



# Wayne County Community College District

## COURSE SYLLABUS

### FPT 175 - Hazardous Materials Chemistry

---

**CREDIT HOURS:** 4.00

**CONTACT HOURS:** 60.00

**COURSE DESCRIPTION:**

This course provides basic fire chemistry relating to the categories of hazardous materials including problems of recognition, reactivity, and health encountered by firefighters.

**PREREQUISITES:** NONE

**EXPECTED COMPETENCIES:**

*Upon completion of this course, the student will:*

1. Identify the common elements by their atomic symbols on the Periodic Table and demonstrate an understanding of why the table is organized into columns and groups.
2. Differentiate between elements, compounds and mixtures, and give examples of each.
3. Explain the difference between ionic and covalent bonding and be able to predict when each will occur.
4. Identify, name, and understand the basic chemistry involved with common hydrocarbon derivatives.
5. Comprehend the basic chemical and physical properties of gases, liquids and solids, and predict the behavior of a substance under adverse conditions.
6. Identify, name, and understand the basic chemistry and hazards involved with the nine U.S. Department of Transportation hazards classes and their divisions.
7. Analyze facility occupancy, transportation documents, shape and size of containers, and Material Safety Data Sheets to recognize the physical state and potential hazards of reactivity related to firefighter health and safety.
8. Demonstrate the ability to utilize guidebooks to determine an initial course of action for emergency responders.

**ASSESSMENT METHODS:**

Student performance may be assessed by examination, quizzes, case studies, oral conversation, group discussion, oral presentations. The instructor reserves the option to employ one or more of these assessment methods during the course.

**GRADING SCALE:**

90%-100% = A

80%-89.9% = B

70%-79.9% = C

60%-69.9% = D

<60% = E