

**Department of Public Health
Institute of Social & Cultural Studies
Faculty of Behavioral & Social Sciences
University of the Punjab, Lahore**

Course Outline

| | | | | | |
|---------------------|---|--------------------|-----------------|---------------------|---|
| Programme | BS Workplace Health & Safety Promotion | Course Code | WHSP 202 | Credit Hours | 3 |
| Course Title | Industrial Fire Safety Management Systems | | | | |
| | | | | | |

WHSP 202- Industrial Fire Safety Management Systems

Course Description

- The goal of this course is to give knowledge and comprehension of key fire safety principles, as well as the technical, legislative, and practical skills needed to support the function of fire safety managers and to provide a solid foundation for additional learning.
- Fire Safety Management is concerned with the comprehensive study of fire prevention, fire development, fire containment, fire dynamics, fire decay and suppression, and the means by which fire safety measures are managed to limit the human, environmental, and financial effects of fire.

Course Objectives

After studying this course, students should be able to:

- Know about the Safety management systems
- Industrial fire safety management systems
- Develop a fundamental understanding of health and safety management along with the skills and knowledge required for all those responsible for fire safety in their workplace.
- Understanding about the fire legislation, risks, causes and preventative measures, as well as how to ensure the safety of people at various workplaces in the event of fire.

Course Contents

Introduction to Fire Safety Management Systems (FSMS)

- Health and safety management systems
- Fire safety management systems
- Industrial fire safety management systems (IFSMS)

- Major components of IFSMS
- Accident related models and organizational models to establish FSMS
- Fire safety risk assessment
- Fire safety audit
- Responsibilities of various stakeholders in establishment of FSMS
- Hierarchy of compliance and control in effective management of FSMS
- Development of Documentation/paper work and written materials (SOPs, guidelines for safety, Safety data sheets etc.) required for establishment and management of FSMS

Development of Fire Safety Management Systems (FSMS) across various industries

- Requirement for development and management of FSMS across small, medium and large size industries
- Requirement for development and management of FSMS at local, national and multinational levels industries
- Legislations (local, national and international) for development and management of FSMS
- Development and management of FSMS at:
 - Textile industry
 - Chemical industry
 - Oil and gas industry
 - Electronics
 - Mining and metals
 - Food and beverages
 - Energy industry
 - Pharma & biotech
 - Aviation and airports
 - Construction industry
 - Health care industry (primary, secondary and tertiary care hospitals)
 - Agriculture and Forestry
 - Domestic fires
 - Any other industry(s)

Practical Contents

- Industrial visits to observe FSMS
- Fire risk assessment and Development of FSMS for different industries (Assignment)
- Fire safety audit course

Teaching-Learning Strategies

Teaching will be a combination of class lectures, class discussions, and group work and practical demonstrations. Short videos/films will be shown on occasion.

Assignments

The sessional work will be a combination of written assignments, class quizzes, presentation, hand-on practical exercises and class participation/attendance.

Assessments and Examination

Sessional Work: 25 marks

Midterm Exam: 35 marks

Final Exam: 40 marks

Recommended Readings

1. Davletshina, T. (1998). *Industrial Fire Safety Guidebook*. Elsevier.
2. Muckett, M., & Furness, A. (2007). *Introduction to fire safety management*. Routledge.
3. Li, Y., & Guldenmund, F. W. (2018). Safety management systems: A broad overview of the literature. *Safety science*, 103, 94-123.
4. Chen, C. Y., Wu, G. S., Chuang, K. J., & Ma, C. M. (2009). A comparative analysis of the factors affecting the implementation of occupational health and safety management systems in the printed circuit board industry in Taiwan. *Journal of Loss Prevention in the Process Industries*, 22(2), 210-215.
5. Liu, Z., Xie, K., Li, L., & Chen, Y. (2020). A paradigm of safety management in Industry 4.0. *Systems Research and Behavioral Science*, 37(4), 632-645.
6. Rashoyan, I. (2024). Theoretical aspects of designing an integrated management system of industrial, fire and environmental safety of the organization. In *E3S Web of Conferences* (Vol. 471, p. 03007). EDP Sciences.
7. Lui, G. C., & Chow, W. K. (2007, October). Fire safety management for small and medium enterprise offices in old industrial buildings. In *Proceedings of the 6th International Conference on Indoor Air Quality, Ventilation and Energy Conservation in Buildings* (pp. 929-936).
8. Benichou, N., Kashef, A., Torvi, D. A., Hadjisophocleous, G. V., & Reid, I. (2002). *FIERAsystem: a fire risk assessment model for light industrial building fire safety evaluation*. NRC, Institute for Research in Construction.

