



# **Operationalizing Disaster Management Training Programmes in Developing Countries Universities.**

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# University of Cape Coast



No. of students: 52000  
Regular: 17000  
Distance Education: 35000

## Mandate of the University

- Teaching
- Research
- Outreach





# Ghana





# Background



Major incidence of disasters in Ghana is from

- Floods,
- Earthquakes
- Landslides
- epidemics,
- fire,
- pests and diseases
- and conflicts.



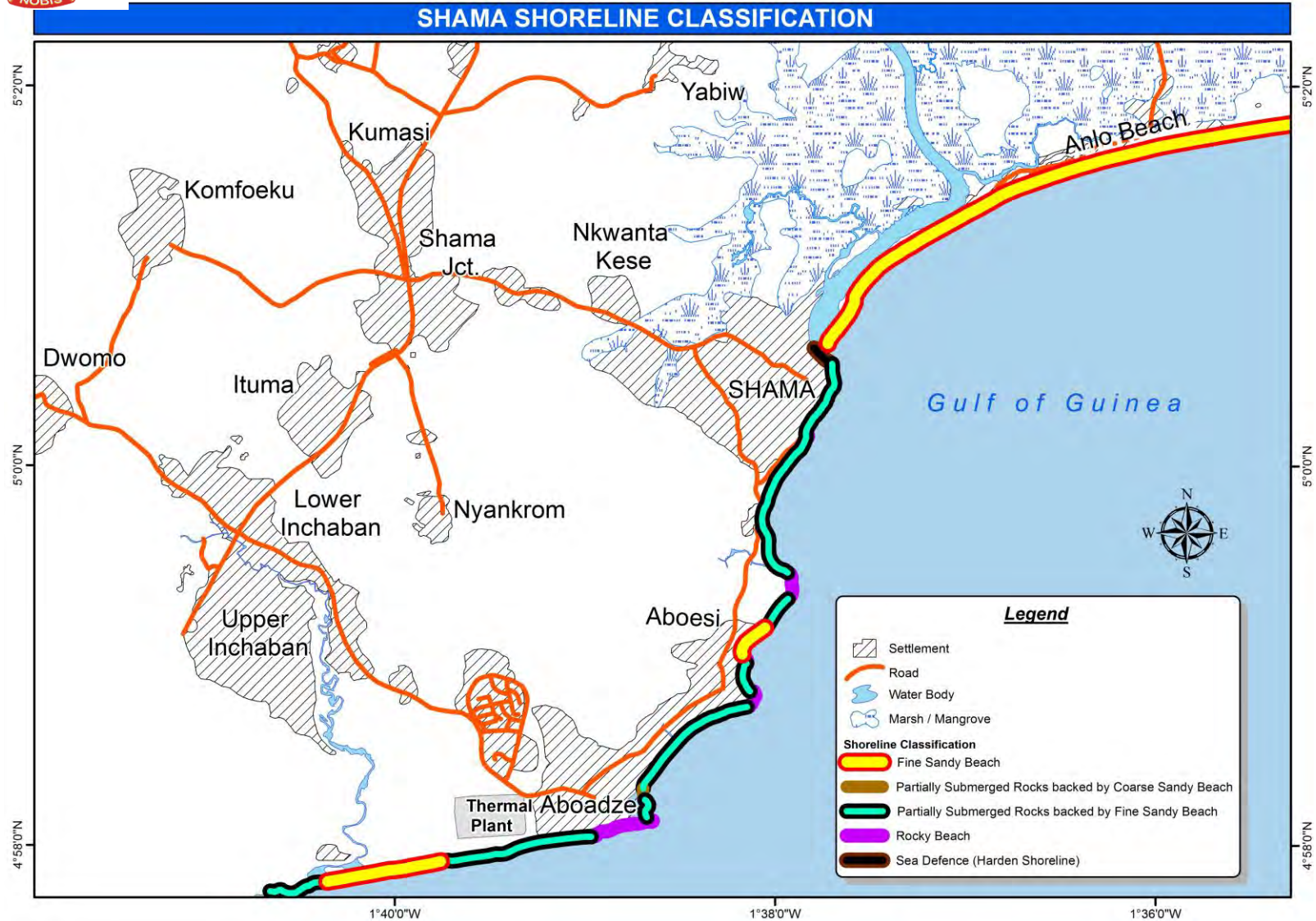
# Research on Risk Assessment

- Participatory Approach
- Models: Hydrological, Statistical
- Image Processes





# Participatory GIS Mapping



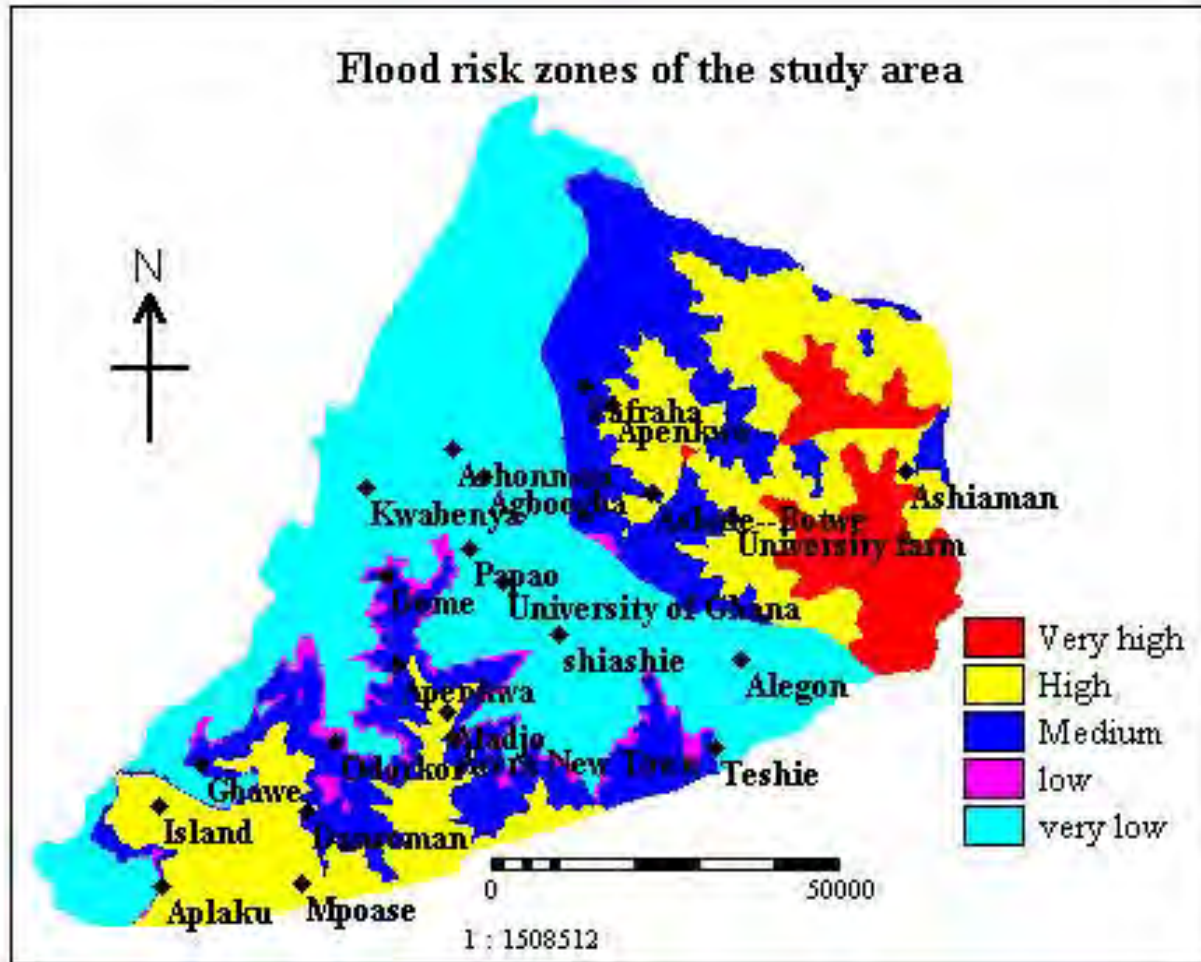


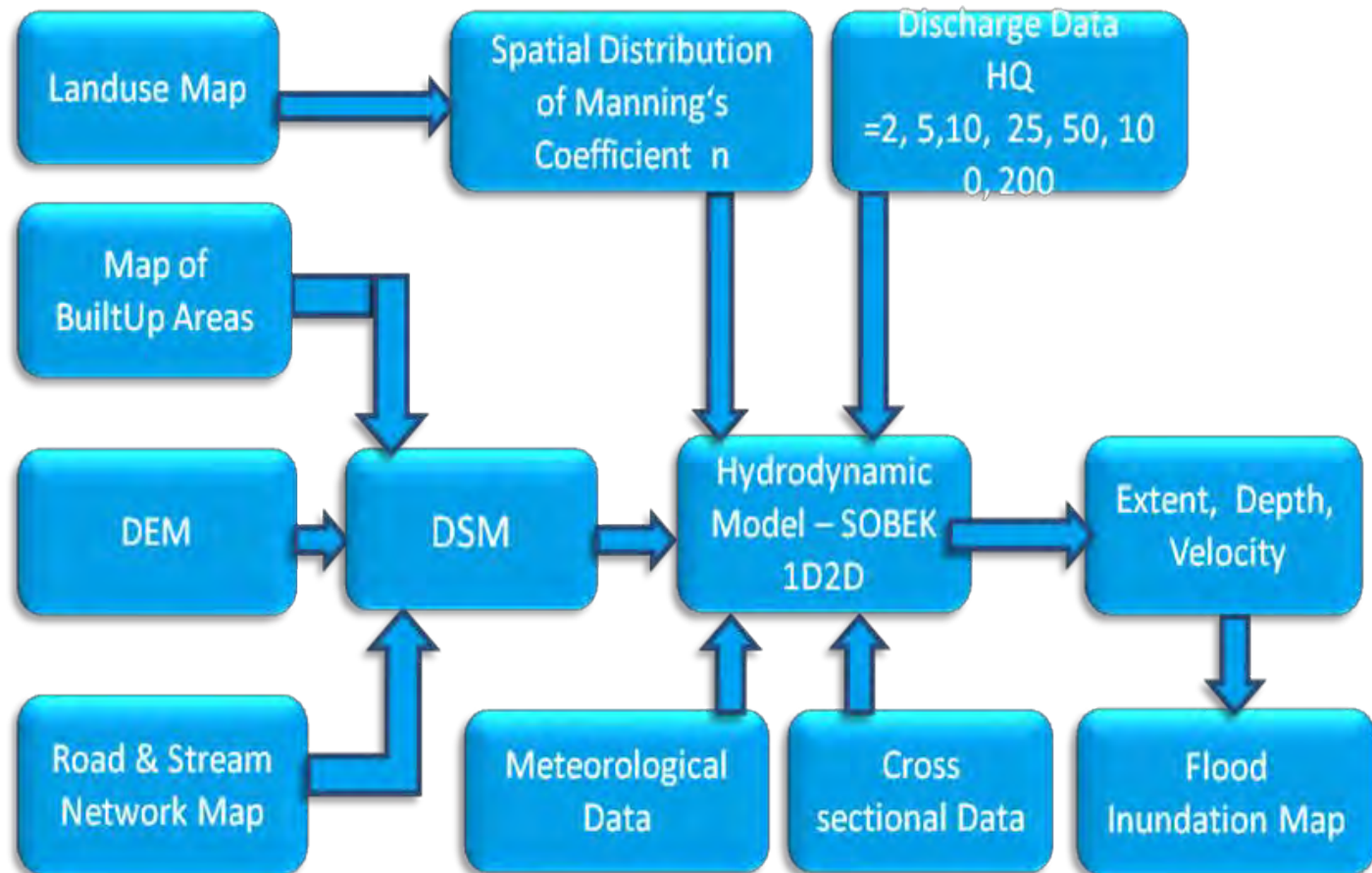
Figure 1.7 Flood risk zones of the study area

Table 1.2 Flood Risk Zone Coverage (Source: Figure 1.7)  
Modified Rational Model operationalized within a GIS Platform (ILWIS)

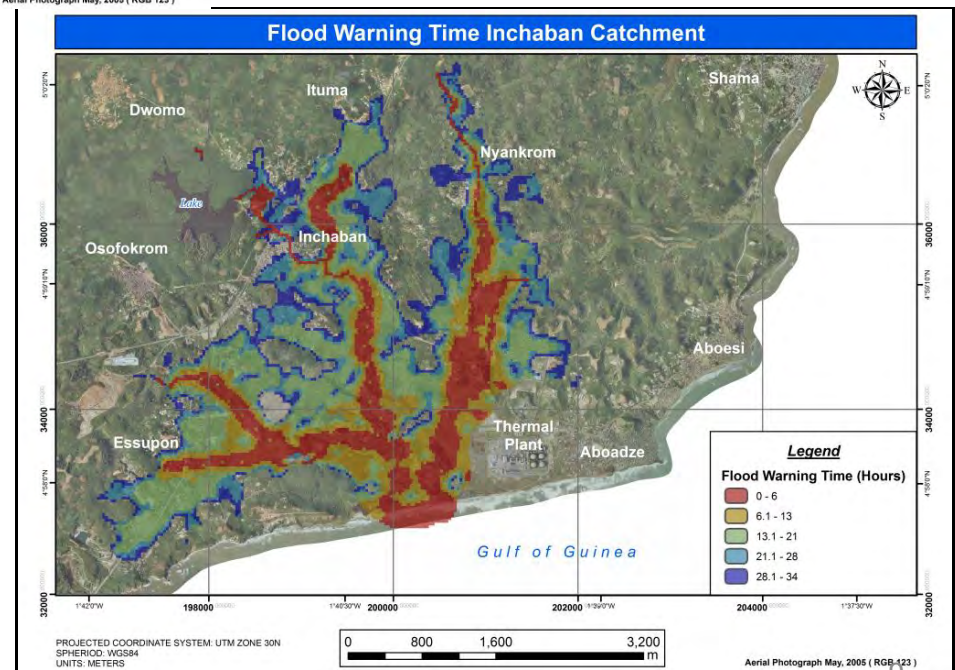
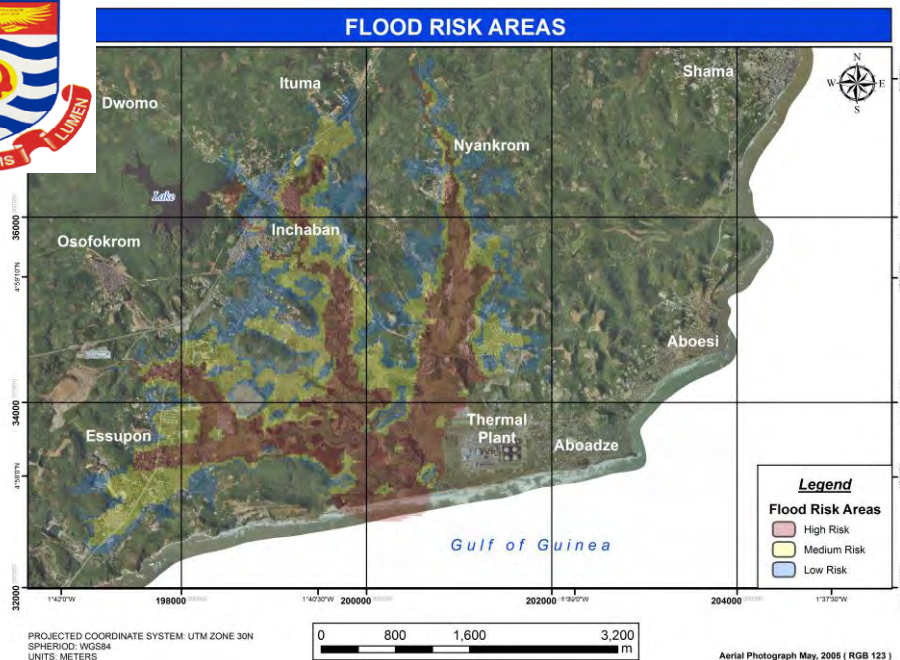
Flood Intensities	Area (m <sup>2</sup> )	%
Low	2269185000	26.85
Medium	2652485000	31.39
High	2012887500	25.66



# FLOOD MAPPING

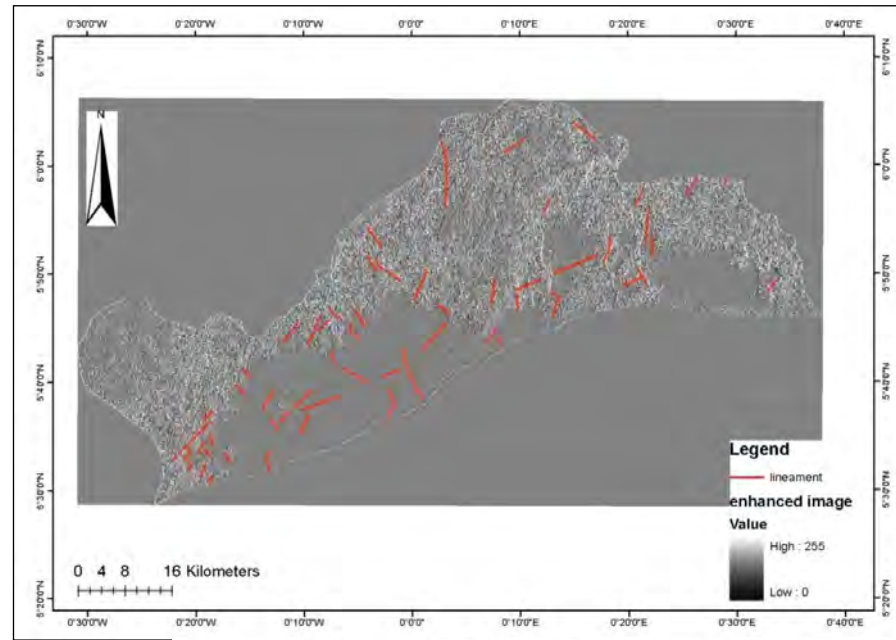




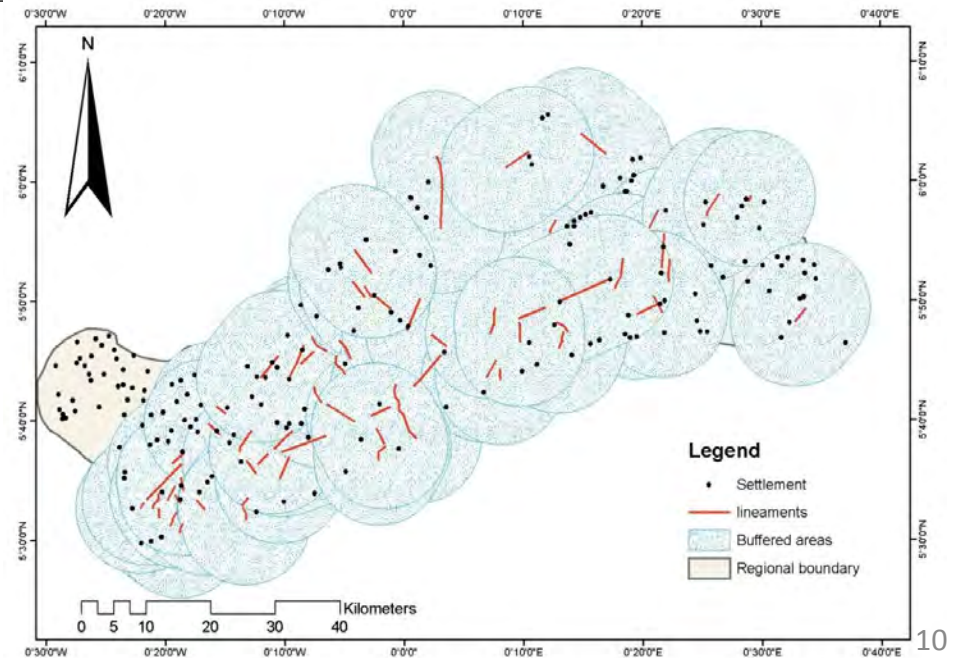




## Use of Filters to Identify Geological Lineaments



## Buffer constructed around the settlements





# Corporate Strategic Plan



- UCC Corporate Strategy Trust 3, 2006, p.12
- University, which tasks Departments/Units/Institutes to vigorously pursue distance education, develop new and relevant programmes and periodically review existing ones.



# SANDWICH COURSE DISASTER MANAGEMENT



- The specific objectives are to:
  - Provide opportunities for persons involved in disaster management to up-grade their knowledge and skills;
  - Contribute to the development of a body of knowledge on issues of hazards/disasters and their prevention and management; and
  - Collaborate with agencies involved in disaster/hazard management to develop continuing education and research agenda in the area.



# Target Group



- Administrative; Mining, electrical, civil and mechanical engineers; forestry and related personnel;
- Personnel from the Ghana Armed Forces, the Police Service, Fire Service, Prisons Service, Immigration Service, Customs, Excise and Prevention Service (CEPS), industries, Ministry of Health (MOH), Non-governmental Organizations (NGOs), the Environmental Protection Agency (EPA) and the National Disaster Management Organization (NADMO), District Assemblies





# Courses Content



- DMS 501: Environmental Resource Management and Policy
- DMS 502: Concepts and Models in Environmental Risks and Hazards
- DMS 503: Research Methods
- DMS 504: Environmental Degradation and Remedies
- DMS 505: Remote Sensing and Geographic Information Systems (GIS)
- DMS 506: Vulnerability and Risk Assessment
- DMS 507: Disaster Preparedness Planning and Education
- DMS 508: Environmental Law and Policy
- DMS 509: Quantitative and Statistical Methods
- DMS 510: Geo Hazards and Image Interpretation
- DMS 511: Operational Issues in Risk Assessment & Disaster Management
- DMS 512: Fieldwork and Seminars
- DMS 599: Dissertation/Project



**UNIVERSITY OF CAPE COAST**  
**DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING**  
**MASTER OF SCIENCE (SANDWICH) PROGRAMME – 1<sup>ST</sup> SEMESTER,**  
**2013/2014**



**DMS 802S: CONCEPTS AND MODELS IN DISASTER RISK AND HAZARDS**

**Instructor:** Dr. Benjamin Kofi Nyarko and Mr Emmanuel A. Mensah

**Class Schedule:** Refer to Timetable

**Office:** Dept of Geography & Regional Planning, Room # 226

**Course Description:** The 3 credit hour course focuses on relevant concepts and models underlying disaster risk management. Stages in the disaster risk management cycle and international initiatives such as the Hyogo framework for disaster risk management as well as paradigms in vulnerability assessments will be examined. Strategies for disaster risk mitigation and response planning at various levels of administration will also be examined.

**Course Schedule:**

WEEK #	TOPIC
1	Definition, importance and characteristics of a model <ul style="list-style-type: none"><li>• Model development</li><li>• Types of models-Conceptual, analytical etc</li></ul>
2	System Concept and system thinking
3	Understanding the Concept disaster, Risk and Hazard Disasters and sustainable Development. Socio economic impact of disasters.
4	Models in Risk Assessment Definition, characteristics and classification of Hazards Analysis of selected Hazards
5	Theoretical Approaches to vulnerability
6	Participatory GIS for disaster risk assessment
7	Models in Disaster Mitigation and Preparedness Planning
8	Review of concepts

**Assessment:**

Evaluation is based on:

Assignment: 10 Marks

Quiz: 20 Marks

Field Exercise: 10 Marks



# WAY FORWARD



- Tailored Made Courses
- Data gathering
  - Use of WIFI's System
  - Micro systems for data gathering (Using Raspberry Pi)
  - Community NADMO Groups
- University of Cape Coast
  - Laser and Fibre Optic Centre
  - Computer Science
  - Cape Coast Polytechnics



# Co-operation



- Curriculum Review
- Modular Programme
- Upgrade of Faculty in emerging spatial techniques
- Studios for practical Works







Thank You



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