

Interdisciplinary IV

DM-CBH-362

Complex and Biological Hazards

Cr. H. 3

Course Description

Upon Successful completion of this course, the student will be able to:

- **UNDERSTAND** the phenomena of biological and complex hazards.
- **ACQUIRE** knowledge about the types of Biological, technological and complex hazards and their risk management.

COURSE OUTLINE

1. **Introduction**
 - Complex Hazards
 - Technological Hazards
 - Biological Hazards
2. **Types and Management of complex hazards**
 - War
 - Insurgencies and Terrorism
 - Sectarian Violence and conflicts
 - Displaced populations Urban and Settlement Fire
 - Famine
3. **Types and Management Technological Hazards**
 - Industrial accidents
 - Nuclear Hazards
 - Oil and Chemical Spills
 - Air Crash
 - Transport accidents
 - Occupational Hazards Safety
4. **Types and Management of Biological Hazards**
 - Epidemics and Pandemics
 - Transmission of biological hazards
 - Risk assessment of biological hazards
 - Controlling exposure to biological hazards
 - Disease Early Warning System (DEWS)

Teaching Methodology

- Lecturing
- Written Assignments
- Interactive Sessions
- Seminar Lectures
- Audio-Visuals

Assessment Criteria:

1st Term (25%) Assignments/Quizzes and Presentations

Mid Term (35%) Written (Long Questions, Short Questions, MCQs)

Final Term (40%) Written (Long Questions, Short Questions, MCQs)

Textbooks:

1. Lukasiewicz, A., & O'Donnell, T. (Eds.). (2023). *Complex disasters: Compounding, cascading, and protracted*. Palgrave Macmillan.
2. Jarzabkowski, P., Chalkias, K., Cacciatori, E., & Bednarek, R. (2023). *Disaster insurance reimaged: Protection in a time of increasing risk*. Oxford University Press.
3. Miller, S. R. (2023). *Over the seawall: Tsunamis, cyclones, drought, and the delusion of controlling nature*. Island Press.
4. Morimoto, R. (2023). *Nuclear ghost: Atomic livelihoods in Fukushima's gray zone*. University of California Press.
5. Gunning, L. P., & Rizzi, P. (Eds.). (2022). *Invisible reconstruction: Cross-disciplinary responses to natural, biological, and man-made disasters*. UCL Press.
6. Lukasiewicz, A., & O'Donnell, T. (Eds.). (2022). *Complex disasters: Compounding, cascading, and protracted*. Palgrave MacMillan.
7. Mitra, S., Dasgupta, K., Dey, A., & Bedamatta, R. (Eds.). (2023). *Disaster management and risk reduction: Multidisciplinary perspectives and approaches in the Indian context*. Springer