

**FIRE 258 Course Outline as of Fall 2013****CATALOG INFORMATION**

Dept and Nbr: FIRE 258            Title: DRIVER OPERATOR 1B  
 Full Title: Driver Operator 1B  
 Last Reviewed: 2/26/2024

| Units   | Course Hours per Week |                   | Nbr of Weeks |      | Course Hours Total |       |
|---------|-----------------------|-------------------|--------------|------|--------------------|-------|
| Maximum | 2.00                  | Lecture Scheduled | 2.00         | 17.5 | Lecture Scheduled  | 35.00 |
| Minimum | 2.00                  | Lab Scheduled     | 0.25         | 5    | Lab Scheduled      | 4.38  |
|         |                       | Contact DHR       | 0            |      | Contact DHR        | 0     |
|         |                       | Contact Total     | 2.25         |      | Contact Total      | 39.38 |
|         |                       | Non-contact DHR   | 0            |      | Non-contact DHR    | 0     |

Total Out of Class Hours: 70.00

Total Student Learning Hours: 109.38

Title 5 Category: AA Degree Applicable  
 Grading: P/NP Only  
 Repeatability: 21 - Legally Mandated Repetition  
 Also Listed As:  
 Formerly: FIRE299.63

**Catalog Description:**

This is a State certified Fire Service Training and Education Program (FSTEP) course that provides specific training on fire hydraulics, fire apparatus pump construction, operations, inspection, maintenance and troubleshooting. Upon satisfactory completion, the student will receive a certificate from the State Fire Marshal's Office.

**Prerequisites/Corequisites:****Recommended Preparation:**

Course Completion of FIRE 71 or equivalent

**Limits on Enrollment:**

Valid California Driver's License and an endorsement to operate a fire apparatus issued by the Department of Motor Vehicles and signed by the fire chief of a recognized fire agency.

**Schedule of Classes Information:**

Description: This is a state certified (FSTEP) course that provides specific training on fire hydraulics, fire apparatus pump construction, operations, inspection, maintenance and troubleshooting. Upon satisfactory completion, the student will receive a certificate from the State Fire Marshal's Office. (P/NP Only)

Prerequisites/Corequisites:

Recommended: Course Completion of FIRE 71 or equivalent

Limits on Enrollment: Valid California Driver's License and an endorsement to operate a fire apparatus issued by the Department of Motor Vehicles and signed by the fire chief of a recognized fire agency.

Transfer Credit:

Repeatability: Legally Mandated Repetition

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

|                   |                      |            |           |
|-------------------|----------------------|------------|-----------|
| <b>AS Degree:</b> | <b>Area</b>          | Effective: | Inactive: |
| <b>CSU GE:</b>    | <b>Transfer Area</b> | Effective: | Inactive: |

|               |                      |            |           |
|---------------|----------------------|------------|-----------|
| <b>IGETC:</b> | <b>Transfer Area</b> | Effective: | Inactive: |
|---------------|----------------------|------------|-----------|

|                      |            |           |
|----------------------|------------|-----------|
| <b>CSU Transfer:</b> | Effective: | Inactive: |
|----------------------|------------|-----------|

|                     |            |           |
|---------------------|------------|-----------|
| <b>UC Transfer:</b> | Effective: | Inactive: |
|---------------------|------------|-----------|

**CID:**

**Certificate/Major Applicable:**

Certificate Applicable Course

## **COURSE CONTENT**

**Outcomes and Objectives:**

1. Student will identify the different types of pump construction and the theory of pump operations.
2. Student will perform basic hydraulics methods.
3. Demonstrate techniques for basic inspections, documentation, maintenance, and troubleshooting fire apparatus pumps.
4. Provide students with the opportunity to practice their pumping skills during simulated pumping activities.

**Topics and Scope:**

I. Fire Apparatus Driver/Operator Regulations, Standards and Responsibilities

II. Fire Apparatus Pumps

1. Types of fire pumps
2. Pump mounting and drive arrangements
3. Pump piping and valves
4. Pressure control devices
5. Priming devices
6. Pump panel instrumentation
7. Auxiliary cooling devices

III. Hydraulics

1. Hydraulic terminology and symbols
2. Water characteristics and pressure principles
3. Nozzle theory
4. Calculating flows

5. Friction loss principles and calculations
  6. Pump discharge pressures
  7. Fire ground hydraulic calculations
- IV. Fire Apparatus Pump Inspection, Testing and Maintenance
1. Pump inspection
    - a. Drive system
    - b. Priming system
    - c. Pressure control system
  2. Pump service testing
  3. Pump and control system maintenance
- V. Pump Operations
1. Operating the pump from tank
  2. Transitioning to an external water supply
  3. Operating from a hydrant
  4. Drafting operations
  5. Relay pump operations
  6. Troubleshooting pump operations
  7. Tandem pumping operations
  8. Dual pumping operations
  9. Foam operations
  10. Sprinkler and standpipe operations
- VI. Pumping Exercises
1. Draft pumping
  2. Forward lay
  3. Reverse lay

**Assignment:**

1. Experience and operate a variety of fire pumps
2. Perform the proper technique and operation of fire pumps
3. Draft water for firefighting operations and operate pumps, nozzles and appliances in a safe and effective manner at different elevations and with different fire apparatus
4. State exam

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing  
0 - 0%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Fire pump operation

Problem solving  
10 - 20%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Fire pump operation

Skill Demonstrations  
30 - 40%

**Exams:** All forms of formal testing, other than skill performance exams.

State exam; multiple choice

Exams  
50 - 60%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

None

Other Category  
0 - 0%

**Representative Textbooks and Materials:**

CFSTES Manual Fire Apparatus Driver/Operator 1B, California Fire Service Training and Education System, Sacramento, CA, 2008