

Northwest Arkansas Community College
(Health Professions Division)

Discipline Code

FIRE

Course Number

2053

Course Title

Fire Service Hydraulics and Water Supply

Catalog Description

This course deals with the principles and formulas for fire ground hydraulics and pump operations of water systems, private, public, standpipes and sprinklers; nozzle pressures, friction losses, and effective fire streams and water supply problems. Included will also be the maintenance and operation of emergency vehicles and solutions of problems involving fire streams.

Prerequisites

None

Credit Hours

3 credit hours

Contact hours

45 lecture contact hours

Load hours

3 load hours

Semesters Offered

Spring

ACTS Equivalent

None

Grade Mode

A-F

Learning Outcomes

Students completing this course will:

- Familiarize the student with municipal water supply systems.
- Familiarize the student with alternative water supply systems for firefighters where conventional systems are inadequate, or do not exist.
- Familiarize the student with various hose line layouts, and fire attack water supply

strategies for certain types and sizes of fires.

- Enable the student to make theoretical calculations of water flows, pressure losses, and effective nozzle pressures for safe and effective firefighting operations.
- Enable the student to determine the proper uses of available water supplies for the most effective firefighting operations.

General Education Outcomes Supported

- Students develop higher order thinking skills.

Standard Practices

Topics list

- Water as an Extinguishing Agent
- Water at Rest
- Hydrokinetics
- Distribution Systems
- Water Flow Analysis
- Fire Flow
- Fire Apparatus
- Fire Service Pump Design
- Fire Department Pumper Testing
- Types of Fire Streams
- Fire Hose Nozzles
- Fire Service Pressure
- Determining Pump Pressures

Assessments

- Complete course requirements via written exams with a minimum cumulative grade of 70%.

Revision Date March 5, 2020

