Climate Change Impacts and Adaptation in Himalaya

**Semester -III: July - December 2020**

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| Cooordinator | Will be Decided after the Course Has been Approved by the University |
| Credits | 100 Marks [4 Credits]\* |
| Lecturers | Will be Decided after the Course Has been Approved by the University |
| Level | M.A./M.Sc. |
| Host institution | Department of Geography, Faculty of Arts, Kumaun University, Nainital |
| Course duration | One Semester [July - December] Likely to Start in July 2020 |

### Summary

*This one full semester course provides the Master level students of Geography basic understanding of climate change and its fundamental concepts; and knowledge about the rends of Climate Change in Himalaya. Besides, it will also introduce students to climate change induced natural disasters, climate change vulnerability assessment; and methods, techniques and approaches of climate change adaptation in Himalaya. The course includes individual assignments.*

### Target Student Audiences

Semester - III Students of M.A./M.Sc.

### Prerequisites

Required Courses (or equivalents):

* Environmental Management
* Ecology
* Introduction to Computer Science or Information Technologies,
* Environmental Management

### Aims and Objectives

This course has been designed with a view to help students in developing a comprehensive understanding and knowledge of the impacts of climate change in Himalaya and the need of evolving and implementing effective adaptation strategies. The main objectives of the course are: (i) to help students in understanding the increasing impacts of climate change on natural and socio-economic systems in Himalaya; (ii) to provide students with the state-of-art recent knowledge about the climate change induced natural disasters in Himalaya; and (iii) to appraise students about the need of developing effective climate change adaptation strategies and mainstreaming climate change adaptation in development planning.

### General Learning Outcomes:

By the end of the course, successful students will:

* Understand the fundamental concept and science of climate change,
* Learn the trends and impacts of climate change in Himalaya,
* Gain adequate knowledge of the climate change induced natural disasters,
* Understand climate change vulnerability assessment techniques, tools and methods,

\* ***Note: Kumaun University has Mark System at all Levels***

* Develop comprehensive understanding of climate change adaptation approaches and strategies for the Himalayan mountains
* Understand the concept of science-policy interfaces in climate change adaptation,
* Understand the role of local institutions in climate change adaptation

### Overview of Sessions and Teaching Methods

The course will make most of interactive and self-reflective methods of teaching and learning including mainly lectures and presentations. It will start with an overview of climate change science and global climate change trends. Subsequent sessions will combine interactive lecturing on different course components divided up into 5 Units, and individual assignments. The third part of the course is built around supervised preparation of short interdisciplinary dissertation by students.

### Course Workload

The table below summarizes course workload distribution:

|  |  |  |  |
| --- | --- | --- | --- |
| **Activities** | **Learning outcomes** | **Assessment** | **Estimated workload (hours)** |
| **In-class activities** | | | |
| Lectures and Presentations | **Unit I - Climate Change:** Understanding climate change; Concept of climate change; Global Trends of Climate Change; Assessment of Climate Change over mountains | End Semester Written Examination | 08 |
| Lectures and Presentations | **Unit II - Trends of Climate Change in Himalaya:** Himalaya as Climate Change Hot Spot; Trends of Climate Change in Himalaya - Rainfall, Temperature and Extreme Weather Events | End Semester Written Examination | 08 |
| Lectures and Presentations | **Unit III - Climate Change Induced Natural Disasters:** Understanding Linkages between climate change and natural disasters; Droughts and High Intensity Rainfall and their impacts of natural system, society and economy | End Semester Written Examination | 08 |
| Lectures and Presentations | **Unit IV - Climate Change Vulnerability and Risk**: Concept of Vulnerability and Risk; Assessment of Climate Change Vulnerability and Risk; Upstream-downstream linkage of Climate Change | End Semester Written Examination | 08 |
| Lectures and Presentations | **Unit V - Climate Change Adaptation in Himalaya:** Concept of Climate Change Adaptation; Types of Climate Adaptation; Role of Local Institutions in climate Change Adaptation; Mainstreaming Climate Change Adaptation and Disaster Risk Reduction into Development Planning; Community Based Climate Change Adaptation | End Semester Written Examination | 08 |
| **Independent work** | | | |
| * Individual Assignments | Ability to interpret data, and to use the concepts, tools, and methods for communicating information | Individual Presentations | 20 |
| ***Total*** |  |  | ***60*** |

### Grading

The students’ performance will be based on the following:

* Written performance at the end Semester Written Examination 75%
* 25% based on the evaluation of 2 individual Assignments and attendance in classroom lectures

### Course Schedule: Semester-III: July - December 2020 [Proposed]

### Course Assignments

The Structure of Course Assignments will be as follows:

* The Course Teacher will set 5 detailed answer Questions one each from 5 Units.
* Each of the students will have answer 2 questions of his/her choice before the commencement of the Semester End Examinations.

**Literature**

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