

Lassen Community College Course Outline

FS 65C Driver/Operator 1E Wildland Fire Apparatus Operations 0.5 Units

I. Catalog Description

This course is designed to provide students with accepted statewide protocol and procedures for operation of a wildland fire apparatus. Course topics include: preventive maintenance, routine tests, inspections, and servicing functions on the systems and components unique to wildland fire apparatus. In addition students will participate in activities to practice proper operation of a wildland fire apparatus and production of an effective fire stream. A supplemental State Fire Training CFSTES certification fee of \$141.00 is due to Lassen Community College and will be collected at the time of registration. Wildland FF PPE required (may be provided by College if needed)

Prerequisites: FS 65A Driver/Operator 1A: Emergency Vehicle Operations
FS 65B Driver/Operator 1B: Pump Operations
OSFM Fire Fighter I or equivalent volunteer training

Requisites:

Note: Student may provide an engine for the lab portions of the course. Student must possess a valid Class C Fire Fighter endorsed driver's license (minimum).

Transfer Status: NT

7 Hours Lecture, 17 Hours Lab, 14 Hours Outside Work: 38 Total Student Learning Hours
Scheduled: Spring

II. Coding Information

Repeatability: Repeatable as needed for certification
Grading Option: Graded
Credit Type: Credit-Degree applicable
TOP Code: 213300

III. Course Objectives

A. Course Student Learning Outcomes

Upon completion of this course the student will be able to:

1. Demonstrate the ability to drive fire apparatus safely, effectively and proficiently under simulated emergency and non-emergency conditions.
2. Demonstrate the ability to perform basic inspection, maintenance, documentation, and troubleshooting techniques on fire apparatus.
3. Describe driver responsibilities, recognized standards, and related laws for fire apparatus.
4. Demonstrate an effective fire stream by engaging the pump, setting all pressure control and vehicle safety devices.

B. Course Objectives

Upon completion of this course the student will be able to:

1. Explain California's driving regulations and laws relating to emergency and non-emergency vehicle operation.

2. Demonstrate proper techniques of basic inspection, maintenance, and troubleshooting wildland fire apparatus.
3. Demonstrate procedures for inspection and basic maintenance of key components of the driver and crew areas, apparatus body, and compartments.
4. Demonstrate procedures for inspection, troubleshooting, and basic maintenance of the frame, axles, steering and suspension systems, driveline, wheels, brake systems, and tires.
5. Demonstrate procedures for inspection, troubleshooting, and basic maintenance of engine systems, transmission, and clutch.
6. Demonstrate procedures for inspection, troubleshooting, and basic maintenance of charging, starting, and other electrical systems.
7. Demonstrate procedures for inspection and basic maintenance of auxiliary and accessory equipment.
8. Explain the process for completing inspection documentation and reports.
9. Explain the procedures for completing pre-trip inspections.
10. Demonstrate a knowledge of accident statistics and liability.
11. Explain the principles of defensive driving.
12. Demonstrate the ability to safely operate a wildland fire apparatus under a variety of conditions including non-emergency response, emergency response, off-road driving, and during adverse weather conditions.
13. Demonstrate the ability to apply the principles of proper braking and stopping.
14. Demonstrate the ability to apply the principles of steering and load control.
15. Demonstrate the principles of properly positioning wildland apparatus at a variety of incidents.
16. Demonstrate the ability to negotiate a wildland fire apparatus through the mandatory driving exercises.

IV. Course Content

1. Orientation and Administration
 - A. Driver/Operator responsibilities for wildland apparatus
 - B. Standards and laws governing proper operation of wildland apparatus
 - C. Wildland fire apparatus certification process
2. Preventative Maintenance
 - A. Introduction to Inspection, Basic Maintenance, Documentation and Troubleshooting functions unique to Wildland fire apparatus.
 - B. Inspection and Basic Maintenance of wildland Fire apparatus systems and components including foam systems, pumping systems , water tank and/or extinguishing agent levels (If applicable) , Four wheel drive system.
 - C. Discuss inspection requirements when transitioning from off-road to on-road operations
3. Accessory Equipment
 - A. Inspection Documentation and Reports
 - B. Pre-trip and Post Inspection Procedures

4. Operations
 - A. Recognize wildland fire apparatus resource typing
 - B. Explain the effects on vehicle control of braking reaction time and load factors.
 - C. Explain the effects of high center of gravity on roll-over potential, general steering reactions, speed, and centrifugal force
 - D. Discuss applicable laws and regulations, review policies and procedures of the jurisdiction
 - G. Describe the principles of skid avoidance, night driving, shifting, and gear patterns
 - H. Discuss negotiating intersections, railroad crossings, and bridges
 - I. Describe weight and height limitations for both roads and bridges
 - J. Describe automotive gauges and their operation
 - K. Explain operational limits
 - L. Discuss off-road wildland fire apparatus emergencies
 - M. Operate passenger restraint devices
 - N. Maintain safe following distances
 - O. Maintain control of the wildland fire apparatus while accelerating, decelerating, and turning, given road, weather, and traffic conditions
 - P. Operate the wildland fire apparatus under adverse environmental or driving surface conditions and during nonemergency conditions
 - R. Use automotive gauges and controls

5. Producing Effective Fire Streams
 - A. Explain hydraulic calculations for friction loss and flow using both written formulas and estimation methods
 - B. Describe the safe operation of the pump
 - C. Discuss correct apparatus placement
 - D. Describe personal safety considerations
 - E. Discuss the reliability of static water sources
 - F. Discuss mobile attack operations
 - G. Transfer power from vehicle engine to pump
 - H. Operate pumper pressure control systems
 - I. Operate auxiliary cooling systems
 - J. Make the transition between internal and external water sources
 - K. Assemble hose lines, nozzles, valves, and appliances

6. Driving Exercises
 - A. Mandatory Driving Exercises
 - B. Optional Driving Exercises
 - C. Practice and Testing the Driving Exercises

V. Assignments

A. Appropriate Readings

Read the certification task book for Driver/Operator – Wildland Apparatus

Read the California Commercial Driver Handbook

Read the maintenance and inspection forms, manufacturer’s specifications and requirements, and policies and procedures for the student’s jurisdiction.

B. Writing Assignments

Document a fire apparatus accident report.
Document a fire apparatus inspection form.
Identify the applicable California Vehicle Code (CVC) section for a given topic and prepare a brief summary highlighting its important points.

C. Expected Outside Assignments

Complete a “pre-trip” vehicle inspection on a Wildland fire apparatus.

D. Specific Assignments that Demonstrate Critical Thinking

Given a wildland fire engine, the student will set up the engine to draft from a static water source, pump and flow water through at least five hose lines of varying sizes and lengths. The student will correctly calculate nozzle flows and pressures for each of the five lines based on inputs provided by the instructor.

VI. Methods of Evaluation

Traditional Evaluation

Skill demonstrations, written and oral examinations

VII. Methods of Delivery

Check those delivery methods for which, this course has been separately approved by the Curriculum/Academic Standards Committee.

Traditional Classroom Delivery Online Delivery

Correspondence Delivery Hybrid Delivery

Traditional Classroom Delivery

Lecture, discussion, audio/visual aids, demonstration, group exercises, guest speakers, lab, individualized programs and other as needed.

VIII. Representative Texts and Supplies

May include textbooks, manuals, periodicals, software, and other resources.

California Commercial Driver Handbook, California Department of Motor Vehicles, current edition

Fire Apparatus Driver/Operator, Third Edition, Jones & Bartlett, ISBN: 9781284147612, 2019

or

Pumping and Aerial Apparatus Driver/Operator Handbook, Third Edition, IFSTA, ISBN: 9780879395711

- Maintenance and inspection forms

Manufacturer’s specifications and requirements-

- Applicable state and local laws

IX. Discipline/s Assignment

Fire Technology

X. Course Status

Current Status: Active

Original Approval Date: 09/17/2019

Board Approval Date: 10/08/2019

Chancellor's Office Approval Date: 10/12/2019

Revised By: Dan Weaver

Curriculum/Academic Standards Committee Revision Date: 01/17/2023