Lecture Contact Hours: 48-54; Homework Hours: 96-108; Total Student Learning Hours: 144-162
Laboratory Contact Hours: 48-54; Homework Hours: 0; Total Student Learning Hours: 48-54

CUYAMACA COLLEGE
COURSE OUTLINE OF RECORD

ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT 201 – INTRODUCTION TO INDUSTRIAL HYGIENE AND OCCUPATIONAL HEALTH

3 hours lecture, 3 hours laboratory, 4 units

Catalog Description
Anticipation, recognition, revaluation and control of biological, chemical and physical hazards in the workplace. Introduction to the development of industrial hygiene and occupational health and safety as a professional discipline. Provides an understanding of basic physiological processes and the effects caused by occupational exposure to hazards. Survey of various occupational health and safety programs and government regulations. Industrial hygiene monitoring and sampling techniques for airborne contaminants, noise, heat, radiation and illumination.

Recommended Preparation
"C" grade or higher or "Pass" in EHSM 100 or equivalent or concurrent enrollment

Entrance Skills
Without the following skills, competencies and/or knowledge, students entering this course will be highly unlikely to succeed:
1) Interpret laws and regulations pertaining to environmental, health and safety management and related programs.
2) Distinguish between EHSM agencies that regulate environmental management and OSH programs.
3) Recognize and apply appropriate terms common to the environmental health and safety industry.
4) Understand best management practices (BMP) and safe operation procedures (SOP) used in the EHSM industry.

Course Content
1) Historical overview of industrial hygiene and essential terminologies
2) Understanding chemical, physical, biological and ergonomic hazards
3) Industrial hygiene programs
4) Radiation safety specifics
5) Application of ergonomic hazard mitigation principles
6) Pathological effects of exposure to harmful materials or substances
7) Principles of industrial ventilation
8) Recognition of basic industrial hygiene monitoring equipment and sampling analysis

Course Objectives
Students will be able to:
1) Identify and relate key historical elements to current regulations and accepted practices in industrial hygiene and occupational safety.
2) Interpret, analyze, critique and evaluate sampling procedures and related health and safety reports.
3) Demonstrate the proper use, preparation, and calibration of industrial hygiene instrumentation.
4) Develop a health and safety plan outline that includes hearing conservation requirements and respiratory protection requirements and related workplace monitoring.
5) Identify appropriate radiation safety requirements used during the storage, handling and disposal of radioactive material.
6) Evaluate ergonomic deficiencies and apply appropriate ergonomic principles to correct/improve the working conditions as demonstrated through a written examination.

7) Demonstrate a basic knowledge of the pathological effects to human anatomy and physiological processes caused by exposure to harmful agents as it relates to occupational exposure.
8) Develop a laboratory and biohazards safety outline using current laws and regulations.

Method of Evaluation
A grading system will be established by the instructor and implemented uniformly. Grades will be based on demonstrated proficiency in subject matter determined by multiple measurements for evaluation, one of which must be essay exams, skills demonstration or, where appropriate, the symbol system.
1) Verbal and written exercises, quizzes, exams that measure students' ability to identify and relate key historical elements to current regulations and accepted practices in industrial hygiene and occupational safety, interpret, analyze, critique and evaluate sampling procedures and related health and safety reports, and demonstrate a basic knowledge of the pathological effects to human anatomy and physiological processes caused by exposure to harmful agents as it relates to occupational exposure.
2) Participation/group exercises that measure students' ability to develop a health and safety plan outline that includes hearing conservation and respiratory protection requirements and related workplace monitoring, evaluate ergonomic deficiencies and apply appropriate ergonomic principles to correct/improve the working conditions, and develop a laboratory and biohazards safety outline using current laws and regulations.
3) Hands-on activities, including lab exercises that measure students' ability to demonstrate the proper use, preparation and calibration of industrial hygiene instrumentation, and identify appropriate radiation safety requirements used during the storage, handling and disposal of radioactive material.

Special Materials Required of Student
Basic scientific calculator

Minimum Instructional Facilities
Smart classroom and preferable access to a biology or chemistry laboratory

Method of Instruction
1) Lecture and discussion
2) Projects
3) Lab assignments, projects

Out-of-Class Assignments
1) Reading assignments
2) Written assignments and reports

Texts and References
1) Required (representative example): Plog & Quinlan. *Fundamentals of Industrial Hygiene*. 6th edition. National Safety Council, 2012.
2) Supplemental: None

Student Learning Outcomes
Upon successful completion of this course, students will be able to:
1) Identify and relate key historical elements to current regulations and accepted practices in industrial hygiene and occupational safety.
2) Demonstrate the proper use, preparation and calibration of industrial hygiene instrumentation.
3) Identify appropriate radiation safety requirements.
4) Demonstrate a basic knowledge of the pathological effects to human anatomy and physiological processes caused by exposure to harmful agents as it relates to occupational exposure.