one rescue scenario (non-entry from shore, non-entry from a platform, entry from shore, or entry from a platform) at night.

CTS Guide Reference: CTS 3-2, CTS 3-3, CTS 6-1, CTS 9-1

Topic 2-23: Performing an Entry Rescue from a Platform

Terminal Learning Objective

At the end of this topic a student, given an incident scenario, water rescue PPE, an operator, a platform (such as a vessel, boat, watercraft, or other waterborne transportation aid), a simulated water environment, and a water rescue tool cache, will be able to perform an entry rescue from a rescue platform so that the specific objective is reached, all performance parameters are achieved, movement is controlled, hazards are continually assessed, distress signals are demonstrated, personnel accountability is implemented, and rapid intervention for the rescuers has been staged for deployment.

Enabling Learning Objectives

1. Identify potential entry rescue scenarios
   - Cannot reach the victim from platform using tools
   - Setting up downstream safety for a technical rescue
2. Identify considerations for entry rescue from a platform
   - Hydrology and water characteristics
   - Victim behavior
   - Environmental conditions
   - Environmental hazards
   - Incident-specific hazards
   - Time restrictions
   - Rescuer capacity
   - How victim interaction impacts vessel dynamics
   - Vessel/platform capabilities and limitations
3. Identify PPE and tools used for entry rescue
   - Types and capabilities
4. Describe hazards and limitations of platform-based entry rescue
5. Describe techniques used for platform-based entry rescue
   - Awareness of vessel location
   - Vessel stability
     - Rescuer entering the water
     - Rescuer re-entering the vessel
   - Communication with vessel operator
   - Victim management
     - Transferring victim into vessel
       - Cooperative
       - Combative
       - Non-responsive
     - Transferring victim onto shore/dock
       - Cooperative
       - Combative
       - Non-responsive
6. Identify water hazards (i.e., upstream or downstream, current or tide)

7. Identify hazards directly related to the specific rescue
8. Enter and exit the waterborne transportation aid in water conditions
9. Demonstrate appropriate platform-based victim removal techniques
10. Apply packaging and movement techniques to waterborne victims

Discussion Question

1. What platforms do you have to work with in your AHJ?
2. What safety considerations are involved when working from a platform?
3. How does victim location and water conditions impact platform selection and use?

Application

1. Perform an entry rescue from a platform

Instructor Notes

1. The entry rescue techniques covered in Topic 2-21 also apply here with the added components of entering the water from and returning the victim to a vessel.

CTS Guide Reference: CTS 3-4, CTS 6-3

Topic 2-24: Rescuing Victims from a Waterborne Vehicle

Terminal Learning Objective

At the end of this topic a student, given a scenario involving a vehicle in water, will be able to rescue occupants from a waterborne vehicle so that the team effort is coordinated, the designated egress route is used, the victim is removed without compromising victim packaging, undue victim injury is prevented, and stabilization is maintained.

Enabling Learning Objectives

1. Describe size-up factors associated with a vehicle in water
   - Water velocity
   - Water depth
   - Channel width
   - Bottom composition
   - Speed of car upon entry
   - Angle of car upon entry
   - Number and condition of occupants
   - Vehicle stability
2. Describe hazards associated with a vehicle in water
   - Vehicle movement
   - Strainers
3. Describe rescue considerations
   - In-water techniques
   - Shore-based techniques
4. Describe how to manage victims
5. Rescue occupants from a vehicle in water

Discussion Questions

1. How would low- to high-risk rescue techniques apply to a waterborne vehicle rescue?
2. How do factors such as flow and bottom composition impact the incident?
3. How can removing victims affect vehicle stability?

Application

1. Rescue victims from a waterborne vehicle

Instructor Notes

1. None

CTS Guide: None

Topic 2-25: Directing a Rescue Team During Operations

Terminal Learning Objective

At the end of this topic a student, given incident checklists, maps, topographic surveys, and charts, will be able to direct a rescue team during operations so that teams are managed, personnel are supervised, hazards are assessed and identified, team health and safety is ensured, qualifications/abilities of rescuers are verified, pre-entry briefing is conducted, and debriefing is performed.

Enabling Learning Objectives

1. Describe supervisory practices
2. Describe emergency procedures
3. Describe communications procedures
4. Describe local protocols
5. Describe safety checks
6. Describe personnel accountability techniques
7. Implement
    - Emergency procedures
    - Communications procedures
    - Incident management
    - Personnel accountability
    - Resource management

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. Incorporate students directing operations as much as possible, but it won't be available to everyone given the number of scenarios in the class.

CTS Guide: CTS 3-5

Topic 2-26: Terminating an Incident

Terminal Learning Objective

At the end of this topic a student, given PPE specific to the incident, isolation barriers, and a tool cache, will be able to terminate an incident so that rescuers and bystanders are protected and accounted for during termination operations; the party responsible is notified of any modifications or damage created during the operational period; documentation of loss or material use is accounted for; scene documentation is performed; scene control is transferred to a responsible party; potential or existing hazards are communicated to that responsible party; debriefing, post-incident analysis, and critique are conducted; and command is terminated.

Enabling Learning Objectives

1. Describe PPE characteristics
   - PPE requirements change in IDLH vs non-IDLH
   - Decontamination requirements
2. Identify hazard and risk identification
   - Reevaluate mitigated and ongoing hazards
   - Resources in transition
   - Complacency
   - Normalized deviance
   - Fatigue
3. Describe equipment/vessel removal procedures
   - When to leave in place
   - Systematic breakdown and removal
4. Describe isolation techniques
5. Identify statutory requirements
   - Determined by AHJ
6. Identify responsible parties
7. Describe accountability system use
   - PAR – personnel accountability report
8. Describe documentation and reporting methods
   - Determined by AHJ
9. Describe post-incident analysis techniques
   - Determined by AHJ
   - Critical incident stress debriefing
10. Select and use hazard-specific PPE
11. Decontaminate PPE
12. Use barrier protection techniques
13. Implement data collection and record-keeping/reporting protocols
14. Conduct post-incident analysis activities

Discussion Question

1. What hazards and risks can arise during incident termination?
2. Who are some examples of responsible parties that may assume responsibility for the scene when the incident terminates?

3. What critical incident stress management resources are available to you?

Application

1. Terminate an incident

Instructor Notes

1. None

CTS Guide Reference: CTS 2-13, CTS 5-5, CTS 8-10

Drill Ground Activities and Evolutions

Activities and Evolutions

The following components must be covered in the drill ground activities and/or evolutions but can be combined and completed in the order that best suits the props available and AHJ policies and procedures.

Drill ground activities must incorporate the following learning objectives:

- Conduct an incident hazards assessment and isolate hazards
- Assess hazards to rescuers and victim(s)
- Size up a water rescue incident
- Communicate using verbal commands
- Communicate using hand signals
- Communicate using whistle blasts
- Communicate using radios
- Inspect PPE
- Don, doff, and use PPE
- Use water rescue equipment
    - Throw bag
    - Line capture
    - Line throwing devices
    - Walking or wading stick
    - Rope rescue equipment
    - Hose inflation kit (site dependent)
    - Swim aids
    - River board
    - PFD blowout ring
- Support an operations- or technician-level incident
- Terminate an incident

Drill ground activities must address the following operations:

- Search
    - Define search parameters
    - Perform a reconnaissance victim search
    - Perform a hasty (rapid) victim search
    - Perform a primary victim search
    - Perform a secondary victim search
- Watercraft
    - Rig a watercraft
    - Paddle and/or maneuver a watercraft
    - Use paddle commands and signals
    - Enter watercraft from the water (self-rescue / helping another rescuer)

    - Right a flipped boat
    - Unwrap a pinned boat (at least as a simulation)
- Rope Systems
    - Participate in line crossing (solo or as a member of a team)
    - Build and use a mechanical advantage system
    - Build and use raising and lowering system
    - Build and use a tension diagonal
    - Build and use a rope system to control a vessel on a high line
    - Build and use a two-point tether on a vessel
- Swimming
    - Swim and float in different water conditions with and without flotation aids or swim aids
- Entry Rescue
    - Perform a single-person shallow water crossing
    - Perform a shallow water crossing using the line astern method
    - Perform a shallow water crossing using the wedge method with stokes
    - Perform a shallow water crossing using the wedge method without stokes
    - Free swim to/with a victim using fins
    - Free swim to/with a victim without using fins
    - Board swim to/with a victim
    - Swim to/with a victim while tethered to a line
    - Swim to/with a victim using a two-point or “V lower” tether
    - Operate a PFD quick release buckle system
- Victim Management
    - Manage a cooperative victim
    - Manage a combative victim
    - Manage a non-responsive victim
    - Release a waterborne victim from limb entrapment
    - Apply a c-spine to a waterborne victim

Drill ground activities must incorporate the following rescue scenarios:

- Perform a non-entry rescue from the shore
- Perform a non-entry rescue from a platform
- Perform an entry rescue from the shore
- Perform an entry rescue from a platform
- Rescue victims from a waterborne vehicle
- Perform a rescue at night

Safety Notes

Student Safety

Before conducting any in-water training you, as the instructor, are responsible for ensuring the safety of everyone involved in the training exercise.

Never put students in a position where they must act as the sole rescuer of other students. Their presence in the class implies that their knowledge and skill levels are not sufficient to operate without direct supervision.

Always be in a position from which you can rescue students. Drills, simulations, or training areas where students cannot be rapidly rescued are not suitable and must be avoided.

Site Selection
The body of water used for training should be no more complex than a Class III and should provide a means for safe and effective rescue of both students and instructors.

An ideal training area offers a variety of water features that provide opportunities to have students complete all skills.

Water depth and consistency should be suitable to perform all required tasks.

The bank of the body of water should provide a safe means of ingress and egress.

Be cautious when training in small waterways and creeks. These bodies of water don't usually carry heavy water flows and are often strainer choked and full of debris. Do a complete and comprehensive survey before training in these bodies of water.

Scrutinize irrigation canals and manmade dams. These structures often have debris such as rebar and rip rap in them that are hazardous to swimmers. They can also have rapidly changing water levels.

Low head dams are extremely hazardous and should never be used for training purposes. They offer no way out, and rescue is difficult at best. Training in and around them is inviting disaster.

Site Assessment and Safety
Be thoroughly familiar with the training area to identify and mitigate all hazards.

- Arrive early at the training site to assess conditions.
- Scout the training area for strainers, sweepers, exposed rebar, or other debris that could snag a student.
- Assess the area for foot and body entrapment hazards such as underwater ledges and submerged debris and logs.
- Anticipate projected water levels and know if the waterway is influenced by dam release or prone to sudden changes due to hydroelectric activities or precipitation.
- The area may have a rapid current and with wave trains.
- Avoid areas with large holes or other dangerous currents.
- Monitor the weather for potential impact on water flows.
- Pre-plan the "no go" zone location.

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.

Water Rescue Technician (2021)
Training Record

Name: _____

SFT ID Number: _____

Skill		Course Plan Topic	Evaluator Initials
1.	Conduct an incident hazard assessment and isolate hazards	2-3	
2.	Assess hazards to rescuers and victim(s)	2-4	
3.	Size up a water rescue incident	2-6	
4.	Communicate using verbal commands	2-7	
5.	Communicate using hand signals	2-7	
6.	Communicate using whistle blasts	2-7	
7.	Communicate using radios	2-7	
8.	Inspect PPE	2-10	
9.	Don, doff, and use PPE	2-10	
10.	Use water rescue equipment	2-11	
11.	Support an operations- or technician-level incident	2-14	
12.	Define search parameters	2-15	
13.	Perform a reconnaissance victim search	2-15	
14.	Perform a hasty (rapid) victim search	2-15	
15.	Perform a primary victim search	2-15	
16.	Perform a secondary victim search	2-15	
17.	Rig a watercraft	2-17	
18.	Paddle and/or maneuver a watercraft	2-17	
19.	Use paddle commands and signals	2-17	
20.	Enter watercraft from the water (self-rescue / helping another rescuer)	2-17	
21.	Right a flipped boat	2-17	

22.	Unwrap a pinned boat (at least as a simulation)	2-17	
23.	Perform a non-entry rescue from shore	2-18	
24.	Perform a non-entry rescue from a platform	2-19	
25.	Participate in line crossing (solo or as a member of a team)	2-20	
26.	Build and use a mechanical advantage system	2-20	
27.	Build and use a raising and lowering system	2-20	
28.	Build and use a tension diagonal	2-20	
29.	Build and use a rope system to control a vessel on a high line	2-20	
30.	Build and use a two-point tether on a vessel	2-20	
31.	Swim and float in different water conditions with and without flotation aids or swim aids	2-21	
32.	Perform a single-person shallow water crossing	2-22	
33.	Perform a shallow water crossing using the line astern method	2-22	
34.	Perform a shallow water crossing using the wedge method with stokes	2-22	
35.	Perform a shallow water crossing using the wedge method without stokes	2-22	
36.	Free swim to/with a victim using fins	2-22	
37.	Free swim to/with a victim without using fins	2-22	
38.	Board swim to/with a victim	2-22	
39.	Swim to/with a victim while tethered to a line	2-22	
40.	Swim to/with a victim using a two-point or “V lower” tether	2-22	
41.	Operate a PFD quick release buckle system	2-22	
42.	Manage a cooperative victim	2-22	
43.	Manage a combative victim (release oneself from the grasp of a panicked victim using blocks, releases, and escapes)	2-22	
44.	Manage a non-responsive victim	2-22	
45.	Release a waterborne victim from limb entrapment	2-22	
46.	Apply a c-spine to a waterborne victim	2-22	
47.	Perform an entry rescue from the shore	2-22	
48.	Conduct at least one rescue scenario (non-entry from shore, non-entry from a platform, entry from shore, or entry from a	2-22	

	platform) at night		
49.	Perform an entry rescue from a platform	2-23	
50.	Rescue victims from a waterborne vehicle	2-24	
51.	Terminate an incident	2-26	

A candidate has successfully completed the skill when they perform it to the corresponding Terminal Learning Objective standard found in State Fire Training's Water Rescue Technician (2021) course.

SFT Course ID: _____

Course Delivery Date: _____

Instructor of Record: _____

Instructor SFT ID Number: _____

Water Rescue Awareness and Operations

(NFPA 1006: Surface Water Rescue, Swiftwater Rescue, and Floodwater Rescue Awareness/Operations/Technician)

Instructor Task Book (2021)

California Department of Forestry and Fire Protection
Office of the State Fire Marshal
State Fire Training

Overview

Authority

This instructor task book includes the training standards set forth in:

- NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)

Published: Month Year

Published by: State Fire Training, PO Box 944246, Sacramento, CA 94244-2460

Cover photo courtesy of Sean Norman, Division Chief, CAL FIRE.

Purpose

The State Fire Training instructor task book is a performance-based document. It lists the minimum requirements a candidate must meet to teach a specific State Fire Training course or course series.

Assumptions

Except for Fire Fighter and Emergency Vehicle Technician (EVT) certifications, a candidate may begin the task book initiation process upon completion of all required education components (courses).

Each job performance requirement (JPR) shall be evaluated after the candidate initiates the task book.

State Fire Training task books do not count towards the NWCG task book limit. There is no limit to the number of State Fire Training task books a candidate may pursue at one time if the candidate meets the initiation requirements for each.

It is the candidate's responsibility to routinely check the State Fire Training website for updates to an initiated task book. All State Fire Training issued updates to an initiated task book are required for task book completion.

A candidate must complete a task book within three years of its initiation date. Otherwise, a candidate must initiate a new task book using the curriculum's current published version.

Roles and Responsibilities

Candidate

The candidate is the individual pursuing instructor registration.

Initiation

The candidate shall:

1. Complete the Initiation Requirements section.
   - Please print.
2. Complete a block on the Signature Verification page with a handwritten signature.

Completion

The candidate shall:

1. Complete all Job Performance Requirements.
   - Ensure that an evaluator initials, signs, and dates each task to verify completion.
2. Complete the Completion Requirements section.
3. Sign and date the Candidate verification section on the Review and Approval page with a handwritten signature.
4. Obtain their fire chief's handwritten (not stamped) signature on the Fire Chief verification section on the Review and Approval page.
5. Create and retain a physical or high-resolution digital copy of the completed task book.

Submission

The candidate shall:

1. Submit a copy (physical or digital) of the completed task book and any supporting documentation to State Fire Training.
   - See Submission and Review below.

A candidate should not submit a task book until they have completed all requirements and obtained all signatures. State Fire Training will reject and return an incomplete task book.

Evaluator

An evaluator is any individual who verifies that the candidate can satisfactorily execute a job performance requirement (JPR).

A qualified evaluator is a Registered Water Rescue Awareness and Operations Instructor designated by the candidate's fire chief (or authorized designee). For instructor task books that do not require fire chief initiation, academy instructors serve as or designate evaluators.

All evaluators shall:

1. Complete a block on the Signature Verification page with a handwritten signature.
2. Review and understand the candidate's instructor task book requirements and responsibilities.
3. Verify the candidate's successful completion of one or more job performance requirements through observation.
    - Do not evaluate any job performance requirement (JPR) until after the candidate initiates the task book.
    - Sign all appropriate lines in the instructor task book with a handwritten signature or approved digital signature (e.g., DocuSign or Adobe Sign; a scanned copy of a signature is not acceptable) to record demonstrated performance of tasks.

Fire Chief

The fire chief is the individual who initiates (when applicable) and then reviews and confirms the completion of a candidate's instructor task book.

A fire chief may identify an authorized designee already on file with State Fire Training to fulfill any task book responsibilities assigned to the fire chief. (See *State Fire Training Procedures Manual*, 4.2.2: Authorized Signatories)

Initiation

The fire chief shall:

1. Review and understand the candidate's instructor task book requirements and responsibilities.
2. Complete a block on the Signature Verification page with a handwritten signature.
3. Designate qualified evaluators.

Completion

The fire chief shall:

1. Confirm that the candidate has obtained the appropriate signatures to verify successful completion of each job performance requirement.
    - Ensure that all job performance requirements were evaluated after the initiation date.

2. Confirm that the candidate meets the Completion Requirements.
3. Sign and date the Fire Chief verification statement under Review and Approval with a handwritten signature.
    - If signing as an authorized designee, verify that your signature is on file with State Fire Training.

Submission and Review

A candidate should not submit a task book until they have completed all requirements and obtained all signatures. State Fire Training will reject and return an incomplete task book.

To submit a completed task book, please send the following items to the address below:

1. A copy of the completed task book (candidate may retain the original)
2. All supporting documentation
3. Payment

State Fire Training
Attn: Instructor Registration
PO Box 944246
Sacramento, CA 94244-2460

State Fire Training reviews all submitted task books.

- If the task book is complete, State Fire Training will authorize the task book and retain a digital copy of the authorized task book in the candidate's career file.
- If the task book is incomplete, State Fire Training will return the task book with a notification indicating what needs to be completed prior to resubmission.

Completion of this instructor task book is one step in the instructor registration process. Please refer to the *State Fire Training Procedures Manual* for the complete list of qualifications required to teach Water Rescue Awareness and Operations (2021).

Initiation Requirements

The following requirements must be completed prior to initiating this task book.

Candidate Information

Name: _____

SFT ID Number: _____

Fire Agency: _____

Initiation Date: _____

Prerequisites

The candidate meets one of the following prerequisites.

1. OSFM Instructor 1, Training Instructor I, or Fire Instructor I certification
2. OSFM Registered Instructor

Include documentation to verify prerequisite requirements when you submit your instructor task book unless verification is already documented in your SFT User Portal.

Education

The candidate has completed one of the following courses.

1. River and Flood Rescue Technician (2017)
2. Water Rescue Awareness and Operations (2021)
3. Water Rescue Technician (2021)

Include documentation to verify education requirements when you submit your instructor task book unless verification is already documented in your SFT User Portal.

Fire Chief Approval

State Fire Training confirms that a fire chief's approval is not required to initiate this task book.

Signature Verification

The following individuals have the authority to verify portions of this instructor task book using the signature recorded below.

Please print except for the Signature line where a handwritten signature is required.
Add additional signature pages as needed.

Name: ____________________
Job Title: ____________________
Organization: ____________________
Signature: ____________________

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Job Title: ____________________
Organization: ____________________
Signature: ____________________

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Name: ____________________
Job Title: ____________________
Organization: ____________________
Signature: ____________________

Job Performance Requirements

Job Performance Requirements

The candidate must complete each job performance requirement (JPR) in accordance with the standards of the authority having jurisdiction (AHJ) or the National Fire Protection Association (NFPA), whichever is more restrictive.

When California requirements exceed or require revision to the NFPA standard, the corresponding Office of the State Fire Marshal approved (OSFM) additions or revisions appear in italics.

All JPRs must be completed within a California fire agency or State Fire Training Accredited Regional Training Programs (ARTP).

Each JPR shall be evaluated after the candidate initiates the task book.

Each task must be performed twice.

- The two instances must occur during two different courses.
- The same evaluator cannot sign off on the same task twice.
- In the tables, E1 represents the candidate's first evaluation and E2 represents their second evaluation.

Examples of correct and incorrect evaluation:

Correct: Task completed during two separate courses and evaluated by two separate individuals.

1. Assemble a comprehensive burn plan ("burn book") that contains all documentation necessary to conduct a live fire training evolution in accordance with NFPA standards and the policies and procedures of State Fire Training (SFT) and the authority having jurisdiction (AHJ).	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe purpose of a live fire burn plan	AAA123	2/8/18	JAS	BBB123	5/15/18	CWJ
b. Identify components of a live fire burn plan ("burn book")	AAA123	2/8/18	JAS	BBB123	5/15/18	CWJ
c. Identify records-retention requirements for burn plans	AAA123	2/8/18	JAS	BBB123	5/15/18	CWJ

Incorrect: Task completed twice during one course but evaluated by two separate individuals.

1. Assemble a comprehensive burn plan ("burn book") that contains all documentation necessary to conduct a live fire training evolution in accordance with NFPA standards and the policies and procedures of State Fire Training (SFT) and the authority having jurisdiction (AHJ).	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe purpose of a live fire burn plan	AAA123	2/8/18	JAS	AAA123	2/8/18	CWJ
b. Identify components of a live fire burn plan ("burn book")	AAA123	2/8/18	JAS	AAA123	2/8/18	CWJ
c. Identify records-retention requirements for burn plans	AAA123	2/8/18	JAS	AAA123	2/8/18	CWJ

Incorrect: Task completed during two separate courses but evaluated by the same individual.

1. Assemble a comprehensive burn plan ("burn book") that contains all documentation necessary to conduct a live fire training evolution in accordance with NFPA standards and the policies and procedures of State Fire Training (SFT) and the authority having jurisdiction (AHJ).	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe purpose of a live fire burn plan	AAA123	2/8/18	JAS	BBB123	5/15/18	JAS
b. Identify components of a live fire burn plan ("burn book")	AAA123	2/8/18	JAS	BBB123	5/15/18	JAS
c. Identify records-retention requirements for burn plans	AAA123	2/8/18	JAS	BBB123	5/15/18	JAS

Course Administration and Application

1. Course administration and orientation	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Complete and submit course scheduling request						
b. Order student textbooks (if applicable)						
c. Identify facility requirements						
d. Confirm facilities set up and safety						
e. Identify classroom requirements						
f. Confirm equipment (based on number of students)						
g. Complete instructor assignments						
h. Organize skill stations (location, equipment, timing, complexity)						
i. Confirm prop set up and safety						
j. Complete class rosters						
k. Review course syllabus						

Water Rescue Concepts and Skills

2. Manage a water rescue incident (Topic 2-1)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe water rescue scope of practice and standards						
b. Describe policies/procedures for rescue team activation						
c. Describe legal considerations and practices						
d. Describe the discipline-specific components of the Incident Command System						
e. Describe rescue priorities						
f. Describe how to recognize the need for technical rescue resources						
3. Describe dynamic hydrology (Topic 2-2)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe the forces of dynamic water						
b. Describe how to calculate current speed						
c. Describe how to calculate water volume (cubic feet of water per second) in a river/channel						
d. Describe river orientation and where to place personnel						
e. Describe features created by moving water and how they impact water rescue operations						
f. Describe the effects of hydrodynamic forces on rescuers and victims						
g. Describe criteria for selecting victim retrieval locations based on water environment and conditions						

h. Identify river classifications						
4. Recognize hazards and initiate isolation procedures (Topic 2-3)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe hazards created by or associated with surface or dynamic water						
b. Describe types and natures of water rescue incident hazards						
c. Describe types of mitigation and isolation equipment and their use						
d. Describe resource capabilities and limitations						
e. Describe operational requirement concerns						
f. Describe common types of rescuer and victim risks						
g. Describe methods for controlling access to the scene						
h. Initiate mitigation and isolation procedures						
5. Assess hazards to rescuers and victims (Topic 2-4)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe how to interpret information sources and identify their impact on operational decision making						
b. Identify current vectors for safe navigation						
c. Identify areas and features that are safe zones in dynamic water environments						
d. Determine flow and environmental factors and their effects on victims and rescuers						
e. Acquire and interpret weather forecasts and local terrain data and evaluate their impact on victims and rescuers						
f. Interpret maps or charts						

6. Develop a site survey for an existing water hazard (Topic 2-5)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe requisite contents of a site survey						
b. Describe types, sources, and information provided by reference materials						
c. Describe hydrology and the influence of hydrology on rescues						
d. Describe types of hazards associated with water rescue practices scenarios, inspections practices, and considerations techniques						
e. Describe risk/benefit analysis						
f. Describe identification of hazard-specific PPE						
g. Describe factors influencing access and egress routes						
h. Describe behavioral patterns of victims						
i. Describe environmental conditions that influence victim location						
j. Interpret reference materials						
k. Perform a scene assessment						
l. Evaluate site conditions						
m. Complete risk/benefit analysis						
n. Select and use necessary PPE						
7. Size up a water rescue incident (Topic 2-6)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe how to conduct a size up						

b. Describe types of reference materials and their uses						
c. Describe how to conduct a risk/benefit assessment						
d. Describe information-gathering techniques and how that information is used in the size-up process						
e. Describe elements of an incident action plan and related information						
f. Describe how size up relates to the incident management system						
g. Read technical rescue reference materials						
h. Evaluate site conditions						
i. Relay information						
j. Manage witnesses						
k. Use information-gathering sources						
8. Communicate in a water environment (Topic 2-7)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe communication challenges in a water rescue environment						
b. Describe ways to communicate in a water rescue environment (verbal, hand signals, whistle blasts, radio)						
c. Demonstrate forms of communication						
9. Develop and implement an Incident Action Plan to use watercraft (Topic 2-8)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe the components of an IAP						
b. Describe how to combine multiple actions and information sources into a cohesive plan						

c. Use a tactical worksheet						
10. Implement an Incident Action Plan to use air assets (Topic 2-9)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe means of contacting and accessing agencies with air assets						
b. Describe the role of aircraft in the support of water events						
c. Describe the limitations of the available aircraft in the conditions associated with the rescue environment						
d. Describe the role of the rescuer as part of an aviation team						
e. Describe basic safety considerations for working around aircraft						
f. Describe how to establish and control landing zones						
g. Describe how to rig aircraft for anticipated rescue procedures						
h. Implement a notification plan to request air assets						
i. Develop a list of tactical objectives to be achieved by the aircraft						
j. Communicate mission priorities with the aircrew or operator of the aircraft						
11. Select and use personal protective equipment (Topic 2-10)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe the types and uses of and selection criteria for PPE						
b. Identify manufacturer's recommendations for PPE						
c. Describe how to don and doff PPE						

d. Describe personal escape techniques						
e. Describe how to care for and maintain PPE						
f. Inspect PPE						
g. Use pre-operation checklists						
h. Select personal flotation devices, water rescue helmets, and personal protective clothing and equipment						
i. Don and doff PPE						
j. Communicate distress signals						
k. Use emergency escape procedures						
12. Operate water rescue equipment (Topic 2-11)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe the use, limitations, and safety considerations of water rescue equipment						
b. Describe how to maintain and store water rescue equipment						
c. Operate equipment						
d. Maintain and store equipment						
13. Describe flood hazards and evacuation procedures (Topic 2-12)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe types of floods						
b. Describe the evolution of a flood						
c. Describe flood environment hazards						

d. Describe how to manage and navigate terrain and environment hazards covered with floodwater or subject to differential pressures						
e. Describe hazardous material exposure, protection, and decontamination						
f. Describe basic flood search, rescue, and evacuation procedures						
g. Describe considerations for pets and livestock						
14. Limit exposure to potentially contaminated flood water (Topic 2-13)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Identify contamination sources						
b. Identify routes of exposure						
c. Identify indicators of the presence of contaminants						
d. Describe methods to limit exposure to contaminated water						
e. Describe decontamination methods for specific contaminants						
f. Use engineering controls and personal protective equipment (PPE)						
g. Use practices that limit exposure to contaminants						
h. Remove of potential contaminants or render them inert						
15. Support an operations- or technician-level incident (Topic 2-14)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe AHJ operational protocols						
b. Describe scene support requirements						

c. Describe support procedures						
d. Identify how to avoid becoming a hazard or victim						
e. Execute basic support skills						
16. Perform a victim search (Topic 2-15)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe search fundamentals						
b. Describe how to manage witnesses						
c. Identify different tools used for searches						
d. Describe reconnaissance, hasty (rapid), primary, and secondary (low and high) search types						
e. Identify high-probability victim locations						
f. Describe how to mark victim locations						
g. Describe how to communicate victim locations						
h. Describe how to incorporate spotters						
i. Define search parameters						
17. Manage a victim (Topic 2-16)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe typical victim behaviors						
b. Describe how to manage family and bystanders						
c. Describe victim medical considerations						
d. Describe how to approach a victim						

e. Describe c-spine application techniques in a water environment						
18. Demonstrate boat rigging (Topic 2-17)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe common types of rescue watercraft						
b. Describe watercraft terminology						
c. Rig a watercraft						
19. Perform a non-entry rescue from shore (Topic 2-18)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Identify potential non-entry rescue scenarios						
b. Identify scenarios when non-entry rescue may not be appropriate						
c. Identify considerations for non-entry rescue						
d. Identify PPE and tools used for non-entry rescue						
e. Describe hazards and limitations of shore-based rescue						
f. Select and use task-specific PPE						
g. Identify water hazards (i.e., upstream or downstream, current or tide)						
h. Identify hazards directly related to the specific rescue						
i. Demonstrate appropriate shore-based victim removal techniques						
20. Construct and use technical rope rescue systems and skills (Topic 2-19)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe how to work with ropes, knots, and anchors						

b. Describe the capabilities, limitations, and uses for rope systems specific to the water rescue environment						
c. Describe how to build and use a mechanical advantage system for water rescue						
d. Describe how to build and use a raising and lowering system for water rescue						
e. Describe how to build and use a tension diagonal horizontal transport system for water rescue						
f. Describe how to use line throwing and crossing equipment and techniques						
g. Describe methods to increase the efficiency of load movement						
h. Describe interference concerns and obstacle negation when using rope systems						
i. Describe system safety check protocols						
j. Describe how to evaluate system components for compromised integrity						
k. Describe common personnel assignments and duties						
l. Describe common and critical operational commands						
m. Determine incident needs						
n. Complete a system safety check						
o. Evaluate system components for compromised integrity						
p. Select personnel						
q. Communicate with personnel						
r. Evaluate for potential problems						

21. Swim in dynamic water (Topic 2-20)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe the difference between offensive and safety (defensive) swimming postures						
b. Describe dynamic water swimming techniques (basic swim, ferry angle, eddy hopping, surfing)						
c. Describe how to avoid hydrology and hazards specific to swimmers						
d. Describe how to select water rescue PPE based on water conditions and hazards						
e. Describe personnel accountability methods						
22. Direct a rescue team during non-entry rescue operations (Topic 2-21)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe supervisory practices						
b. Describe emergency procedures						
c. Describe communications procedures						
d. Describe local protocols						
e. Describe safety checks						
f. Describe personnel accountability techniques						
g. Implement emergency procedures, communications procedures, incident management, personnel accountability, and resource management						
23. Terminate an incident (Topic 2-22)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe PPE characteristics						

b. Identify hazard and risk identification						
c. Describe equipment/vessel removal procedures						
d. Describe isolation techniques						
e. Identify statutory requirements						
f. Identify responsible parties						
g. Describe accountability system use						
h. Describe documentation and reporting methods						
i. Describe post-incident analysis techniques						
j. Select and use hazard-specific PPE						
k. Decontaminate PPE						
l. Use barrier protection techniques						
m. Implement data collection and record-keeping/reporting protocols						
n. Conduct post-incident analysis activities						

Application

24. Set up, demonstrate, and oversee drill ground operations and/or demonstrations	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Conduct an incident hazards assessment and isolate hazards						
b. Assess hazards to rescuers and victim(s)						
c. Size up a water rescue incident						

d. Support an operations- or technician-level incident						
e. Communicate using verbal commands						
f. Communicate using hand signals						
g. Communicate using whistle blasts						
h. Communicate using radios						
i. Inspect PPE						
j. Don, doff, and use PPE						
k. Use water rescue equipment						
l. Operate a PFD quick release buckle system						
m. Rig a watercraft						
n. Terminate an incident						

Completion Requirements

The following requirements must be completed prior to submitting this task book.

Experience

The candidate meets the following experience requirements.

- Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California

Agency	Experience	Start Date	End Date

Include documentation to verify prerequisite requirements when you submit your instructor task book unless verification is already documented in your SFT User Portal.

Position

State Fire Training confirms that there are no position requirements for instructor registration.

Updates

The candidate has completed and enclosed all updates to this instructor task book released by State Fire Training since its initial publication.

Number of enclosed updates: _____

Completion Timeframe

A candidate must complete a task book within three years of its initiation date. Otherwise, a candidate must initiate a new task book using the curriculum's current published version.

Initiation Date (see Initiation Date under Initiation Requirements): _____

Review and Approval

Candidate

Candidate (please print): _____

I, the undersigned, am the person applying to teach Water Rescue Awareness and Operations. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements documented herein is true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documents may be cause for rejection or revocation.

Signature: _____ Date: _____

Fire Chief

Candidate's Fire Chief (please print): _____

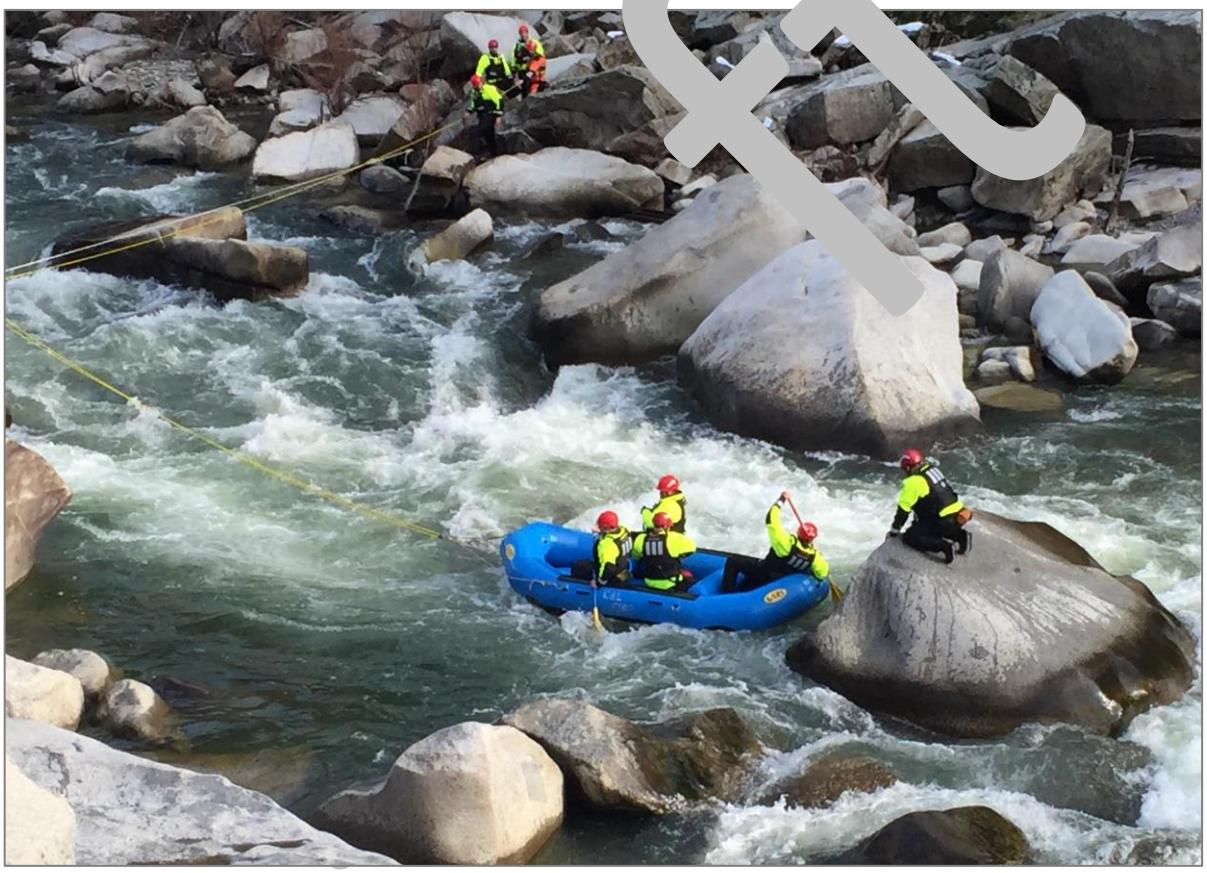
I, the undersigned, am the person authorized to verify the candidate's qualifications to teach Water Rescue Awareness and Operations. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements documented herein are true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documents may be cause for rejection.

Signature: _____ Date: _____

Water Rescue Technician

(NFPA 1006: Surface Water Rescue, Swiftwater Rescue, and Floodwater Rescue Awareness/Operations/Technician)

Instructor Task Book (2021)



California Department of Forestry and Fire Protection
Office of the State Fire Marshal
State Fire Training

Overview

Authority

This instructor task book includes the training standards set forth in:

- NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)

Published: Month Year

Published by: State Fire Training, PO Box 944246, Sacramento, CA 94244-2460

Cover photo courtesy of Sean Norman, Division Chief, CAL FIRE.

Purpose

The State Fire Training instructor task book is a performance-based document. It lists the minimum requirements a candidate must meet to teach a specific State Fire Training course or course series.

Assumptions

Except for Fire Fighter and Emergency Vehicle Technician (EVT) certifications, a candidate may begin the task book initiation process upon completion of all required education components (courses).

Each job performance requirement (JPR) shall be evaluated after the candidate initiates the task book.

State Fire Training task books do not count towards the NWCG task book limit. There is no limit to the number of State Fire Training task books a candidate may pursue at one time if the candidate meets the initiation requirements for each.

It is the candidate's responsibility to routinely check the State Fire Training website for updates to an initiated task book. All State Fire Training issued updates to an initiated task book are required for task book completion.

A candidate must complete a task book within three years of its initiation date. Otherwise, a candidate must initiate a new task book using the curriculum's current published version.

Roles and Responsibilities

Candidate

The candidate is the individual pursuing instructor registration.

Initiation

The candidate shall:

1. Complete the Initiation Requirements section.
   - Please print.
2. Complete a block on the Signature Verification page with a handwritten signature.

Completion

The candidate shall:

1. Complete all Job Performance Requirements.
   - Ensure that an evaluator initials, signs, and dates each task to verify completion.
2. Complete the Completion Requirements section.
3. Sign and date the Candidate verification section on the Review and Approval page with a handwritten signature.
4. Obtain their fire chief's handwritten (not stamped) signature on the Fire Chief verification section on the Review and Approval page.
5. Create and retain a physical or high-resolution digital copy of the completed task book.

Submission

The candidate shall:

1. Submit a copy (physical or digital) of the completed task book and any supporting documentation to State Fire Training.
   - See Submission and Review below.

A candidate should not submit a task book until they have completed all requirements and obtained all signatures. State Fire Training will reject and return an incomplete task book.

Evaluator

An evaluator is any individual who verifies that the candidate can satisfactorily execute a job performance requirement (JPR).

A qualified evaluator is a Registered Water Rescue Technician Instructor designated by the candidate's fire chief (or authorized designee). For instructor task books that do not require fire chief initiation, academy instructors serve as or designate evaluators.

All evaluators shall:

1. Complete a block on the Signature Verification page with a handwritten signature.
2. Review and understand the candidate's instructor task book requirements and responsibilities.
3. Verify the candidate's successful completion of one or more job performance requirements through observation.
    - Do not evaluate any job performance requirement (JPR) until after the candidate initiates the task book.
    - Sign all appropriate lines in the instructor task book with a handwritten signature or approved digital signature (e.g., DocuSign or Adobe Sign; a scanned copy of a signature is not acceptable) to record demonstrated performance of tasks.

Fire Chief

The fire chief is the individual who initiates (when applicable) and then reviews and confirms the completion of a candidate's instructor task book.

A fire chief may identify an authorized designee already on file with State Fire Training to fulfill any task book responsibilities assigned to the fire chief. (See *State Fire Training Procedures Manual*, 4.2.2: Authorized Signatories)

Initiation

The fire chief shall:

1. Review and understand the candidate's instructor task book requirements and responsibilities.
2. Complete a block on the Signature Verification page with a handwritten signature.
3. Designate qualified evaluators.

Completion

The fire chief shall:

1. Confirm that the candidate has obtained the appropriate signatures to verify successful completion of each job performance requirement.
    - Ensure that all job performance requirements were evaluated after the initiation date.

2. Confirm that the candidate meets the Completion Requirements.
3. Sign and date the Fire Chief verification statement under Review and Approval with a handwritten signature.
    - If signing as an authorized designee, verify that your signature is on file with State Fire Training.

Submission and Review

A candidate should not submit a task book until they have completed all requirements and obtained all signatures. State Fire Training will reject and return an incomplete task book.

To submit a completed task book, please send the following items to the address below:

1. A copy of the completed task book (candidate may retain the original)
2. All supporting documentation
3. Payment

State Fire Training
Attn: Instructor Registration
PO Box 944246
Sacramento, CA 94244-2460

State Fire Training reviews all submitted task books.

- If the task book is complete, State Fire Training will authorize the task book and retain a digital copy of the authorized task book in the candidate's career file.
- If the task book is incomplete, State Fire Training will return the task book with a notification indicating what needs to be completed prior to resubmission.

Completion of this instructor task book is one step in the instructor registration process. Please refer to the *State Fire Training Procedures Manual* for the complete list of qualifications required to teach Water Rescue Technician (2021).

Initiation Requirements

The following requirements must be completed prior to initiating this task book.

Candidate Information

Name: _____

SFT ID Number: _____

Fire Agency: _____

Initiation Date: _____

Prerequisites

The candidate meets one of the following prerequisites.

1. OSFM Fire and Emergency Services Instructor 1 (or equivalent) Certification
2. OSFM Registered Instructor

Include documentation to verify prerequisite requirements when you submit your instructor task book unless verification is already documented in your SFT User Portal.

Education

The candidate has completed the following courses.

1. One of the following water rescue courses:
   - River and Flood Rescue Technician (2017)
   - Water Rescue Technician (2021)

Include documentation to verify education requirements when you submit your instructor task book unless verification is already documented in your SFT User Portal.

Fire Chief Approval

State Fire Training confirms that a fire chief's approval is not required to initiate this task book.

Signature Verification

The following individuals have the authority to verify portions of this instructor task book using the signature recorded below.

Please print except for the Signature line where a handwritten signature is required.
Add additional signature pages as needed.

Name: ____________________
Job Title: ____________________
Organization: ____________________
Signature: ____________________

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Job Performance Requirements

Job Performance Requirements

The candidate must complete each job performance requirement (JPR) in accordance with the standards of the authority having jurisdiction (AHJ) or the National Fire Protection Association (NFPA), whichever is more restrictive.

When California requirements exceed or require revision to the NFPA standard, the corresponding Office of the State Fire Marshal approved (OSFM) additions or revisions appear in italics.

All JPRs must be completed within a California fire agency or State Fire Training Accredited Regional Training Programs (ARTP).

Each JPR shall be evaluated after the candidate initiates the task book.

Each task must be performed twice.

- The two instances must occur during two different courses.
- The same evaluator cannot sign off on the same task twice.
- In the tables, E1 represents the candidate's first evaluation and E2 represents their second evaluation.

Examples of correct and incorrect evaluation:

Correct: Task completed during two separate courses and evaluated by two separate individuals.

1. Assemble a comprehensive burn plan ("burn book") that contains all documentation necessary to conduct a live fire training evolution in accordance with NFPA standards and the policies and procedures of State Fire Training (SFT) and the authority having jurisdiction (AHJ).	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe purpose of a live fire burn plan	AAA123	2/8/18	JAS	BBB123	5/15/18	CWJ
b. Identify components of a live fire burn plan ("burn book")	AAA123	2/8/18	JAS	BBB123	5/15/18	CWJ
c. Identify records-retention requirements for burn plans	AAA123	2/8/18	JAS	BBB123	5/15/18	CWJ

Incorrect: Task completed twice during one course but evaluated by two separate individuals.

1. Assemble a comprehensive burn plan ("burn book") that contains all documentation necessary to conduct a live fire training evolution in accordance with NFPA standards and the policies and procedures of State Fire Training (SFT) and the authority having jurisdiction (AHJ).	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe purpose of a live fire burn plan	AAA123	2/8/18	JAS	AAA123	2/8/18	CWJ
b. Identify components of a live fire burn plan ("burn book")	AAA123	2/8/18	JAS	AAA123	2/8/18	CWJ
c. Identify records-retention requirements for burn plans	AAA123	2/8/18	JAS	AAA123	2/8/18	CWJ

Incorrect: Task completed during two separate courses but evaluated by the same individual.

1. Assemble a comprehensive burn plan ("burn book") that contains all documentation necessary to conduct a live fire training evolution in accordance with NFPA standards and the policies and procedures of State Fire Training (SFT) and the authority having jurisdiction (AHJ).	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe purpose of a live fire burn plan	AAA123	2/8/18	JAS	BBB123	5/15/18	JAS
b. Identify components of a live fire burn plan ("burn book")	AAA123	2/8/18	JAS	BBB123	5/15/18	JAS
c. Identify records-retention requirements for burn plans	AAA123	2/8/18	JAS	BBB123	5/15/18	JAS

Course Administration and Application

1. Course administration and orientation	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Complete and submit course scheduling request						
b. Order student textbooks (if applicable)						
c. Identify facility requirements						
d. Confirm facilities set up and safety						
e. Identify classroom requirements						
f. Confirm equipment (based on number of students)						
g. Complete instructor assignments						
h. Organize skill stations (location, equipment, timing, complexity)						
i. Confirm prop set up and safety						
j. Complete class rosters						
k. Review course syllabus						

Water Rescue Concepts and Skills

2. Manage a water rescue incident (Topic 2-1)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe water rescue scope of practice and standards						
b. Describe policies/procedures for rescue team activation						
c. Describe legal considerations and practices						
d. Describe the discipline-specific components of the Incident Command System						
e. Describe rescue priorities						
f. Describe how to recognize the need for technical rescue resources						
3. Describe dynamic hydrology (Topic 2-2)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe the forces of dynamic water						
b. Describe how to calculate current speed						
c. Describe how to calculate water volume (cubic feet of water per second) in a river/channel						
d. Describe river orientation and where to place personnel						
e. Describe features created by moving water and how they impact water rescue						
f. Describe the effects of hydrodynamic forces on rescuers and victims						
g. Describe criteria for selecting victim retrieval locations based on water environment and conditions						

h. Identify river classifications						
4. Recognize hazards and initiate isolation procedures (Topic 2-3)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe hazards created by or associated with surface or dynamic water						
b. Describe types and natures of water rescue incident hazards						
c. Describe types of mitigation and isolation equipment and their use						
d. Describe resource capabilities and limitations						
e. Describe operational requirement concerns						
f. Describe common types of rescuer and victim risks						
g. Describe methods for controlling access to the scene						
h. Initiate mitigation and isolation procedures						
5. Assess hazards to rescuers and victims (Topic 2-4)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe how to interpret information sources and identify their impact on operational decision making						
b. Identify current vectors for safe navigation						
c. Identify areas and features that are safe zones in dynamic water environments						
d. Determine flow and environmental factors and their effects on victims and rescuers						
e. Acquire and interpret weather forecasts and local terrain data and evaluate their impact on victims and rescuers						
f. Interpret maps or charts						

6. Develop a site survey for an existing water hazard (Topic 2-5)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe requisite contents of a site survey						
b. Describe types, sources, and information provided by reference materials						
c. Describe hydrology and the influence of hydrology on rescues						
d. Describe types of hazards associated with water rescue practices scenarios, inspections practices, and considerations techniques						
e. Describe risk/benefit analysis						
f. Describe identification of hazard-specific PPE						
g. Describe factors influencing access and egress routes						
h. Describe behavioral patterns of victims						
i. Describe environmental conditions that influence victim location						
j. Interpret reference materials						
k. Perform a scene assessment						
l. Evaluate site conditions						
m. Complete risk/benefit analysis						
n. Select and use necessary PPE						
7. Size up a water rescue incident (Topic 2-6)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe how to conduct a size up						

b. Describe types of reference materials and their uses						
c. Describe how to conduct a risk/benefit assessment						
d. Describe information-gathering techniques and how that information is used in the size-up process						
e. Describe elements of an incident action plan and related information						
f. Describe how size up relates to the incident management system						
g. Read technical rescue reference materials						
h. Evaluate site conditions						
i. Relay information						
j. Manage witnesses						
k. Use information-gathering sources						
8. Communicate in a water environment (Topic 2-7)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe communication challenges in a water rescue environment						
b. Describe ways to communicate in a water rescue environment (verbal, hand signals, whistle blasts, radio)						
c. Demonstrate forms of communication						
9. Develop and implement an Incident Action Plan to use watercraft (Topic 2-8)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe the components of an IAP						
b. Describe how to combine multiple actions and information sources into a cohesive plan						

c. Use a tactical worksheet						
10. Implement an Incident Action Plan to use air assets (Topic 2-9)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe means of contacting and accessing agencies with air assets						
b. Describe the role of aircraft in the support of water events						
c. Describe the limitations of the available aircraft in the conditions associated with the rescue environment						
d. Describe the role of the rescuer as part of an aviation team						
e. Describe basic safety considerations for working around aircraft						
f. Describe how to establish and control landing zones						
g. Describe how to rig aircraft for anticipated rescue procedures						
h. Implement a notification plan to request air assets						
i. Develop a list of tactical objectives to be achieved by the aircraft						
j. Communicate mission priorities with the aircrew or operator of the aircraft						
11. Select and use personal protective equipment (Topic 2-10)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe the types and uses of and selection criteria for PPE						
b. Identify manufacturer's recommendations for PPE						
c. Describe how to don and doff PPE						

d. Describe personal escape techniques						
e. Describe how to care for and maintain PPE						
f. Inspect PPE						
g. Use pre-operation checklists						
h. Select personal flotation devices, water rescue helmets, and personal protective clothing and equipment						
i. Don and doff PPE						
j. Communicate distress signals						
k. Use emergency escape procedures						
12. Operate water rescue equipment (Topic 2-11)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe the use, limitations, and safety considerations of water rescue equipment						
b. Describe how to maintain and store water rescue equipment						
c. Operate equipment						
d. Maintain and store equipment						
13. Describe flood hazards and evacuation procedures (Topic 2-12)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe types of floods						
b. Describe the evolution of a flood						
c. Describe flood environment hazards						

d. Describe how to manage and navigate terrain and environment hazards covered with floodwater or subject to differential pressures						
e. Describe hazardous material exposure, protection, and decontamination						
f. Describe basic flood search, rescue, and evacuation procedures						
g. Describe considerations for pets and livestock						
14. Limit exposure to potentially contaminated flood water (Topic 2-13)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Identify contamination sources						
b. Identify routes of exposure						
c. Identify indicators of the presence of contaminants						
d. Describe methods to limit exposure to contaminated water						
e. Describe decontamination methods for specific contaminants						
f. Use engineering controls and personal protective equipment (PPE)						
g. Use practices that limit exposure to contaminants						
h. Remove of potential contaminants or render them inert						
15. Support an operations- or technician-level incident (Topic 2-14)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe AHJ operational protocols						
b. Describe scene support requirements						

c. Describe support procedures						
d. Identify how to avoid becoming a hazard or victim						
e. Execute basic support skills						
16. Perform a victim search (Topic 2-15)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe search fundamentals						
b. Describe how to manage witnesses						
c. Identify different tools used for searches						
d. Describe search types						
e. Identify high-probability victim locations						
f. Describe how to mark victim locations						
g. Describe how to communicate victim locations						
h. Describe how to incorporate spotters						
i. Define search parameters						
j. Perform reconnaissance, hasty (rapid), primary, and secondary searches						
17. Manage a victim (Topic 2-16)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe typical victim behaviors						
b. Describe how to manage family and bystanders						
c. Describe victim medical considerations						
d. Describe how to approach a victim						

e. Describe c-spine application techniques in a water environment						
f. Administer care to a water-bound victim						
18. Operate a rescue watercraft (Topic 2-17)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe common types of rescue watercraft						
b. Describe watercraft terminology						
c. Describe crew positions						
d. Describe navigation options						
e. Describe how to how to paddle and/or maneuver a watercraft						
f. Describe paddle commands and signals						
g. Describe potential watercraft-related emergencies						
h. Paddle and/or maneuver a watercraft						
i. Rig a watercraft						
j. Use paddle commands and signals						
19. Perform a non-entry rescue from shore (Topic 2-18)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Identify potential non-entry rescue scenarios						
b. Identify scenarios when non-entry rescue may not be appropriate						
c. Identify considerations for non-entry rescue						
d. Identify PPE and tools used for non-entry rescue						

e. Describe hazards and limitations of shore-based rescue						
f. Select and use task-specific PPE						
g. Identify water hazards (i.e., upstream or downstream, current or tide)						
h. Identify hazards directly related to the specific rescue						
i. Demonstrate appropriate shore-based victim removal techniques						
20. Perform a non-entry rescue from a platform (Topic 2-19)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Identify potential non-entry rescue scenarios						
b. Identify considerations for non-entry rescue						
c. Identify PPE and tools used for non-entry rescue						
d. Describe hazards and limitations of platform-based rescue						
e. Select and use task-specific PPE						
f. Identify water hazards (i.e., upstream or downstream, current or tide)						
g. Identify hazards directly related to the specific rescue						
h. Demonstrate appropriate shore-based victim removal techniques						
i. Enter and exit the platform in a water condition						
j. Demonstrate appropriate platform-based victim removal techniques						
k. Apply packaging and movement techniques to water-bound victims						
21. Construct and use technical rope rescue systems and skills (Topic 2-20)	**Course Code**	**Date (E1)**	**Initials (E1)**	**Course Code**	**Date (E2)**	**Initials (E2)**

	(E1)			(E2)		
a. Describe how to work with ropes, knots, and anchors						
b. Describe the capabilities, limitations, and uses for rope systems specific to the water rescue environment						
c. Describe how to build and use a mechanical advantage system for water rescue						
d. Describe how to build and use a raising and lowering system for water rescue						
e. Describe how to build and use a tension diagonal horizontal transport system for water rescue						
f. Describe how to build and use a boat on a high line horizontal transport system for water rescue						
g. Describe how to build and use point systems (1, 2, 3, 4) with boats and boards (tethering systems) for water rescue						
h. Describe how to build and use kiting (tethering systems) for water rescue						
i. Describe how to use line throwing and crossing equipment and techniques						
j. Describe methods to increase the efficiency of load movement						
k. Describe interference concerns and obstacle negation when using rope systems						
l. Describe system safety check protocols						
m. Describe how to evaluate system components for compromised integrity						
n. Describe common personnel assignments and duties						
o. Describe common and critical operational commands						

p. Determine incident needs						
q. Complete a system safety check						
r. Evaluate system components for compromised integrity						
s. Select personnel						
t. Communicate with personnel						
u. Manage movement of the load						
v. Evaluate for potential problems						
22. Swim in dynamic water (Topic 2-21)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe the difference between offensive and safety (defensive) swimming postures						
b. Describe dynamic water swimming techniques (basic swim, ferry angle, eddy hopping, surfing)						
c. Describe how to avoid hydrology and hazards specific to swimmers						
d. Describe how to select water rescue PPE and swim aids based on water conditions and hazards						
e. Describe personnel accountability methods						
f. Swim and float in different water conditions with and without flotation aids or swim aids as required						
23. Perform an entry rescue from shore (Topic 2-22)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Identify potential entry rescue scenarios						
b. Identify scenarios when entry rescue may not be appropriate						

c. Identify considerations for entry rescue						
d. Identify PPE and tools used for entry rescue						
e. Describe hazards and limitations of shore-based entry rescue						
f. Describe single person shallow water crossing techniques used for entry rescue incidents						
g. Describe line astern shallow water crossing techniques used for entry rescue incidents						
h. Describe wedge (with and without stokes) shallow water crossing techniques used for entry rescue incidents						
i. Describe free swim (with and without fins) techniques used for entry rescue incidents						
j. Describe board swim techniques used for entry rescue incidents						
k. Describe tethered (rescuer tethered to line swims to victim and is pulled back by tether) techniques used for entry rescue incidents						
l. Describe tethered (two-point or “V lower” – rescuer clipped to rope controlled by a team at each end) techniques used for entry rescue incidents						
m. Describe how to operate PFD quick release buckle systems (blow out)						
n. Describe how to release victims from limb entrapment						
o. Describe how to manage victims in the water						
p. Demonstrate appropriate shore-based victim removal techniques						

24. Perform an entry rescue from a platform (Topic 2-23)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Identify potential entry rescue scenarios						
b. Identify considerations for entry rescue from a platform						
c. Identify PPE and tools used for entry rescue						
d. Describe hazards and limitations of platform-based entry rescue						
e. Describe techniques used for platform-based entry rescue						
f. Identify water hazards (i.e., upstream or downstream, current or tide)						
g. Identify hazards directly related to the specific rescue						
h. Enter and exit the waterborne transportation aid in water conditions						
i. Demonstrate appropriate platform-based victim removal techniques						
j. Apply packaging and movement techniques to waterborne victims						
25. Rescue a victim from a waterborne vehicle (Topic 2-24)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe size-up factors associated with a vehicle in water						
b. Describe hazards associated with a vehicle in water						
c. Describe rescue considerations						
d. Describe how to manage victims						

26. Direct a rescue team during operations (Topic 2-25)	Course Code (E1)	Date (E1)	Initials (E1)	Course Code (E2)	Date (E2)	Initials (E2)
a. Describe supervisory practices						
b. Describe emergency procedures						
c. Describe communications procedures						
d. Describe local protocols						
e. Describe safety checks						
f. Describe personnel accountability techniques						
g. Implement emergency procedures, communications procedures, incident management, personnel accountability, and resource management						
27. Terminate an incident (Topic 2-26)	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Describe PPE characteristics						
b. Identify hazard and risk identification						
c. Describe equipment/vessel removal procedures						
d. Describe isolation techniques						
e. Identify statutory requirements						
f. Identify responsible parties						
g. Describe accountability system use						
h. Describe documentation and reporting methods						
i. Describe post-incident analysis techniques						

j. Select and use hazard-specific PPE						
k. Decontaminate PPE						
l. Use barrier protection techniques						
m. Implement data collection and record-keeping/reporting protocols						
n. Conduct post-incident analysis activities						

Application

28. Set up, demonstrate, and oversee drill ground operations and/or demonstrations	**Course Code (E1)**	**Date (E1)**	**Initials (E1)**	**Course Code (E2)**	**Date (E2)**	**Initials (E2)**
a. Conduct an incident hazards assessment and isolate hazards						
b. Assess hazards to rescuers and victim(s)						
c. Size up a water rescue incident						
d. Support an operations- or technician-level incident						
Communication						
e. Communicate using verbal commands						
f. Communicate using hand signals						
g. Communicate using whistle blasts						
h. Communicate using radios						
PPE and Rescue Equipment						
i. Inspect PPE						

j. Don, doff, and use PPE						
k. Use a throw bag equipment						
l. Use line capture equipment						
m. Use line throwing devices						
n. Use a walking or wading stick						
o. Use rope rescue equipment						
p. Use a hose inflation kit equipment (site dependent)						
q. Use swim aids						
r. Use a river board						
s. Use a PFD blowout ring						
Search						
t. Define search parameters						
u. Perform a reconnaissance victim search						
v. Perform a hasty (rapid) victim search						
w. Perform a primary victim search						
x. Perform a secondary victim search						
Watercraft						
y. Rig a watercraft						
z. Paddle and/or maneuver a watercraft						
aa. Use paddle commands and signals						
bb. Enter watercraft from the water (self-rescue / helping another rescuer)						

cc. Right a flipped boat						
dd. Unwrap a pinned boat (at least as a simulation)						
Rope Systems						
ee. Participate in line crossing (solo or as a member of a team)						
ff. Build and use a mechanical advantage system						
gg. Build and use raising and lowering system						
hh. Build and use a tension diagonal						
ii. Build and use a rope system to control a vessel on a high line						
jj. Build and use a two-point tether on a vessel						
Swimming						
kk. Swim and float in different water conditions with and without flotation aids or swim aids						
Entry Rescue						
ll. Perform a single-person shallow water crossing						
mm. Perform a shallow water crossing using the line astern method						
nn. Perform a shallow water crossing using the wedge method with stokes						
oo. Perform a shallow water crossing using the wedge method without stokes						
pp. Free swim to/with a victim using fins						
qq. Free swim to/with a victim without using fins						
rr. Board swim to/with a victim						

ss. Swim to/with a victim while tethered to a line						
tt. Swim to/with a victim using a two-point or “V lower” tether						
uu. Operate a PFD quick release buckle system						
Victim Management						
vv. Manage a cooperative victim						
ww. Manage a combative victim						
xx. Manage a non-responsive victim						
yy. Release a waterborne victim from limb entrapment						
zz. Apply a c-spine to a waterborne victim						
Scenarios						
aaa. Perform a non-entry rescue from the shore						
bbb. Perform a non-entry rescue from a platform						
ccc. Perform an entry rescue from the shore						
ddd. Perform an entry rescue from a platform						
eee. Rescue victims from a waterborne vehicle						
fff. Perform a rescue at night						
Termination						
ggg. Terminate an incident						

Completion Requirements

The following requirements must be completed prior to submitting this task book.

Experience

The candidate meets the following experience requirements.

- Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California

Agency	Experience	Start Date	End Date

Include documentation to verify prerequisite requirements when you submit your instructor task book unless verification is already documented in your SFT User Portal.

Position

State Fire Training confirms that there are no position requirements for instructor registration.

Updates

The candidate has completed and enclosed all updates to this instructor task book released by State Fire Training since its initial publication.

Number of enclosed updates: _____

Completion Timeframe

A candidate must complete a task book within three years of its initiation date. Otherwise, a candidate must initiate a new task book using the curriculum's current published version.

Initiation Date (see Initiation Date under Initiation Requirements): _____

Review and Approval

Candidate

Candidate (please print): _____

I, the undersigned, am the person applying to teach Water Rescue Technician. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements documented herein is true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documents may be cause for rejection or revocation.

Signature: _____ Date: _____

Fire Chief

Candidate's Fire Chief (please print): _____

I, the undersigned, am the person authorized to verify the candidate's qualifications to teach Water Rescue Technician. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements documented herein are true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documents may be cause for rejection.

Signature: _____ Date: _____

Water Rescue (2021)
Interim Procedures

Issued: Month 2024

Procedure Changes

Edition:	May 2020 edition of the State Fire Training Procedures Manual
Effective Date:	September 1, 2024 (anticipated)
Section Changes:	Modify and update the following sections: • 6.7.9: FIRE FIGHTING AND RESCUE INSTRUCTOR
Justification:	Following approval by the State Board of Fire Services (SBFS), the new Water Rescue (2021) curriculum will go into effect on September 1, 2024. The new curriculum provides directive for instructor qualifications.
SFT Contact:	SFT Staff assigned to instructor registration.
Note:	All new text appears in underline. All deleted text appears in ~~strikeout~~.

6.7.9: FIRE FIGHTING AND RESCUE INSTRUCTOR

6.7.9.1: Eligible Courses

Table 6.7.9.1: Fire Fighting and Rescue Instructor Eligible Courses

CFSTES Courses	FSTEP Courses
• None	• Command and Control of the RIC Deployment • Confined Space Rescue Awareness • Emergency Response to Alternative Fuels • Fire Fighter Survival • Fireline Safety for the Hired Vendor • Large Animal Rescue Operational • Low Angle Rope Rescue Operational (LARRO) • Open Water Rescuer – Basic • Personal Watercraft Operations • Rapid Intervention Crew (RIC) Operations • Rescue Boat Operations • ~~River and Flood~~ Water Rescue • Tire Fire Prevention and Suppression • Trench Rescue • Vehicle Extrication

6.7.9.2: General Qualifications

A. A Registered ~~Primary~~ Instructor for a Fire Service Training and Education Program (FSTEP) Fire Fighting and Rescue course shall meet the qualifications required of all State Fire Training (SFT) Registered ~~Primary~~ Instructors.
    1. See **6.2.1: Qualifications**.

6.7.9.3: Course Work

A. Attending and passing SFT's Confined Space Rescue Technician course meets the requirements for attending and passing Confined Space Rescue Awareness.

B. Registered Low Angle Rope Rescue Operational Instructors must have attended and passed ICS-200: Basic ICS.

C. Attending and passing SFT's Auto Extrication (1996) course meets the requirement for attending and passing Vehicle Extrication.

D. Water Rescue Awareness and Operations (2021) Instructors must have attended and passed one of the following water rescue courses:

1. River and Flood Rescue Technician (2017) **or**
2. Water Rescue Awareness and Operations (2021) **or**
3. Water Rescue Technician (2021)

E. Water Rescue Technician (2021) Instructors must have attended and passed one of the following water rescue courses:
   4. River and Flood Rescue Technician (2017) or
   5. Water Rescue Technician (2021)

Candidates are not required to be Registered Water Rescue Awareness and Operations (2021) Instructors to become Registered Water Rescue Technician (2021) Instructors. SFT will automatically authorize all Registered Water Rescue Technician (2021) Instructors to teach Water Rescue Awareness and Operations (2021).

6.7.9.4: Teaching Experience

A. In order to teach Command and Control of the RIC Deployment, the Registered Instructor must have previously assisted another Registered Instructor in teaching the course at least once.
   1. The Registered Instructor applicant shall submit to SFT a letter from a Registered Instructor verifying this requirement.

6.7.9.5: Professional Experience

A. A Registered ~~Primary~~ Instructor for an FSTEP Fire Fighting and Rescue course shall meet the professional experience qualifications listed below.
   1. Performing in an "acting" capacity does not qualify.

Table 6.7.9.5: Fire Fighting and Rescue Instructor Professional Experience

FSTEP Course	Experience
• Confined Space Rescue Awareness • Low Angle Rope Rescue Operational • Personal Watercraft Operations • Rescue Boat Operations • ~~River and Flood Water Rescue~~ • Trench Rescue	• Held the rank of Fire Fighter and/or performed rescue duties within a recognized fire agency in California for a minimum of two years
• Emergency Response to Alternative Fuels • Fireline Safety for the Hired Vendor • Large Animal Rescue Operational • Open Water Rescuer – Basic	• Held the rank of Fire Fighter and/or performing suppression/rescue duties within a recognized fire agency in California for a minimum of two years

FSTEP Course	Experience
• Tire Fire Prevention and Suppression	
• Command and Control of RIC Deployment	One of the following: • Held the rank of Suppression Officer within a recognized fire agency in California for a minimum of three years • Worked as a volunteer Suppression Officer or paid Call Officer within a recognized fire agency in California for a minimum of five years
• Rapid Intervention Crew (RIC) Operations • Fire Fighter Survival	• Have five years suppression/rescue experience, of which two years must be while holding the rank of Fire Fighter performing suppression/rescue duties within a recognized fire agency in California
• Vehicle Extrication	• Have three years' suppression/rescue experience performing suppression/rescue duties within a recognized fire agency in California
• Water Rescue Awareness and Operations (2021) • Water Rescue Technician	• Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California

6.7.9.6: Task Book

A. Fire Fighter Survival
    1. An Instructor applicant for Fire Fighter Survival shall complete the appropriate instructor trainee task book.
    2. A Registered Fire Fighter Survival Primary Instructor must sign off on the applicant's task book within two years of its initiation.

B. Low Angle Rope Rescue Operational
    1. An Instructor applicant for Low Angle Rope Rescue Operational (LARRO) shall complete the appropriate instructor trainee task book.
    2. A Registered LARRO Primary Instructor must sign off on the applicant's task book within two years of its initiation.

C. Rapid Intervention Crew Operations
    1. An Instructor applicant for Rapid Intervention Crew Operations shall complete the appropriate instructor trainee task book.
    2. A Registered Rapid Intervention Crew Operations Primary Instructor must sign off on the applicant's task book within two (2) years of its initiation.

D. Water Rescue
   1. An Instructor applicant for Water Rescue Awareness and Operations (2021) or Water Rescue Technician (2021) shall complete the appropriate instructor task book.
   2. An Instructor applicant must complete their task book within three (3) years of its initiation date.