

Course Outline

COURSE: JFT 18A DIVISION: 50 ALSO LISTED AS:

TERM EFFECTIVE: Spring 2019 CURRICULUM APPROVAL DATE: 05/14/2018

SHORT TITLE: HAZ MAT TECHNICIAN 1A

LONG TITLE: Haz Mat 1A Basic Chemistry of Hazardous Materials

Units	Number of Weeks		Contact Hours/Week		Total Contact Hours
1	18	Lecture:	.77	Lecture:	13.86
		Lab:	1.46	Lab:	26.28
		Other:	0	Other:	0
		Total:	2.23	Total:	40.14

COURSE DESCRIPTION:

Designed to provide the students with a basic foundation in chemistry and physics as they relate to hazardous materials incidents. Topics include an overview of chemical and physical properties, chemical structures and formulas, covalent and ionic bonding, safety, personal protective equipment, operational procedures, Periodic Table of Elements, different types of chemical compounds, and the combustion process as it relates to hazardous materials. PREREQUISITE: JFT 225, 1. State Fire Marshall certified basic firefighting academy diploma or equivalent as determined by the Dean of Academy Instruction. NOTE: Approval of equivalent training is not a guarantee state regulatory or licensing agencies will also grant equivalency. 2. Prior to beginning this course students must already be familiar with, and be able to demonstrate all of the skills listed below. These will not be taught in the course; rather, they will be the starting point for advanced officer training that builds upon them. These minimum knowledge and skill levels are regarding: Knowledge of Hazardous Materials, Familiarity with Fire Safety, Knowledge of Personal Protective Equipment, Familiarity with SCBA

PREREQUISITES:

Completion of JFT 225, as UG, with a grade of C or better.

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

P - Pass/No Pass

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

02 - Lecture and/or discussion

03 - Lecture/Laboratory

04 - Laboratory/Studio/Activity

STUDENT LEARNING OUTCOMES:

1. Identify and explain how chemistry affects the hazardous materials response.

Measure of assessment: Objective examination, Class Activity

Year assessed, or planned year of assessment: 2018

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Curriculum Approval Date: 05/14/2018

Lecture Content:

I. Chemistry of Hazardous Material

A. Chemical and Physical Properties

B. Periodic Table of Elements

C. Covalent and Ionic Bonding

D. Chemical Compounds

E. Combustion Process

F. Field Monitoring

G. Detection Devices

H. Sample Collection Equipment

I. Effect on Hazardous Material Response

II. Course Review and Final Exam

Lab Content:

I. Field Testing

A. Procedures for Identifying and Classifying Unknown Materials

II. Personal Protection

A. Safety

B. Working with Chemicals

C. Personal Protective Equipment

III. Technical Foundation

A. Operational Strategies

B. Exposure Limits

METHODS OF INSTRUCTION:

Lecture, discussion and demonstrations will serve as the medium of instruction. Audio-visual aids will be utilized as they facilitate meaningful instruction. Individual guidance will be provided as required.

OUT OF CLASS ASSIGNMENTS:

Reading:

Review procedures for Identifying and Classifying Unknown Materials.

Required Outside Hours:

Assignment Description:

Writing:

List Sample Collection Equipment used by Hazmat Technicians.

Required Outside Hours:

Assignment Description:

Out of Class:

Review HazMat safety procedures and practice using personal protective equipment.

METHODS OF EVALUATION:

Skill demonstrations
Proper utilization of Personal Protective Equipment
Objective examinations
Multiple Choice; True/False

REPRESENTATIVE TEXTBOOKS:

Recommended Representative Textbooks
Instructor Handouts. Instructor,2018.
Reading Level of Text, Grade: 12 Verified by: Doug Achterman

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:
CSU GE:
IGETC:
CSU TRANSFER:
Transferable CSU, effective 199870
UC TRANSFER:
Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N
Classification: Y
Noncredit Category: Y
Cooperative Education:
Program Status: 1 Program Applicable
Special Class Status: N
CAN:
CAN Sequence:
CSU Crosswalk Course Department: JFT
CSU Crosswalk Course Number: 18A
Prior to College Level: Y
Non Credit Enhanced Funding: N
Funding Agency Code: Y
In-Service: N
Occupational Course: C
Maximum Hours:
Minimum Hours:
Course Control Number: CCC000325251
Sports/Physical Education Course: N
Taxonomy of Program: 213300