Las Positas College
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Course Outline for OSH 60

ELEMENTS OF INDUSTRIAL HYGIENE

Effective: Fall

I. CATALOG DESCRIPTION:
OSH 60 — ELEMENTS OF INDUSTRIAL HYGIENE — 3.00 units

Introduction to the major subject areas of Industrial Hygiene. This includes anticipation, recognition, evaluation, and control of workplace hazards; effects of toxic agents on the body; measurement of these agents; general methods for their control; as well as State and Federal regulatory requirements

3.00 Units Lecture

Grading Methods:
Letter Grade

Discipline:

	MIN
Lecture Hours:	54.00
Total Hours:	54.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

IV. MEASURABLE OBJECTIVES:

Upon completion of this course, the student should be able to:

1. understand the major subject areas in the field of Industrial Hygiene;
2. recognize workplace hazards which are of Industrial Hygiene interest in a variety of workplaces;
3. be familiar with the general methods used to evaluate, correct and/or control these workplace hazards;
4. understand organizations and government agencies affecting the field of Industrial Hygiene;
5. gain an overview of current Industrial Hygiene regulations and regulatory trends;
6. explain the significance of Industrial Hygiene workplace hazards

V. CONTENT:
A. Historical introduction starting from the beginning of Industrial Hygiene to the present;
B. Routes of entry toxic material takes into the body including the respiratory tract, skin, and digestive systems; an anatomical review of each major organ system;
C. Toxicity of solvents, gases, and vapors with reference to their chemical structure and effects on the human body;
D. Toxicity of dusts with reference to their composition and effects on the lungs;
E. Noise: recognition, evaluation, and control;
F. Ionizing radiation: general description, health effects, measurement, and control;
G. Non-ionizing radiation: general description, health effects, measurement, and control, including welding;
H. General methods of detection and control of toxic and physical workplace agents;
I. Industrial ventilation: design principles, basic calculations, and applications to workplace requirements;
J. Personal protective equipment (e.g., respirators, chemical protective clothing) for protection against toxic and physical agents; workplace applications and program design;
K. Chemical hazards: injury causes, responsibility, and control methods;
L. Techniques of health hazard communication.

VI. METHODS OF INSTRUCTION:
A. **Lecture** - classroom demonstrations, and group discussion
B. Student presentations on work-specific projects
C. Video and overhead presentations

VII. TYPICAL ASSIGNMENTS:
A. Read a chapter in the course text or handout material and answer questions or apply the information to specific examples during the classroom presentation of this material. B. Identify and describe the impact of typical workplace hazards. Describe the sampling methods used to evaluate these hazards, and the engineering controls used for their mitigation. Workplace situation presented via videos or slides.

VIII. EVALUATION:
A. **Methods**

1. Exams/Tests

B. **Frequency**

IX. TYPICAL TEXTS:

1. Fundamentals of Industrial Hygiene, National Safety Council, latest edition.
2. Basics of Industrial Hygiene, John Wiley & Sons, Inc., latest edition.
3. Supplemental handouts

X. OTHER MATERIALS REQUIRED OF STUDENTS: