



Approved in 44th BoA Meeting (24-11-2021)

Course number	: HS544
Course Name	: Disaster Risk Management
Credit distribution	: 3-0-0-3
Prerequisites	: None
Intended for	: UG/PG elective
Mutual Exclusion	: None

1. Preamble:

Disaster whether natural, anthropogenic or hybrid disrupts the normal course of life for living as well as non-living entities. While some disasters are inevitably natural and may be beyond human or technological control; many other disasters are closely linked with the path of developments chosen by modern society. Human beings were always exposed to risks, particularly natural risks. For the last couple of centuries, the kind, type as well as intensity of disasters have increased phenomenally particularly with human interventions in natural phenomenon, unchecked exploitation of natural resources, mismanagement and inabilities of regulatory bodies in managing and controlling various human activities that are closely associated with disasters. Industrial pollution, urban by-products, and the casual attitude of people risks the society at large. Further, the exposure to risk and vulnerabilities have universal as well as group specific dimensions. Approaches to mitigate and manage disaster require deeper awareness of the nature of disaster, exposure of varied social groups, available frameworks, policies and conventions. This course equips students with greater understanding of varied dimensions of natural as well as man-made disaster and helps students envisage effective measures, strategies that require adoption not only during disaster but also in pre- as well as post-disaster situations. Such an awareness helps not only in training for preparedness but also in designing approaches for effective planning to reduce and evade significant fatalities and damage. Put succinctly, the curriculum exposes students with varied dimensions of disaster, responses and strategies of people and agencies-- national and international, risk assessment, and techniques of risk management.

2. Course Modules with Quantitative Lecture Hours

Unit I: Understanding Disaster

(12 lecture hours)

Basic Terms and concepts:

Structural failures, Pollution, Accidents, Hazard, Disaster, Catastrophes, Risk, Vulnerability, Resilience

Types of disaster:

Natural disasters: landslide, avalanche, volcanic activities, drought, flood, cyclone, tsunami, earthquake

Anthropogenic disasters: industrial pollution, biological and nuclear disaster, forest fire, oil spills, gas leak, radiations, household waste

Exposure to disaster and abilities to avert risks; and, Resilience

Global Conventions and National Frameworks

Inventories: Maps, Zonation, Scale, Frequency, Return period risk framework

Environmental risks and Climate Change: Global Conventions; National Frameworks

Unit II: Risk Assessment (8 lecture hours)

Hazard analysis: Hazard, vulnerability, susceptibility determination

Consequence analysis: categories, elements of risk, vulnerability

Risk: Analysis, estimation, assessment

Unit III: Risk Reduction Approach (5 lecture hours)

Structural measures

Non-structural measures

Total risk

Acceptable risk

Cost-Benefit Analysis

Unit IV: Response and Disaster Management (10 lecture hours)

Social Response: household, community, administrative

Technical Responses and Management of Disaster

International Conventions and Institutional and Legal Responses:

Disaster Management Act 2005/ Plan 2016/2019

National Policy on Disaster Management

National Guidelines and Plans on Disaster Management,

UNDP, UNDRR, UNSDR guidelines

Unit V: Sendai Risk Framework (7 lecture hours)

Precursors, Framework content, Actions and Schemes,

Risk Governance,

Recovery, Rehabilitate and Reconstruction (R-R-R)

Recent case studies from community level to national level disaster, mini projects (out of class assignments and activities)

3. Text Book:

- (i) Ulrich Ranke. 2016. *Natural Disaster Risk Management: Geosciences and Social Responsibility*. Springer International Publishing
- (ii) R Subramanian, Disaster Management, Vikas Publishing house pvt., ltd., 2018

4. References:

- (i) Pandey, Mrinalini. 2014. *Disaster Management*. Wiley India
- (ii) Ulrich Beck. 1992. *Risk Society: Towards a New Modernity*. Trans. by Mark Ritter. New Delhi: Sage Publications
- (iii) Sendai Framework for Disaster Risk Reduction 2015-2030, UNDRR
- (iv) Recently published reports - UNDRR
- (v) National Disaster Management Guidelines- 2019, NIDM, NDMA, India
- (vi) National Disaster Management Policy, 2009, GoI

(As the changes in disaster management act are drastic, the above references need to be followed as recently published material)

5. Similarity Content Declaration with Existing Courses:

Sl. No.	Course Code	Similarity Content	Approximate % of Content

6. Justification for new course proposal if cumulative similarity content is > 30%:

