



NATIONAL UNIVERSITY OF ENGINEERING

COLLEGE OF ENVIRONMENTAL ENGINEERING

HYGIENE AND INDUSTRIAL SAFETY ENGINEERING PROGRAM

SA342 – WORK MEDICINE

I. GENERAL INFORMATION

CODE	: SA342 – Work Medicine
SEMESTER	:
CREDITS	: 04
HOURS PER WEEK	: 05 (Theory – Practice)
PREREQUISITES	: SA332 – Anatomy and Human Physiology
CONDITION	: Mandatory

II. COURSE DESCRIPTION

Occupational Health - Areas, importance. Work accidents - First Aid. Occupational diseases and diseases related to work - conceptual aspects - Legislation. Occupational pathology by type of agents: Physical, chemical and biological. Individual study considering its characteristics, occupational exposure and its effects on health. Description of the most prevalent diseases.

III. COURSE OUTCOMES

To provide basic training in medical-care and preventive aspects that allow a correlation with Industrial Hygiene and a comprehensive knowledge of Occupational Health. This will allow to highlight the importance that in any work center the professional team in charge of the control of the labor risks and of the medical attention of the workers must have to protect and promote their health.

IV. LEARNING UNITS

1. Occupational health

WHO / ILO definition. Goals. Areas that integrate it. Importance. Historical evolution. Role of public entities. In our country. Coordinated visit.

2. Occupational damages

Work accidents. Occupational diseases. Diseases related to work - legal aspects. Complementary insurance of risk work. First aid in case of accidents and acute illnesses of greater importance (Exhibitions by students).

3. Occupational pathology by physical agents

Thermo-environmental conditions, components and characteristics. Body thermal regulation. Exposure and effects of heat - acute disorders. Cold - local alterations and general cooling. Defective lighting - effects.

4. Atmospheric pressure, variations

Exposure and effects of Hypopression and Hyperpression. Non-ionizing radiation and ionizing radiation: Occupational exposure, biological action, acute and chronic effects.

5. Vibrations

Classification, exposure and local and general effects. Noise: characteristics, occupational exposure, general effects and on hearing (Noise induced hearing loss).

6. Occupational pathology due to chemical agents

Characteristics, local and systemic effects. Pneumoconiosis: concept and main factors - Non-fibrosing pneumoconiosis and fibrosing pneumoconiosis (Study of Silicosis and Asbestosis).

7. Occupational poisonings

General concepts. Toxicokinetics: Exposure, absorption, distribution, biotransformation, accumulation, excretion. Acute and chronic poisoning, criteria for diagnosis and treatment. Study of some intoxications: by carbon monoxide, solvents, lead, mercury, organophosphorus insecticides.

8. Occupational pathology by biological agents

Notions of Infectology. Basic characteristics of agents and occupational exposure. Summary description of the main diseases caused by viruses, bacteria and parasites.

9. Special occupational pathology (by various etiological agents).

Occupational dermatopathies: Predisposing factors - Main types. Occupational cancer and work-related cancer - Characteristics. Main carcinogenic agents.

10. Stress

Conceptual framework. Main psychological alterations. Prevention. Medical protection of workers. Medical services of companies - Main activities that must be fulfilled.

V. EVALUATION FORMULA

The learning will be evaluated through the "C" system.

- Partial Exam: Weight 1
- Final Exam: Weight 2
- Practices Average: Weight 1.

Calculation of the Final Average:

$$FA = \frac{PE + 2 * FE + PA}{4}$$

PE: Partial Exam; FE: Final Exam, PA: Practices Average

For the Practices Average, during the semester five qualified practices and one monograph (Mo) are graded, the practice with the lowest grades is eliminated and the average is calculated with the remaining grades.

$$PA = \frac{P1 + P2 + P3 + P4 + Mo}{5}$$

VI. BIBLIOGRAPHY

- "Occupational Diseases" - Donald Hunter. Editorial Little, Brown and Comp.
- "Occupational Diseases: A Guide for Recognition" - PAHO.
- "Epidemiology". Guerrero - González - Medina. Inter-American Educational Fund.
- "Encyclopedia of Health and Safety at Work". International Labor Office - ILO.