

SOUTHWESTERN COLLEGE COURSE OUTLINE

Division: **Health & Public Services**

Origination Date: **9/98**

Modification Date:

Effective Date: **Fall 1999**

Course Designator and Number	Title	Units	Lec	Lab.
EHMT 272	Techniques in Industrial Hygiene	2	1	3

Same as (other course(s) designator(s), _____,

Grading Basis: **Grading Scale; Credit/No Credit option available**

Prerequisite: **EHMT 270**

Corequisite:

Recommended Preparation: **EHMT 271**

Course Description & Scope: (50 words or less)

This course will familiarize students with industrial hygiene monitoring techniques for airborne contaminants, noise, heat, radiation, and illumination. Student will obtain hands-on experience with industrial hygiene and occupational/industrial health instrumentation. This course compliments EHMT 270 and 271. [CSU]

Measurable Course Objectives and Minimum Standards, as Determined by Standards set by the instructor, at 70% Proficiency for a Grade of "C":

- 1. Student will identify the basic principles of personal sampling for air contaminants in classroom discussion and through written assessment.**
- 2. Student will, given specific instrumentation in a laboratory setting, perform an air sampling for contaminants using standard techniques of equipment preparation and calibration, and demonstrate competency in the field application of these techniques.**
- 3. Student will, through practical exercise, classroom activity, and written assessments, demonstrate competency in the sampling for surface contamination.**
- 4. Student will learn to read and understand industrial hygiene sampling reports.**
- 5. Student will, through written assignment, read and interpret the underlying fundamental scientific principles and explain the practical use of industrial hygiene instrumentation as it is normally used in the measurement of occupational and industrial workplace hazards.**

6. Student will, **through hands-on exercises, demonstrate proficiency in the preparation and calibration of industrial hygiene instrumentation.**
7. Student will, **through hands-on exercises, demonstrate proficiency in the application and use of industrial hygiene instrumentation to identify and measure the following: toxic gases and vapors; dust; fumes; oxygen content; combustible gases; light; ionizing radiation; air velocity; noise; and heat stress.**

Core Content to be Covered in all Sections:

1. Approximate 6 % of course
Introduction
 - **Laboratory safety**
 - **Laboratory rules****Equipment Preparation and Calibration**
2. Approximate 12 % of course
Sampling Techniques
 - **Pumps**
 - **Detector tubes**
 - **Total dust and metal fume**
 - **Respirable dust**
 - **Solid sorbent tubes**
 - **Midget impingers and bubblers**
 - **Vapor badges**
3. Approximate 6 % of course
General Technique for Wipe Sampling
 - **Filter media and solvents**
 - **Procedure**
4. Approximate 52 % of course
Direct Reading Instruments
 - **Toxic gas meters**
 - **Combustible gas/oxygen meters****Radiation Monitors & Meters**
 - **Light**
 - **Ionizing radiation****Illumination Measurement Technique**
5. Approximate 6 % of course
Ventilation Investigation
Air Velocity Monitors

6. Approximate 6 % of course
Heat Stress
Heat Stress Instruments
- Description and application
- Calibration
- Maintenance
7. Approximate 6 % of course
Sample Shipping and Handling
8. Approximate % of course: Supplemental

NOTE: For Specific Details, see Instructor's Syllabus.

Method of evaluation to determine if objectives have been met by students:
(Check all that apply)

Exams:

Essay	<input checked="" type="checkbox"/>	Class Activity	<input checked="" type="checkbox"/>	Written Assignments	<input type="checkbox"/>
Problem Solving Exercise	<input checked="" type="checkbox"/>	Skill Demonstration	<input checked="" type="checkbox"/>	Lab Activity	<input checked="" type="checkbox"/>
Objective Test	<input checked="" type="checkbox"/>	Oral Assignments	<input type="checkbox"/>	Quizzes	<input type="checkbox"/>

Other

Instructional Methodology: (Check all that apply)

Lecture	<input checked="" type="checkbox"/>	Demonstration	<input checked="" type="checkbox"/>	Discussion	<input checked="" type="checkbox"/>
Audiovisual	<input checked="" type="checkbox"/>	Individual Assistance	<input checked="" type="checkbox"/>	Group Activity	<input checked="" type="checkbox"/>
Computer Assisted Instruction	<input type="checkbox"/>				

Requires a minimum of three (3) hours of work per unit, including class time

Required and Major Optional Reading(s), Including Textbook(s) and Software: (Author-last name, first name. Title. Location: Publisher, Year)

OSHA Technical Manual. Government Institute, Inc., Latest Edition