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 206**	**Credit Hours**	3
Course Title	Environment Science and Sustainability				

WHSP 206- Environment Science and Sustainability

Course Description

- This course introduces the principles of environmental health and examines the short- and long-term effects of environmental hazards on human health.
- Students consider their own interactions with natural and human-made environments to assess the impact of chemical, physical, biological, and social elements on their health.
- Students explore the potential impact of climate change on population health, emerging global health threats related to the environment, and environmental factors involved in the aetiology and transmission of both communicable and non-infectious disease.
- Explains the concept of sustainability and its social, political, and cultural challenges

Course Objectives

Upon completion of the course, students will be able to:

1. The importance of Environmental Science in human life, its relationship with various segments of society and sectors of development.
2. Identify major environmental hazards at various workplaces
3. Explain the concept of sustainability and its social, political, and cultural challenges
4. Identify with current national, regional and global challenges for sustainable development.

Course Content

1. **Basic principles**

- convergence of ecology with economic and sociology to evolve as environmental science, its nature, history, scope and the contribution to society

2. **Environmental aspects**

- Physic-chemical, biological, socio-economic, socio-cultural, moral and ethical, and philosophical thinking.

3. **Environmental problems**

- Local, regional and global level.

4. **Occupational Environmental challenges**
5. **Environmental Risk Assessment**
    - Hazards assessment – including physical (e.g., noise, extreme heat or cold), ergonomic (e.g., repetitive motion), chemical (e.g., gases and vapors), biological (e.g., animals and plants), and psychosocial (work load; hours worked) hazards
    - Safety Environment ◦Review of Material Safety Data Sheets (MSDS)
    - Job specific safety training
6. **Environmental Impact Assessment**
7. **Sustainability of resources for development**

- Efficiency of energy and water resources, current and future trends in growth and resultant environmental pollution, poverty and resource depletion, development in industry, agriculture and urbanization.

Practical Contents

Industrial/occupational environment risk assessment – including physical (e.g., noise, extreme heat or cold), ergonomic (e.g., repetitive motion), chemical (e.g., gases and vapors), biological (e.g., animals and plants), and psychosocial (work load; hours worked) hazards

Teaching-Learning Strategies

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

Sessional Work

The sessional work will be a combination of written assignments, class quizzes, presentations, and class participation/attendance.

Assessments and Examination

Sessional Work: 25 marks

Midterm Exam: 35 marks

Final Exam: 40 marks

Recommended Readings

1. Botkin, D. B & Keller, E. A. (2013). Environmental Science: Earth as a Living Planet, Botkin. (9th Ed). John Wiley & Sons.
2. McKinney, M. L., Schoch, R. M. & Yonavjak, L. Environmental Science: systems and solutions. (5th Ed). Jones & Bartlett Publishers, 2013
3. Wright, R. T. & Nebel, B. J. (2007).Environmental Science: Toward a Sustainable Future. (10th Ed). Pearson Educational.
4. Miller, G. (2005). Environmental Science: working with the Earth.. Cengage Learning.
5. Moeller, D. W. (2011). Environmental Health. (4th Ed). ISBN-10: 0674047400.
6. Yassi, A., Kjellstron, T., Kok, T. D. & Guidotti, T. (2001). Basic Environmental Health. ISBN-10: 019513558X.
7. Papadopoulos, G., Georgiadou, P., Papazoglou, C., & Michaliou, K. (2010). Occupational and public health and safety in a changing work environment: An integrated approach for risk assessment and prevention. *Safety science*, *48*(8), 943-949.
8. Pinto, A., Nunes, I. L., & Ribeiro, R. A. (2011). Occupational risk assessment in construction industry–Overview and reflection. *Safety science*, *49*(5), 616-624.
9. Sui, Y., Ding, R., & Wang, H. (2020). A novel approach for occupational health and safety and environment risk assessment for nuclear power plant construction project. *Journal of Cleaner Production*, *258*, 120945.
10. Gul, M. (2018). A review of occupational health and safety risk assessment approaches based on multi-criteria decision-making methods and their fuzzy versions. *Human and ecological risk assessment: an international journal*, *24*(7), 1723-1760. Băbuţ, G. B., & Moraru, R. I. (2018).
11. Occupational Risk Assessment: Imperatives for Process Improvement. *Quality-Access to Success*, *19*(166).