

**Date and Time** Monday 8, 15, 22 June 2026, 9.30-12.20 and 13.30-15.20  
Tuesday 9, 16, 23 June 2026, 9.30-12.20 and 13.30-15.20

**Classroom** SC2-160 Google Classroom code yeyu7hq  
<https://classroom.google.com/c/NzMzNDA4Njc4MzE3?cjc=yeyu7hq>

**Coordinator** Asst. Prof. Dr. Teera Chantarojsiri (TC) e-mail: teera.cha@mahidol.ac.th

**Instructors**

1. Dr. Chitiphon Chuaicham (CC) e-mail: chitiphon.c@chula.ac.th  
Department of Environmental and Sustainable Engineering, Faculty of Engineering,  
Chulalongkorn University

2. Ms. Rosaline Amornpitakpun (RA) e-mail: rosaline55@hotmail.com  
Director of Climate Change Adaptation Guideline and Capacity Development Section,  
Climate Change Adaptation Division, Department of Climate Change and Environment,  
Ministry of Natural Resources and Environment

3. Prof. Dr. Pantana Tor-ngern (PT) e-mail: pantana.t@chula.ac.th  
Department of Environmental Science, Faculty of Science, Chulalongkorn University

### Course Description

Terminology; carbon neutrality and net zero emission; mechanism of climate change; sources of greenhouse gases; greenhouse gases emission reduction strategies; carbon management measures; carbon foot printing, carbon trading, carbon offsetting, and more; methodologies for measurement of greenhouse gases emission reduction and calculation costs; related policies

### Topics

1. Molecular Foundations and Atmospheric Chemistry of Climate Change
2. Carbon Capture, Utilization and Storage (CCUS)
3. Sustainable Synthesis and Bio-Feedstocks and Materials for a Circular Economy
4. Circular waste management
5. Carbon Footprints and Carbon Credits
6. Life Cycle Assessment
7. Introduction to Climate Science
8. Emission Reduction & Carbon Management
9. Carbon Markets, Offsetting & Policy
10. Climate Adaptation

## Grading Scheme

Grade A, B+, B, C+, C, D+, D, and F from 100 points

Category	%
Assignment	30
Participation	35
Final Project	35
<b>Total</b>	<b>100</b>

Grading	
Score*	Grade
≥ 71	A
66-70	B+
61-65	B
56-60	C+
51-55	C
46-50	D+
41-45	D
0-40	F

**\*Notes**

1. Schedule and Topics are adjustable.
2. Grading Scheme may vary, depending on the statistic of the class.

## Schedule

Date	Time	Topic	Instructor	Notes
8 June 2026	9.30-12.30	Molecular Foundations and Atmospheric Chemistry of Climate Change	TC	
	13.30-15.30	Carbon Capture, Utilization and Storage (CCUS)	TC	
9 June 2026	9.30-12.30	Sustainable Synthesis and Bio-Feedstocks and Materials for a Circular Economy	TC	
	13.30-15.30	Activities	TC	
15 June 2026	9.30-12.30	Life Cycle Assessment	CC	
	13.30-15.30	Life Cycle Assessment	CC	
16 June 2026	9.30-12.30	Carbon Footprints and Carbon Credits	CC	
	13.30-15.30	Carbon Footprints and Carbon Credits	CC	
22 June 2026	9.30-12.30	Climate Change Policy and Climate Adaptation	RA	
	13.30-15.30	Presentation	TC	
23 June 2026	9.30-12.30	Introduction to Climate Science	PT	
	13.30-15.30	Carbon Flux Counting	PT	