



# FUNDAMENTALS OF CLIMATE CHANGE AND NATURAL DISASTERS (3 ECTS)

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## Summary

The module equips students with the basics of climate, natural disasters and climate change, and scenarios of change in climate change research., Impacts of natural disasters and climate change aspects of life, production, identification of impact mitigation and adaptation measures, and disaster management.

## Aims and objectives

The main course objective is to equip students with knowledge of:

- Identify climatic phenomena and to explain on the basis of science.
- Identify Global Climate Change and Sea Level Rise and Climate Change and Sea Level Rise in Vietnam & Mekong Delta.
- Identify Impacts of Climate Change and Sea Level Rise globally, Vietnam & Mekong Delta.
- Effective solutions to mitigate and adapt to climate change and sea level rise, examples in Vietnam and the Mekong Delta

## Authentic Tasks:

### Desired learning outcomes:

By the end of the course, successful students will:

#### Knowledge

- The basics of climate, natural disasters and climate change, change scenarios in climate change research.
- Impacts of natural disasters and climate change. impact on life, rural production, urban development, ecological and socio-economic environment, impact mitigation and adaptation measures, and disaster management.

#### Comprehensive

- Understand the basics of climate change, natural disasters and climate change, and change scenarios in climate change research.

#### Application

- Impact minimization and adaptation measures.

#### Analysis

- Analysis of impacts of natural disasters and climate change on livelihoods, rural production, urban development, ecological environment and socio-economic.

#### Synthesis

- Coursework is part of the Disaster Management system

## Overview of sessions and teaching methods

The course will make most of interactive and self-reflective methods of teaching and learning and, where possible, avoid standing lectures and presentations.





## Learning methods

- Video presentations
- Group work, write articles / essays
- Project Based Learning
- Literature review
- Stakeholder analysis / customer consultation

## Literature

### - Compulsory

- [1] Nguyen Duc Ngu (2008). Climate Change. Science and Technics Publishing House, Hanoi
- [2] Joel B. Smith, Richard J.T. Klein and Saleemul Huq (2003). Climate change, adaptive capacity and development, Imperial College Press, London
- [3] Thomas E. Downing, Alexander J. Olsthoorn, Richard S.J. Tol (1999). Climate, change and risk. Taylor & Francis e-Library, London and New York.
- [4] Lê Quang Tri, Le Anh Tuan, Nguyen Hieu Trung, Đàng Kieu Nhan, Van Pham Dang Tri, Nguyen Thanh Binh, Dao Trong Tu, Lam Thi Thu Suu, Ngụy Thi Khanh, Dinh Diep Anh Tuan (2015): Managing the Risks from Climate Extremes at the Local Level. In: Viet Nam Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation [Tran Thuc, Koos Neefjes, Ta Thi Thanh Huong, Nguyen Van Thang, Mai Trong Nhuan, Le Quang Tri, Lê Đình Thanh, Huynh Thi Lan Huong, Vo Thanh Son, Nguyen Thi Hien Thuan, Lê Nguyen Tuong], Viet Nam Publishing House of Natural Resources, Environment and Cartography, HaNoi, Vietnam, pp. 189-226, ISBN 978-604-904-623-0.
- [5] TTK & SEA START RC, 2009. Water and Climate Change in the Lower Mekong Basin: Diagnosis & recommendations for adaptation, Water and Development Research Group, Helsinki University of Technology (TTK), and Southeast Asia START Regional Center (SEA START RC), Chulalongkorn University, Water & Development Publications, Helsinki University of Technology, Espoo, Finland

### - Literature

Technical reports, articles and articles on websites of Universities, Research Institutes, and Journal of Specialized Science.