EVPE3007 ENVIRONMENTAL HEALTH AND SAFETY (3-0-0)

Course Objectives:

- To understand the relevance of environment, health and safety in industries
- To explore occupational health and hygiene
- To know about Workplace Safety and Safety Systems
- To identify various type hazards and measures for risk management

Module I (8 hours)

Importance for developing environment, health and safety systems in work places; toxic materials and substances used in work, exposure limits, toxicological investigations; international and national initiatives, policy, legislations, regulations, and codes of practice.

Module II (8 hours)

Definition of occupational health and hygiene; categories of health hazards; exposure routes and pathways, human responses, dose-response relationship; exposure assessment, occupational exposure limits; control measures – role of personal protective equipment and the selection criteria; industrial hygiene

Module III (8 hours)

Initiatives and preparedness by organizations for worker's safety; features of satisfactory and safe design of work premises - good housekeeping, lighting, colour, ventilation and heat control; noise, chemical, radiation, electrical, fire safety; safety at construction sites, process safety. Safety appraisal – job safety analysis, control techniques, plant safety inspection; accident investigation, analysis and reporting

Module IV (8 hours)

Hazard and risk management techniques – onsite and offsite emergency plans; employee participation-education and training. The basic purpose and benefits of safety inspection, first-aid, appliances, shelters, rest rooms and lunch rooms, use of personal protective equipment, elements of environmental health and safety management policy, implementation and review; ISO 45001- structure and clauses.

Couse outcomes: At the end of the course students will be able to:

- identify the various types and effects of health hazards
- analyse different assessment and control methods
- adopt the methodology for preparation of emergency plans and accident investigation
- evaluate EHS Management System and its elements
- implement personal and industrial hygiene

Books:

1. Cheremisinoff, N. P. and Graffia M. L., Environmental and Health and Safety Management, 1st Edition, Noyes Publications, USA, 1995.
2. Grover S. , Grover R. C., Implementing Integrated Management System for Quality, Environment, Occupational Health & Safety and Energy: ISO 9001:2015/ISO14001:2015/ISO45001:2018/ ISO50001: 2018, Notion press, 2021
3. Phil Hughes M.B.E. Ferrett, Ed , Introduction to Health and Safety at Work, 7th Edition, Routledge, London, 2020
4. Jana R. Fundamentals of Safety, Health & Environmental Management, White Falcon Publishing, 1st edition, 2025
5. Rao, S.S., and Jain R.K., Industrial Safety, Health And Environment Management Systems. Khanna Publishers,