Sinclair Community College
444 E. Third St.
Dayton, OH 45402

Master Syllabus

FST 2201 - Fire Protection Hydraulics & Water Supply

Division: Business and Public Services

Department: Fire Science Technology

Credit Hour Total: 3.0 **Lecture Hrs:** 2.0 **Lab Hrs:** 2.0

Date Revised: February 2014

Course Description:

This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems. Two classroom, two lab hours per week.

General Education Outcomes:

- Critical Thinking/Problem Solving
- Computer Literacy

Course Outcomes:

Movement of Water
Describe the application of mathematics and physics to the movement of water in fire suppression activities.

Assessment Method: Locally developed exams
Performance Criteria: Correctly answer at least 70% of exam questions

Design Principles
Identify the design principles of fire service pumping apparatus.

Assessment Method: Locally developed exams
Performance Criteria: Correctly answer at least 70% of exam questions

Fire Flow
Analyze community fire flow demand criteria.

Assessment Method: Locally developed exams
Performance Criteria: Correctly answer at least 70% of exam questions

Forces of Water
Given various examples, determine the principle of force that affects water at rest and in motion.

Assessment Method: Simulations
Performance Criteria: Must determine the principle of hydraulics that applies with 70% or better accuracy.

Solve Fire Hydraulics Problems
Design, build and utilize an Excel program to solve various fire hydraulics problems.

Assessment Method: Simulations
Performance Criteria: Design, build and utilize Excel programs to solve various fire hydraulics problems with a 70% or higher accuracy.

Outline:

Water distribution systems
Basic principles of hydrostatics and hydrokinetics
Water as an extinguishing agent
Mobile, portable and stationary fire pumps
Friction loss
Fire streams
Excel and the fire protection engineer