

COURSE CONTENT: Urban Hazard and Risk Management
Course Code and Title: URP-302; Urban Hazard and Risk Management
Credit: 3 Credit Hours
CIE Marks: 60
SEE Marks: 40

RATIONALE OF THE COURSE

The course Urban Hazard and Risk Management aims to provide students with a comprehensive understanding of the nature, causes, risks, and impacts of urban hazards, and how these can be managed and mitigated. The course is relevant in the context of rapid urbanization and the increasing exposure of urban populations to various types of hazards. The real estate department has a close relationship with urbanization. The knowledge of hazard and risk assessment is mandatory for urban development. The rationale for the course is to equip students with the knowledge and skills necessary to identify, assess, and manage hazards and risks in urban areas. Urban hazards can have severe consequences for the physical, social, and economic well-being of urban populations, and therefore, it is essential to understand the underlying causes of these hazards and how they can be mitigated. Furthermore, the course also aims to provide students with an understanding of the institutional frameworks and policy interventions necessary for effective hazard and risk management in urban areas and enable them to contribute to building more resilient and sustainable urban communities.

CONTENT OF THE COURSE

SL. NO.	COURSE CONTENT (As Summary)	Hrs.	CLOs
1	Basic Concept of Hazard: Concept of hazard and disaster, Concept of vulnerability (Exposure, Sensitivity, and Adaptive Capacity), Disaster management cycle (Prevention, Mitigation, Preparedness, Response, Recovery, Redevelopment)	6	1
2	Tropical cyclone: General characteristics, Structure, Climatic conditions necessary for formation, Cyclone track, Process of dissipation, Prediction and warning, Effects of cyclone, Cyclone naming, Tropical cyclone in Bangladesh, Warning system in Bangladesh, Building and planning consideration for cyclone-prone areas	9	2
3	Tornado: General characteristics, Structure, Climatic condition necessary for formation, Warning system, Intensity, and scaling, Historical tornados in Bangladesh	3	2
4	Flood: Concept of flood, Types of the flood (riverine flood, flash flood, coastal flood, local/urban flood), Causes of the flood (meteorological, hydrological, anthropogenic), Consequences of a flood, Flood damage reduction measures, Flood related adaptation measures, Nature-based	9	2

	solutions, Agricultural adaptation, Household level adaptation, Community-based adaptation, Types of floodproofing (elevation, relocation, floodwalls, dry flood-proofing, Wet flood-proofing)		
5	Earthquake: Basic concept, tectonic plates, epicenter and hypocenter, seismograph, magnitude, body waves and surface waves, primary waves and secondary waves, earthquake risk in Dhaka, challenges of earthquake mitigation in Dhaka, Building code and construction consideration for earthquake	6	2
6	Fire Hazard: Causes and effects of fire hazard, Measures to reduce risk of fire, Building construction considerations for mitigating fire hazard	6	2
7	Disaster risk management: Disaster risk assessment, Different stages of disaster risk assessment (Need assessment, Hazard assessment, Exposure assessment, Vulnerability analysis, Loss/ impact analysis, Risk profiling and evaluation, Formulation of DRR plan)	6	3
8	Disaster management in Bangladesh: Institutional setup, Current practices in Bangladesh, SOD, National Adaptation Program of Action (NAPA), Bangladesh Climate Change Strategy and Action Plan	6	4

Course Learning Outcome: By the end of the course, students will be able to:

CLO1	Understanding the basic concept of hazard, disaster, and disaster management cycle
CLO2	Analyze the characteristics, causes, and effects of different hazards and application of different strategies to reduce the disaster risk of these hazards
CLO3	Understanding the concept of disaster risk assessment
CLO4	Learning about the disaster management practices in Bangladesh

Mapping of Course Learning Outcomes to Program Learning Outcomes [attainment level used for CLOs from 1(weak)-3(strong) correlation

	PLO's	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO's							
CLO1				3			
CLO2				3			
CLO3			2	3			
CLO4					2		2

Mapping Course Learning Outcome (CLOs) with the Teaching-Learning and Assessment Strategy

CLOs	Teaching-Learning Strategy	Assessment Strategy
CLO1	Lecture, Discussion, Problem-based Exercise	Question & Answer
CLO2	Lecture, Discussion, Problem-based Exercise	Presentation, Quiz, Question & Answer
CLO3	Lecture, Discussion, Problem-based Exercise	Quiz, Question & Answer
CLO4	Lecture, Discussion, Problem-based Exercise	Question & Answer
CLO5	Lecture, Discussion, Problem-based Exercise	Assignment, Question & Answer

ASSESSMENT PATTERN
CIE – Breakup [60 marks]

Bloom's Criteria	Attendance (07)	Class Test (15)	Assignment (05)	Presentation (08)	Mid Exam (25)
Remember	07				
Understand		05		02	05
Apply		05	02	03	10
Analyze		03	03		10
Evaluate		02			
Create				03	

SEE – Semester End Examination [40 marks]

Bloom Criteria	Score for the Test
Remember	05
Understand	05
Apply	10
Analyze	10
Evaluate	05
Create	05

LEARNING MATERIALS

Recommended Reading:

1. Urban Planning and Disaster Risk Management: Risk Perceptions and Social Vulnerability in the Face of Landslides Paperback – October 31, 2011, by Debora Udo Mbeche

Supplementary Readings:

1. Environmental Hazards and Disasters; Contexts; Perspectives and Management (1st Edition), Bimal Kanti Paul.
2. Environmental Hazards: Assessing Risk and Reducing Disaster (4th Edition), Keith Smith
3. Environmental Change and Sustainability (1st Edition) Steven Silvern.