

**Asian Institute of Technology**  
School of Environment, Resources and Development (SERD) and  
School of Engineering and Technology (SET)  
**Disaster Preparedness, Mitigation and Management (DPMM)**

**IN84.01 Managing Disasters 3(3-0)**

**Semester: August**

**Course Objective:**

Disaster management as an identifiable profession is relatively new. The tasks of a disaster manager, however, have been around for a long time. There has been a growing awareness in recent years that all the activities in various phases of disasters comprise the process of disaster management. By understanding this as an identifiable role, we can describe a coherent and cohesive direction for people who are involved in the field of disasters. The objective of this course is to provide students with a sound knowledge on major and emerging issues with viewpoints confronting recent trend on disaster risk management. The course is also designed to provide the knowledge and understanding of the underpinning concepts on Disaster Risk and also processes involved in management of disasters.

**Learning Outcomes:**

Upon successful completion of this course, students will be able to

- Assimilate the concepts of Disaster Risk Management
- Access vulnerability, risk and capacity
- Identify and apply the methods and tools for disaster risk management
- Manage all phases of disaster management

**Prerequisite:** None

**Course Outline:**

**I. Introduction to Natural Disasters**

1. Types of Hazard and Elements of Disaster Risk
2. Basic Concepts and Terminologies in Disaster Risk Management
3. Global and Regional perspectives of Disaster Risk
4. Disaster Management Challenges

**II. Disaster Management Cycle**

1. Prevention and Mitigation
2. Disaster Preparedness
3. Disaster Response and Recovery
4. Reconstruction and Rehabilitation

**III. The Management System in Disasters**

1. Leadership, Decision Making and Change management
2. Resource Management and Challenges
3. Introduction to Incident Command System (ICS)
4. Planning Process in Disaster Management

**IV. Disaster Risk Assessment and Monitoring**

1. Natural Disaster Risk Assessment
2. Damage and Loss assessment
3. Monitoring & Evaluation of the Project
4. Institutional Framework for Disaster Risk Management

## **V. Modern Tools and Methods in Disaster Risk Management**

1. Early Warning System in Disaster Management
2. GIS and Remote Sensing in Hazard, Risk and Vulnerability Mapping
3. Disaster Communications
4. Modern Techniques for disaster response

## **VI. Emerging Trends in Disaster Management**

1. Introduction to Community Based Disaster Management
2. Gender and Vulnerable groups in Disaster Management
3. Natural Disasters induced IDP and Refugees
4. Regional and International cooperation

**Laboratory Session(s)**: None

### **Learning Resources:**

**Textbooks:** No designated textbook, but class notes and handouts will be provided.

### **Reference Books:**

1. Damon P. Coppola (2013), Introduction to International Disaster Management, Butterworth-Heinemann, Elsevier, USA.
2. Rajib Shaw and Hari Krishna Nibanupudi (Ed), (2015), Mountain Hazards Disaster Risk Reduction, Springer, Japan.
3. Edward Bryant (2005), Natural Hazards, Cambridge University Press, U.K.
4. Jeanne X. Kasperson, Roger E. Kasperson and B.L. Turner (Ed) (1995), Regions at Risk: Comparisons of Threatened Environments, United Nations University Press, Tokyo.
5. Mark Pelling (2003), The vulnerability of cities (Natural Disasters and Social Resilience), Earthscan Publications Limited, USA.
6. Sharma, R K & Gagandeep Sharma (2005), Natural Disaster, APH Publishing Corporation, India.
7. Kamal Taori (2005), Disaster Management through Panchayati Raj, Concept Publishing Company, India.
8. Gilbert F. White (1974), Natural Hazards: Local, National, Global, Oxford University Press, New York.
9. Gilbert F. White and J. Eugene Hass (1975), Assessment of Research on Natural Hazards, Cambridge, the MIT Press, UK.
10. Ben Wisner, Piers Blaikie, Terry Cannon and Ian Davis (2003), At Risk: Natural Hazards, People's Vulnerability and Disasters, Routledge, Taylor and Francis, USA.

### **Journals and Magazines:**

1. International Journal of Disaster Risk Reduction, Elsevier
2. International Journal of Disaster Risk Science, Springer
3. Disaster Prevention and Management: An International Journal, Emerald
4. Journal of Environmental Planning and Management, Taylor & Francis
5. Natural Hazards, Springer

### **Others:**

1. Global Assessment Report on Disaster Risk Reduction (2015), UNISDR, Geneva.
2. Building Disaster Resilient Communities (2007), Good Practices and Lessons Learned, Global Network of NGOs for Disaster Risk Reduction, UNISDR, Geneva.
3. Disaster Risk Management in Asia, a primer", Asian Disaster Preparedness Centre, Bangkok.
4. Gender Perspective: Working Together for Disaster Risk Reduction (2007), (Good Practices and Lessons Learned), UN, Geneva.

**Teaching and Learning Methods:**

Class room lecture, Assignment, Term Paper (Presentation, Analysis and Discussions), Case Study Analysis and Discussion, and Quizzes.

**Time Distribution and Study Load:**

- Lectures: 45 hours
- Self-study: 135 hours
- Assignments, presentations and group activities: 18 hours

**Evaluation Scheme:**

Mid-semester examination: 30%

Final examination: 30%

Assignment: 10%

Quizzes: 10 %

Term paper: 20%

Both Mid-semester and Final examinations will be closed book.

Grade "A" will be awarded if a student can demonstrate thorough knowledge and mastery of concepts and techniques and understanding of subject matter with high degree of skill to relate them with real world situations, Grade "B" will be awarded if a student can demonstrate good knowledge and understanding of subject matter with good skill of relating them with real cases. Grade "C" will be given if a student can demonstrate some knowledge of the concepts and understanding but lacks skill of relating them with real world cases. Grade "D" will be given if a student has poor understanding of concepts and techniques with no or little skill to relate with real world cases. Grade "F" will be given if student demonstrates very poor and limited knowledge and understanding of concepts and lacks the skill to relate with real world cases.

**Instructor(s):** Dr. Indrajit Pal