MASTER OF SCIENCE (DISASTER MANAGEMENT)
CENTRE FOR DISASTER MANAGEMENT
MIZORAM UNIVERSITY
COURSE STRUCTURE FOR TWO YEARS PG/ MASTER DEGREE PROGRAMME

	Course Code	Course Name	Total Credit	Mark
FIRST SEMESTER	CDM/MJ/500	Introduction to Disaster & Hazards	3	100
	CDM /MJ/501	Risk & Crisis Management	3	100
	CDM/MJ/502	Environmental Geography	3	100
	CDM/MJ/503	Geography of India	3	100
	CDM/MN/504	Disaster Management	2	100
	CDM/MN/505	Environmental Studies	2	100
	CDM/FP/506	*Urban based field project*	4	100
DMj=9; IMj= 3; DMn=2; IMn=2; FP= 4			**20**	**700**
SECOND SEMESTER	CDM/MJ/550	Research Methodology	3	100
	CDM/MJ/551	Geomorphology	3	100
	CDM/MJ/552	Applied Climatology	3	100
	CDM/MJ/553	Hydrology	3	100
	CDM/MN/554	Geophysical & Climatic Hazards	2	100
	CDM/MN/555	Geoinformatics in Disaster and Climate Studies	2	100
	CDM/FP/556	CSST related Field Project	4	100
	DMj=9; IMj= 3; DMn=2; IMn=2; FP= 4		**20**	**700**
Exit option with PG Diploma with the completion of courses equivalent to 40 credits				
THIRD SEMESTER	CDM/MJ/600	Disaster Risk Reduction & Planning	3	100
	CDM/MJ/601	Remote Sensing & GIS	3	100
	CDM/MN/602	Management of Man-made disasters and Security threats	2	100
	CDM/MN/603	Geography of Mizoram	2	100
	CDM/FP/604	Rural based Field Project	4	100
	CDM/DISS/649	*Dissertation*	6	100
	DMj=6; DMn=2; IMn= 2; FP= 4; DIS= 6		20	600
FOURTH SEMESTER	CDM/MJ/650	Natural Hazards Management	4	100
	CDM/INTS/651	*Internship*	4	100
	CDM/DISS/699	*Dissertation*	12	100
	DMj=3; Ints= 5; DIS= 12		20	300
GRAND TOTAL	DMj=28; IMj= 6; DMn=6; IMn=6; FP= 12; Ints= 4; DIS= 18		**80**	**2300**

DMj= Disciplinary Major IMj= Inter- Disciplinary Major DMn= Disciplinary Minor
IMn= Inter- Disciplinary Minor FP/Ints/Apts= Field Project/ Internship/ Apprenticeship

MASTER OF SCIENCE (DISASTER MANAGEMENT)
FIRST SEMESTER

CDM/MJ/500: INTRODUCTION TO DISASTER & HAZARDS

Credits: 3 **Marks: 20+20+60= 100**
Duration: 3Hrs/ Week

Objectives: To familiarize the students with the concepts and terminologies of Disaster Management.

The end semester question paper shall have 6 questions (two questions from each unit) and the students shall be required to attempt four questions selecting at least one question from each unit

Course content:

UNIT – I

1. Disaster: definition and key concept
2. Typology and classification of disasters
3. Natural disaster& Man-made Disasters

UNIT – II

1. Hazard – Definition; Types of hazards- natural hazards & human induced hazards
2. Geophysical and Climatic hazards
3. Environmental hazards

UNIT – III

1. Vulnerability – Definition; Types of vulnerability
2. Risk – Definition; Significance; Factors of disaster risk
3. Definitions and concept of- Capacity & Resilience

Suggested readings:-

1. Coppola, D.P. (2015). Introduction to International Disaster Management. Butterworth-Heinemann, Oxford, UK.
2. Govt. of India: Disaster Management Act 2005, Government of India, New Delhi.
3. Hyndman, D. and D. Hyndman, Natural Hazards and Disasters, 2nd edition. USA, Belmont: Brooks/Cole, 2009.
4. Keller E.A. and DeVecchio D.E. (2012): Natural Hazards, Pearson Prentice Hall, USA.
5. NDMA: Handbook on Disaster Management for Nodal Officers (Compilation), National Institute of Disaster Management, New Delhi.
6. Quarantelli, E. L. (Ed.). (1998). What is a disaster? Perspectives on the Question. London: Routledge
7. Rodríguez, H., Donner, W., Trainor, J. E., (Eds.). (2018). Handbook of Disaster Research, 2nd Edition, Springer, Gewerbestrasse Cham, Switzerland
8. Sati, V. P. 2014. Disaster Management and Risk Reduction. Pointer Publishers, Jaipur
9. Smith, K. (1996): Environmental Hazards, Routledge, London.

CDM/MJ/501:RISK & CRISIS MANAGEMENT

Credits: 3 **Marks:20+20+60= 100**
Duration: 3Hrs/ Week

Objectives: To provide the students with an opportunity to understand disaster risk and crisis management and to minimize effects of disaster.

The end semester question paper shall have 6 questions (two questions from each unit) and the students shall be required to attempt four questions selecting at least one question from each unit

Course content:

UNIT-1: Risk Management

1. Preventive measures for different hazards- Earthquake, landslide, flood, drought, cyclone, forest fire
2. Early warning and dissemination system
3. Preparedness measures- Use of GIS for vulnerability analysis, Techno- legal regime, Disaster Management Information System

UNIT-2: Crisis Management

1. Incident Response System (IRS)
2. Characteristics and role of NDRF and SDRF
3. Characteristics of NDMA for mitigation works
4. Sendai Framework for Disaster Risk Reduction

UNIT-3

1. Non- Structural Mitigation
2. Legal framework for hazard mitigation
3. Disaster Management Plan
4. Disaster Psychological Care

Suggested readings:-

1. Coppola, D.P. (2015). Introduction to International Disaster Management. Butterworth-Heinemann, Oxford, UK.
2. Govt. of India: Disaster Management Act 2005, Government of India, New Delhi.
3. Gupta A.K., Nair S.S. and Singh S. (2013): Environmental legislation for disaster risk management, NIDM & GIZ, New Delhi.
4. Hyndman, D. and D. Hyndman, Natural Hazards and Disasters, 2nd edition. USA, Belmont: Brooks/Cole, 2009.
5. Keller E.A. and DeVecchio D.E. (2012): Natural Hazards, Pearson Prentice Hall, USA.
6. NDMA: Handbook on Disaster Management for Nodal Officers (Compilation), National Institute of Disaster Management, New Delhi.
7. Satapathy S. (2009): Psychological care in Disaster Management: A training of trainers (ToT) module, NIDM, New Delhi

CDM/MJ/502: ENVIRONMENTAL GEOGRAPHY

Credits: 3 **Marks: 20+20+60=100**
Duration:3Hrs/Week

Objectives: To develop an understanding of basic principles of Environmental Geography associated with man's life and his survival. The focus will be on environmental issues at local, regional, and global levels and conservation and management options to ensure ecologically sustainable development patterns.

The end semester question paper shall have 6 questions (two questions from each unit) and the students shall be required to attempt four questions selecting at least one question from each unit.

Course Contents:

UNIT - I

1. Meaning and Scope of Environmental geography: Basic Principles Relating to Man-Environment Symbiosis: Principle of Terrestrial Unity, Concept of Genre-de-vie.

2. Composition and Structure of Environment.

3. Ecosystems: Meaning, Structural and Functional Components

4. Ecological Production and Energy Flow in the Ecosystem

UNIT – II

5. Bio-geochemical Cycles: Hydrological Cycle, Gaseous Nutrient Cycles and Sedimentary Cycles.

6. Extreme Events: Atmospheric and Terrestrial Hazards and Disasters.

7. Environmental Degradation: Natural and Man-Made, Pollution, Climate Change and Global Warming.

8. Environmental Hazards and Disasters with Special Reference to North-East India.

UNIT - III

9. Environmental Impact Assessment.

10. Environmental Conservation and Associated Movements.

11. Environmental Policies, Acts and Regulations: Global and National.

12. Environmental Issues and International Co-operations-Earth Summit, Kyoto Protocol and Carbon Trading

Suggested readings:

1. Clarke, R. ed. (2000): Global Environmental Outlook,Earthscan, London.
2. GJ oudie, A. (1989): The Nature of the Environment, Basil Blackwell, Oxford.
3. Nag, P., Kumra, V.K. and Singh, J. (1997): Geography and Environmental Issues at Local, Regional and National Levels, Concept, New Delhi.
4. Odum, E.P. (1975): Ecology, Oxford and IBH, Calcutta.
5. Reid, S. (2000): Sustainable Development, Earthscan, London.
6. S.L. Kayastha and V.K. Kumra (1986): Environmental Studies, Tara Book Agency, Varanasi.
7. Sati, V.P. (2012): An Introduction to Environment, Rawat Publications, Jaipur
8. Savindra Singh (2002): Environmental CDMraphy, Prayag Pustak Bhawan, Allahabad.
9. Smith, K. (1996): Environmental Hazards, Routledge, London.

CDM/MJ/503: GEOGRAPHY OF INDIA

Credits: 3 **Marks: 20+20+60=100**
Duration:3Hrs/Week

Objectives: To impart knowledge about the resource base, patterns of resource Utilization and economic activities, nature of spatial linkage and development constraints and potentials of India and its regions so that students can better comprehend development issues, policies and programmes designed for regional development.

The end semester question paper shall have 6 questions (two questions from each unit) and the students shall be required to attempt four questions selecting at least one question from each unit.

Course Contents:

UNIT – I

1. Geostrategic Location of India.
2. Unity in Diversity and its Significance.
3. Structure, Relief and Physiographic Divisions, Drainage Systems and Climate.
4. Characteristics, Origin and Mechanism of the Indian Monsoon.

UNIT - II

5. Agricultural Characteristics and Recent Trends.
6. Agriculture Regions.
7. Green Revolution and its Impacts.
8. Forest Resources: Distribution, Utilization and Current Issues.

UNIT – III

9. History of Industrial Development and New Industrial Policies.
10. Industrial Complexes and Regions.
11. Macro Regions: Delineation, Resource Base and Pattern of Resource Utilization, Population-Development-Environment Interface.
12. Regional Study of Mizoram and Meghalaya.

Suggested readings:

1. D.R. Khullar (2000): INDIA, A comprehensive Geography, KalyaniPubls, Ludhiana & New Delhi.
2. Deshpande, C.D. (1992): India: A Regional Interpretation, ICSSR, New Delhi.
3. Dutta, Ray B., (1978): Social and Economic Profile of N.E. India, B.R. Publishing, New Delhi.
4. Gopalakrishnan, R. (1991): North-East: Land, People and Economy, Vikas, New Delhi.
5. J. Singh (2003) :India. Gyanodaya Prakashan, Gorakhpur.
6. Kumar, Girindra (2012): Dynamics of Development and Planning, Kalpaz, New Delhi.
7. O.H.K. Spate and A.T.A. Learmonth (1968): India - A General and Regional Geography, Methuen, London.
8. P. Nag and SmitaSen Gupta, (1993): India, Concept, New Delhi.
9. R.L. Singh (Ed.) (1971): India: A Regional Geography, NGSI, Varanasi.
10. R.N. Dubey, L.R. Singh and B.S. Negi: Economic Geography of India.
11. Sharma, R.C. (2003): Geography of India, Jawahar Books, New Delhi.

CDM/MN/504: DISASTER MANAGEMENT

Credits: 2 **Marks:20+20+60= 100**
Duration: 2Hrs/ Week

Objectives: To provide students an exposure to disasters, their significance and types and to ensure that students begin to understand the relationship between vulnerability, disasters, disaster prevention, and risk reduction. It also aims to gain a preliminary understanding of approaches of Disaster Risk Reduction, and enhance awareness of the institutional processes.

The end semester question paper shall contain 6 questions (3 questions from each unit) and the students shall be required to answer 2 questions from each unit.

Course content:

UNIT – I

1. Introduction to Disaster: Nature and Scope
2. Concepts and definitions (Disaster, Hazard, Vulnerability, Risk, and Resilience)
3. Disasters: Classification, Causes, and Impacts
4. Current Trends of Disasters in Northeast India

UNIT – II

5. DM Cycle; Approaches to Disaster Risk Reduction (DRR)
6. Prevention, mitigation, and preparedness
7. Community based DRR
8. Hazard and Vulnerability profile of India

Suggested readings:-

1) Coppola, D.P. (2015). Introduction to International Disaster Management. Butterworth-Heinemann, Oxford, UK.
2) Govt. of India: Disaster Management Act 2005, Government of India, New Delhi.
3) Hyndman, D. and D. Hyndman, Natural Hazards and Disasters, 2nd edition. USA, Belmont: Brooks/Cole, 2009.
4) Kapur Anu 2010: Vulnerable India: A CDMraphical Study of Disasters, IIAS and Sage Publishers, New Delhi
5) Keller E.A. and DeVecchio D.E. (2012): Natural Hazards, Pearson Prentice Hall, USA.
6) NDMA: Handbook on Disaster Management for Nodal Officers (Compilation), National Institute of Disaster Management, New Delhi.
7) Sati, V. P. 2014. Disaster Management and Risk Reduction. Pointer Publishers, Jaipur

CDM/MN/505: ENVIRONMENTAL STUDIES

Credits: 2 **Marks: 20+20+60= 100**
Duration: 2Hrs/ Week

Objectives: The focus will be on environmental issues at local, regional and global levels and conservation and management options to ensure ecologically sustainable development patterns.

The end semester question paper shall contain 6 questions (3 questions from each unit) and the students shall be required to answer 2 questions from each unit.

Course content:

UNIT – I

1. Composition and Structure of Environment.

2. Ecosystems: Meaning, Structural and Functional Components

3. Extreme Events: Atmospheric and Terrestrial Hazards and Disasters.

4. Environmental Degradation: Natural and Man-Made, Pollution, Climate Change and Global Warming

UNIT – II

5. Environmental Impact Assessment.

6. Environmental Conservation and Associated Movements

7. Environmental Policies, Acts and Regulations: Global and National

8. Environmental Issues and International Co-operations-Earth Summit, Kyoto Protocol and Carbon Trading

Suggested readings:-

1) Clarke, R. ed. (2000): Global Environmental Outlook, Earthscan, London.
2) Joudie, A. (1989): The Nature of the Environment, Basil Blackwell, Oxford.
3) Nag, P., Kumra, V.K. and Singh, J. (1997): CDMraphy and Environmental Issues at Local, Regional and National Levels, Concept, New Delhi.
4) Odum, E.P. (1975): Ecology., Oxford and IBH, Calcutta.
5) Reid, S. (2000): Sustainable Development, Earthscan, London.
6) S.L. Kayastha and V.K. Kumra (1986): Environmental Studies, Tara Book Agency, Varanasi.
7) Sati, V.P (2012): An Introduction to Environment, Rawat Publications, Jaipur
8) Smith, K. (1996): Environmental Hazards, Routledge, London.
9) Smith, R.L. (1992): Man and his Environment : An Ecosystem Approach, Harper & Row, London.
W.C.E.D. (1987)

CDM/FP/506: URBAN BASED FIELD PROJECT

Credits: 4 **Marks: 100**

Duration: 4Hrs/ Week

Objectives: To expose students to study Disaster Management Plan (Institution/ Locality/ Area), hazard assessment, vulnerable assessment and risk assessment within urban area. The students have to write a report on this project.

The end-semester examination will consist of two parts:

A. Project Report	:	70 Marks
B. Viva-voce	:	30 Marks

The examination shall be conducted by 2 examiners of which one should be an external examiner.