S-211: Portable Pumps and Water Use (2012)
Course Plan

Course Details

Description:	This course is designed to provide knowledge and skills to design, setup, operate, troubleshoot, and shut down portable water delivery systems. The focus is on portable pumps – it does not address water delivery for engines. Topics covered include: portable water delivery systems; equipment; roles and responsibilities; and system design and hydraulics. There is also a field exercise where students will apply what they learned in the classroom.
Designed For:	Personnel desiring to be State Fire Training Firefighter 2 or Incident Commander Type 5 (ICT5), or those wanting to learn more about portable pumps and water use.
Authority:	National Wildfire Coordinating Group (NWCG)
Prerequisites:	None.
Standard:	N/A
Hours:	16-20 hours
Maximum Class Size:	30
Instructor Level:	Primary instructor
Instructor/Student Ratio:	1 primary instructor per 10 students (skills)
Restrictions:	Limited to Instructor-Led Delivery only.
SFT Designation:	FSTEP

Required Resources

Online Instructor Resources

The following instructor resources are available online at
https://www.nwcg.gov/publications/training-courses/s-211
- Instructor-led delivery course materials
- Instructor Guide
- Student Workbook
- Handouts for Units 2 and 3

Student Resources

To participate in this course, students need:
- Student workbook
- Incident Response Pocket Guide (IRPG), PMS 461
- Water Handling Equipment Guide, PMS 447-1
- Calculator, Fire Stream (Nozzle Discharge/Friction Loss), NFES 000897
- High Pressure Portable Pump Instructions, NFES 000871
- 5 Handouts on NWCG S-211 course materials web page

Facilities, Equipment, and Personnel

The following facilities, equipment, or personnel are required to deliver this course:

Facilities

- Standard classroom equipped for 24 students
- Whiteboards or easel pads with appropriate writing implements
- Projector/TV with appropriate laptop connections
- Wifi/Internet access

Equipment
- Examples of hoses (suction and discharge), appliances, hose accessories and tools, nozzles, and sprinklers.
- High Pressure Pump Kit, NFES 000870.
- NWCG Standards for Transporting Fuel, PMS 442
- Field Day Exercise
  - PPE, including eye and ear protection
  - IRPG
  - Portable Pump Kits and additional equipment for setting up pumps (shovel, fuel, etc.) (1 per small group or as needed)
  - Hoses, appliances, hose accessories and tools, for setting up portable water delivery system (1 set per small group or as needed)

- o Optional: Sprinkler kit and other types of portable pumps (1 per small group or as needed)
- o Optional: Pump pressure gauges A-5

Time Table

Segment			Unit Total
Unit 0: Introduction			0.25
Unit 1: Portable Water Delivery Systems			0.25-0.5
Unit 2: Equipment			1.0-2.0
Unit 3: Responsibilities			2.0-3.0
Unit 4: System Design and Hydraulics			3.0-4.0
Final Exam			1.0
Course Totals			**16.0-20.0**

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 and the acquired structure selected for training. 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.

Objectives

Course Objectives
1. Demonstrate knowledge and skills to design, set up, operate, troubleshoot, and shut down portable water delivery systems.