

Course Code	21CEO308T	Course Name	Disaster Mitigation and Management	Course Category	O	Open Elective Course	L	T	P	C
							3	0	0	3

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	Civil	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):		Program Outcomes (PO) (1- Low, 2 – Medium, or High-3)											
CLR-1:	Introduce various types of disasters and role of various stakeholders in disaster management	1	2	3	4	5	6	7	8	9	10	11	12
CLR-2:	Understand various hazards, and health issues on disaster management	Engineering Knowledge	Problem Analysis	Design & Development	Analysis, Design, Research	Modern Tool Usage	Society & Culture	Environment & Sustainability	Ethics	Individual & Team Work	Communication	Project Mgt. & Finance	Life Long Learning
CLR-3:	Understand various phases of disaster management and risk reduction measures	3	-	-	-	-	2	3	-	-	-	-	-
CLR-4:	Acquire knowledge on hazard management systems	3	-	-	-	-	2	3	-	-	-	-	-
CLR-5:	Manage the pre and post disaster scenario	3	-	-	-	-	2	3	-	-	-	-	-
Course Outcomes (CO):		At the end of this course, learners will be able to:											
CO-1:	Understand the role of various stakeholders in risk reduction measures	3	-	-	-	-	2	3	-	-	-	-	-
CO-2:	Acquire knowledge on various modes of hazards and their occurrence	3	-	-	-	-	2	3	-	-	-	-	-
CO-3:	Illustrate key concepts of vulnerability and risk assessment techniques	3	-	-	-	-	2	3	-	-	-	-	-
CO-4:	Evaluate various processes employed in pre-disaster scenarios for risk preparedness	3	-	-	-	-	2	3	-	-	-	-	-
CO-5:	Integrate the management principles in disaster management during post disaster scenario	3	-	-	-	-	2	3	-	-	-	-	-

Unit-1: INTRODUCTION	Disaster Management- History; Global issues- Strategies- Phases- Global & Indian scenario- Major Disasters in India- Disaster Management in India- NDRF; Disaster Management Act (2005); Disaster Management Policy (2009)	9 Hours
Unit-2: HAZARDS	Natural- Geological; Hydrological; Meteorological; Biological- Man Made- Industrial; Health related; Infrastructural; Intentional	9 Hours
Unit-3: VULNERABILITY AND RISK ASSESSMENT	Risk Evaluation- Quantitative & Qualitative; Risk Perception; Vulnerability- Mitigation Measures- Need; Agencies involved; Types; Obstacles involved- Role of Insurance	9 Hours
Unit-4: PRE-DISASTER MANAGEMENT	Integrated Developmental Planning for Disaster Management; Role of Government agencies and NGO's in Mitigation & Management- Vulnerable Groups in Disasters Management; Essential Supplies; Site Management- Role of Technology in Disaster Management; Emergency Management Systems; Role of Remote sensing, GIS and GPS in Disaster Management	9 Hours
Unit-5: POST DISASTER MANAGEMENT	Medical Trauma and Stress Management- Physical and Socio-economic Impacts of Disasters; Emotional Impacts of Disasters- Rehabilitation and Reconstruction; Education and Public awareness; Capacity building	9 Hours

Learning Resources	1. <i>D. Alexander, Natural Disasters, ULC Press, 1999</i>	3. <i>Damon P. Coppola, Introduction to International Disaster Management, 3rd edition, Elsevier, 2015</i>
	2. <i>W.N. Carter, Disaster Management: A Disaster Management Handbook, Asian Development Bank, 2008</i>	4. <i>C.J. Barrow, Developing the Environment: Problems and Management, Harlow: Longman, 1995</i> 5. <i>Disaster Management Act "2005", Ministry of Home Affairs, Govt. of India, 2005</i>

Learning Assessment							
	Bloom's Level of Thinking	Course Learning Assessment(CLA) By the Course Faculty				By the CoE	
		Formative CLA-1 Average of unit test (50%)		Life Long Learning CLA-2 (10%)		Summative Final Examination (40% Weightage)	
		<i>Theory</i>	<i>Practice</i>	<i>Theory</i>	<i>Practice</i>	<i>Theory</i>	<i>Practice</i>
Level 1	Remember	20	-	20	-	20	-
Level 2	Understand	20	-	20	-	20	-
Level 3	Apply	30	-	30	-	30	-
Level 4	Analyze	30	-	30	-	30	-
Level 5	Evaluate	-	-	-	-	-	-
Level 6	Create	-	-	-	-	-	-
	Total	100 %		100 %		100 %	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. <i>Mr. Suyash Misra, Arcadis Consulting India Private Limited, Bangalore.</i>	1. <i>Dr. Vivekanand, Assistant Professor, MNIT, Jaipur</i>	1. <i>Dr. R. Sivakumar, Professor, SRMIST</i>
2. <i>Dr. Rajkumar, Director, Hubert Envirocare Systems, Chennai.</i>	2. <i>Dr. Harish Gupta, Assistant Professor, Osmania University, Hyderabad</i>	2. <i>Dr. P. Purushothaman, Associate Professor, SRMIST</i>