Course Syllabus

Department: Conservation

Date: October 13, 2012

I. Course Prefix and Number: WFS 211

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

Credit Hours and Contact Hours: 2 credit hours and 2 contact hours

Catalog Description including pre- and co-requisites: *supporting data required for grade prerequisite of 'C' or higher.*

This course is designed for individuals to gain competency in the use of portable pumps and water for application on a wildland fire line. Skill areas include supply, delivery and application of water. Students will be required to demonstrate their knowledge of correct water use, basic hydraulics and equipment care. A field exercise requires students to set up, operate and maintain pump equipment. Course meets NWCG (National Wildfire Coordinating Group) standards for S-211 certification.

Relationship to Academic Programs and Curriculum including SUNY Gen Ed designation if applicable:

This course is an elective offering for the Wildland Fire Suppression Certificate.

II. Course Student Learning Outcomes: *State the student learning outcome(s) for the course (e.g. Student will be able to identify…)*

1. Select equipment required to maintain a flow of water as required by the incident. (professional competency, critical thinking, mathematics, oral communication)
2. Install pumps, hose lays, and holding tanks to provide water for use during all phases of the incident. (professional competency, critical thinking, mathematics, information resources, oral communication)
3. Perform required field maintenance on a portable pump. (professional competency)

College Learning Outcomes Addressed by the Course: *(check each College Learning Outcome addressed by the Student Learning Outcomes)*

☐ writing	☐ computer literacy
X oral communications	☐ ethics/values
☐ reading	☐ citizenship
X mathematics	☐ global concerns

X critical thinking X information resources

III. Assessment Measures (Summarize how the college and student learning outcomes will be assessed): *For each identified outcome checked, please provide the specific assessment measure.*

List identified College Learning Outcomes(s)	Specific assessment measure(s)
Critical Thinking	In a field exercise, students must determine which equipment to acquire from the available materials and set up the equipment in the appropriate way based on a fire incident scenario.
Information Resources	Written scenarios on exams and field exercises will require students to utilize both the Incident Response Pocket Guide and Fireline Handbook to solve potential problems which can occur on the fireline.
Mathematics	Given various set-ups of hoses, pumps and water handling apparatus students must calculate flow rates for each set-up and determine which would be adequate to deal with a scenario presented in the field and on a written exam.
Oral Communication	In a field exercise, students must communicate with the members of their team to appropriately set up the hose and pump system needed based on the fire incident scenario.

IV. Instructional Materials and Methods

Types of Course Materials:

Video and other media, instruction booklet, hands-on materials in a field setting

Methods of Instruction (e.g. Lecture, Lab, Seminar …):

Lecture, in-class and outdoor scenarios, practical application

V. General Outline of Topics Covered:

1. Physical and Chemical Properties of Water
2. Fire Triangle
3. Basic Hydraulics
4. Calculating Flow Rates
5. Correct Usage of Water to Fight a Fire
6. Operation of a Portable Pump
7. Operation of a Powered Portable Pump
8. Hose Lay
9. Basic Troubleshooting
10. “Putting it All Together” Field Exercise

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