



Marine Coastal and Delta Sustainability for Southeast Asia

610327-EPP-1-2019-1-DE-EPPKA2-CBHE-JP



# COURSE PRESENTATION

## FUNDAMENTALS OF CLIMATE CHANGE AND NATURAL DISASTERS

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# OVERVIEW

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- This is for course **FUNDAMENTALS OF CLIMATE CHANGE AND NATURAL DISASTERS**
- Site URL: <https://elearning.ctu.edu.vn/course/view.php?id=2445>
- Language: Vietnamese + English
- Modules:
  - Basics on Climate Sciences
  - Natural Disasters Phenomena
  - Climate Change and Sea Level Rise
  - Impacts of Climate Change and Sea Level Rise
  - Response to Climate Change and Sea Level Rise
  - Management of Natural Disaster Risks





# MAIN PAGE



Lecturer: Assoc. Prof. Dr. Le Anh Tuan

Email: latuan@ctu.edu.vn

	Course summary	<input checked="" type="checkbox"/> <a href="#">Chỉnh sửa</a>
	Syllabus	<input checked="" type="checkbox"/> <a href="#">Chỉnh sửa</a>
	Demonstration of learning	<input checked="" type="checkbox"/> <a href="#">Chỉnh sửa</a>
	Chapter 01: Basics on Climate Sciences	<input checked="" type="checkbox"/> <a href="#">Chỉnh sửa</a>
	Chapter 02: Natural Disasters Phenomena	<input checked="" type="checkbox"/> <a href="#">Chỉnh sửa</a>
	Chapter 03: Climate Change and Sea Level Rise	<input checked="" type="checkbox"/> <a href="#">Chỉnh sửa</a>
	Chapter 04: Impacts of Climate Change and Sea Level Rise	<input checked="" type="checkbox"/> <a href="#">Chỉnh sửa</a>
	Chapter 05: Response to Climate Change and Sea Level Rise	<input checked="" type="checkbox"/> <a href="#">Chỉnh sửa</a>
	Chapter 06: Management of Natural Disaster Risks	<input checked="" type="checkbox"/> <a href="#">Chỉnh sửa</a>
	Link khảo sát khi kết thúc khóa học	<input checked="" type="checkbox"/> <a href="#">Chỉnh sửa</a>
	THE QUIZ TEST for Subject Code: ER601	<input checked="" type="checkbox"/> <a href="#">Chỉnh sửa</a>

## Course summary

- Lecturer: Assoc. Prof. Dr. Le Anh Tuan
- Email: latuan@ctu.edu.vn

**Course Name:** FUNDAMENTALS OF CLIMATE CHANGE AND NATURAL DISASTERS

**The target audience:** Master students in Climate Change & Delta Management

**Number of credits:** 3 ECTS

**Type of the course:** Required courses New/ updated course: .....

**The percentage of updated course:** 20% Key competences of updated course/new course: Adaptation Models in Agriculture and Aquaculture in the Mekong River Delta

**Course developers:** (name, organization): Le Anh Tuan, Can Tho University, Vietnam Briefly

### Course contents:

- Chapter 1: Basics on Climate Sciences
- Chapter 2: Natural Disasters Phenomena
- Chapter 3: Climate Change and Sea Level Rise
- Chapter 4: Impacts of Climate Change and Sea Level Rise
- Chapter 5: Response to Climate Change and Sea Level Rise
- Chapter 6: Management of Natural Disaster Risks

**Teaching methodologies:** Interactive and self-reflective methods of teaching and learning.

### Form of control:

- Progress assessment (10%)
- Group report (30%):

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Teaching methodologies: Interactive and self-reflective methods of teaching and learning.

### Form of control:

- Progress assessment (10%)
- Group report (30%)
- Final examination (60%)

### Teaching and learning materials (TLM)

Chapter 1. Basics on Climate Sciences	
Learning objectives	Equip climate science background, climate system concepts and related weather elements
Learning outcomes	Knowledge and Skills to identify climatic phenomena and to explain on the basis of science
Student deliverables	Questions & Answers and Plenary Discussion
Topic materials	[1] Nguyen Duc Ngu (2008). Climate Change. Science and Technics

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## End of Course Survey(MARE Courses)

All information obtained from this form will be protected. Thank you for your responses.

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\* **Biểu thị câu hỏi bắt buộc**

Email \*

Email của bạn

Program \*

- Bachelor of Engineering
- Master of Science
- Master of Engineering

Attended MARE Course

- Fundamentals of climate change and natural disaster

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# LESSON PLAN



## 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

- Project Based Learning
- Literature review
- Stakeholder analysis / customer consultation

### Course outline

Week 1	Chapter 1: CLIMATE CHANGE MITIGATION AND ADAPTATION
Week 2	Chapter 2: VULNERABLE, RESILIENCE, AND COPING STRATEGY
Week 3	Chapter 3: GRID ECO-SYSTEM EVALUATION AND MANAGEMENT
Week 4	Chapter 4: GOVERNANCE AND SOCIAL SYSTEM
Week 5	Chapter 5: PROJECT DESIGN FOR FUTURE SOCIETY
Week 6	Exercise
Week 7	Practice

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# LESSON – Slide Presentation



Lecture notes

**FUNDAMENTALS OF CLIMATE CHANGE AND NATURAL DISASTERS**

Course Code: ER601

## Chapter 1

### **BASICS ON CLIMATE SCIENCES**

Assoc.Prof.Dr Lê Anh Tuấn

Viện Nghiên cứu Biến đổi Khí hậu – Đại học Cần Thơ

Khoa Môi trường và Tài nguyên Thiên Nhiên

Trường Đại học Cần Thơ

E-mail: [latuan@ctu.edu.vn](mailto:latuan@ctu.edu.vn)



## CONTENTS

### **Chapter 1. Basics on Climate Sciences**

**1.1. Definitions**

**1.2. Earth's Climate System**

**1.3. Major Meteorological Factors**

**1.4. Greenhouse effects**

**1.5. Weather Monitoring and Forecasting**

**Exercises and Discussion**





# LESSON – Slide Presentation



Lecture notes

**FUNDAMENTALS OF CLIMATE CHANGE AND NATURAL DISASTERS**

Course Code: ER601

## Chapter 2

### NATURAL DISASTER PHENOMENA

Assoc.Prof.Dr Lê Anh Tuấn

Viện Nghiên cứu Biến đổi Khí hậu – Đại học Cần Thơ  
Khoa Môi trường và Tài nguyên Thiên Nhiên  
Trường Đại học Cần Thơ  
E-mail: [latuan@ctu.edu.vn](mailto:latuan@ctu.edu.vn)

## CONTENTS

### Chapter 2. Natural disaster phenomena

#### 2.1. Disaster Overview

#### 2.2. Thunderstorm, Tropical Low Pressure, Storm

#### 2.3. Floods and Droughts

#### 2.4. Landslide and Subsidence

#### Exercises and Discussion







## Excercise 1



The most common misunderstanding about climate change is that the Earth's climate has changed naturally in the past, therefore humans are not the cause of global warming. That is not correct. What are some analogies or rebuttals that help debunk this myth?



## Tài liệu tham khảo



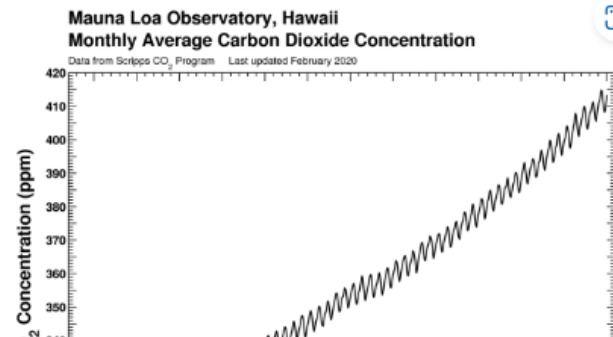
## Chapter 2



## Exercises 2



This is a graph of carbon dioxide in Earth's atmosphere, measured since 1958. There are two patterns in this data, what are they?





# LESSON - Exercises



## Chapter 3

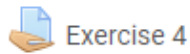


Exercise 3



**Finding the key factors relate to the causes and effects of human-induced climate change.**

## Chapter 4



Exercise 4



**Many of us are already familiar with solutions to climate change. While there are many actions we can take every day, it's important to focus on the solutions with the biggest result. Listing 10 most of the actions will reduce greenhouse emissions and will adapt climate change negative impacts?**

## Chapter 5



Excercise 5



**In your opinion, what are the responsibilities of countries that emit a lot of greenhouse gases that cause global warming?**





# Survey

# Result



## End of Course Survey(MARE Courses)

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<https://wrd.ctu.edu.vn/projects/mare-project/end-of-course-survey-mare-courses.htm>

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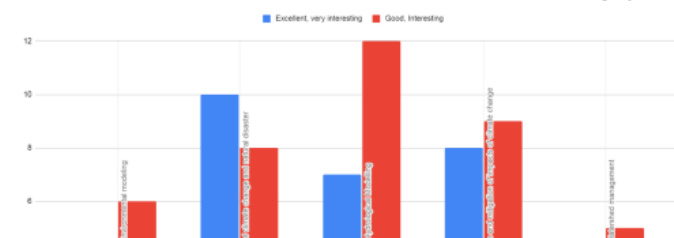
### 1. Program

Attended MARE Course	Program	COUNTA of Program
		0
<b>Total</b>		<b>0</b>
Environmental modeling	Bachelor of Engineering	1
<b>Environmental modeling Total</b>		
Fundamentals of climate change and natural disaster	Ma	
	En	
	Ma	
	Ma	
<b>Fundamentals of climate change and natural disaster Total</b>		
Hydrological Modelling	Ba	
	En	
	Ma	

### 3. Your overall assessment of the attended courses. Was the course was attractive and exciting to you?

Your overall assessment of the attended courses. Was the course was attractive and exciting to you?	Fundamentals of climate change and natural disaster					Grand Total	
	Environmental modeling	Fundamentals of climate change and natural disaster	Hydrological Modelling	Principles of adaptation and mitigation of impacts of climate change	Watershed management		
Excellent, very interesting	0	3	10	7	8	2	30
Good, Interesting		6	8	12	9	5	40
<b>Grand Total</b>	<b>0</b>	<b>9</b>	<b>18</b>	<b>19</b>	<b>17</b>	<b>7</b>	<b>70</b>

Your overall assessment of the attended courses. Was the course was attractive and exciting to you?



[https://wrd.ctu.edu.vn/images/mare-project/feedback-survey/End\\_of\\_Course\\_Survey\\_final.pdf](https://wrd.ctu.edu.vn/images/mare-project/feedback-survey/End_of_Course_Survey_final.pdf)

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# List participant of course



<input type="checkbox"/>	Tên đệm và tên / Họ	Tên đăng nhập	Địa chỉ thư điện tử	Mã số ID	Vai trò	Nhóm	vào khóa học	Trạng thái
<input type="checkbox"/>	Tram Che Thi Bich	m2923004	tramM2923004@gstudent.ctu.edu.vn	M2923004	Sinh viên	Không phân nhóm	42 Các ngày 5 giờ	<b>Đang hoạt động</b> i ⚙️ ✖️
<input type="checkbox"/>	Nhat Giap Minh	m2923003	nhatM2923003@gstudent.ctu.edu.vn	M2923003	Sinh viên	Không phân nhóm	42 Các ngày 3 giờ	<b>Đang hoạt động</b> i ⚙️ ✖️
<input type="checkbox"/>	Quang Le Nhat	b2108508	quangB2108508@student.ctu.edu.vn	B2108508	Sinh viên	Không phân nhóm	7 Các ngày 12 giờ	<b>Đang hoạt động</b> i ⚙️ ✖️
<input type="checkbox"/>	Huynh Vuong Thu Minh	001423	hvtminh@ctu.edu.vn	001423	Giảng viên, Giảng viên	Không phân nhóm	132 Các ngày 6 giờ	<b>Đang hoạt động</b> i ⚙️ ✖️
<input type="checkbox"/>	Linh Ngo My	m2923002	linhM2923002@gstudent.ctu.edu.vn	M2923002	Sinh viên	Không phân nhóm	42 Các ngày 6 giờ	<b>Đang hoạt động</b> i ⚙️ ✖️
<input type="checkbox"/>	Nguyen Dinh Giang Nam Nguyen	001668	ndgnam@ctu.edu.vn	001668	Giảng viên, Giảng viên	Không phân nhóm	Chưa lần nào	<b>Đang hoạt động</b> i ⚙️ ✖️
<input type="checkbox"/>	Tuyen Nguyen Thi Mong	m2923005	tuyenM2923005@gstudent.ctu.edu.vn	M2923005	Sinh viên	Không phân nhóm	41 Các ngày 2 giờ	<b>Đang hoạt động</b> i ⚙️ ✖️

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