

**JEE 696 Greenhouse gas Measurement, Monitoring and Mitigation (Semester 2/2025)**

Amnat Chidthaisong (AC), Awassda Phongpipat (AP), Komsilp Wangyao (KW)

Lecture #	Topics	Content	Expected outcome	Instructor	
Modul 1 : Energy sector (5 lectures, 1 credit) 22, 29 Jan. 5, 12, 19 Feb. 2026	1. Basic understanding of state of knowledge and current development related to climate change and climate actions	1. State of Knowledge on Climate Change 2. Climate change policy, greenhouse gas emission and reduction targets (UNFCCC, IPCC, and related international agreements) 3. GHG Emissions: Sources, Sinks and Sectors, IPCC Guidelines for national GHG inventories	Understand the objectives and expected outcomes of the course, big picture of climate change and how the knowledge gained from the class fits into that big picture of climate change solution.	AC	
		Energy sector: Basic data needs	Understand the mechanism and aims that the world communities are using to drive cooperations towards emission mitigation.	AC	
		Energy sector: emission estimate	Understand and able to apply the methodology to measure and estimate greenhouse gas emissions from sources in energy sector.	AP	
	2. Energy sector	Energy sector: Mitigation-baseline, measures, and impacts		AP	
		Waste sector: Basics and emission estimate		AP	
	Topic 1 + 3. IPPU and waste sector	Waste sector: Mitigation measures and impacts	Understand and able to apply the methodology to measure and estimate greenhouse gas emissions from sources in IPPU and waste sector.	KW	
		Industrial process sector: Basics and emission estimate		KW	
				AC/Invited	
Modul 2: IPPU and Waste sector (5 lectures, 1 credit) 26 Feb. 5, 12, 19, 26 Mar. 2026	Topic 1 + 3. IPPU and waste sector	AFOLU sector: Basics and emission estimate	Identify key sources and how to estimate greenhouse emissions from AFOLU sector.	AC	
		AFOLU sector: Basics and emission estimate			
		AFOLU sector: Basics and emission estimate			
		AFOLU: Mitigation measures and its impacts			
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	Topic 1 + 4. AFOLU sector + Topic 5	Carbon neutrality, net zero emission concepts	Applied the knowledge to estimate carbon credit, estimate the baseline and mitigation impacts		
		Carbon footprint: Scope and estimate			
		Carbon credit: Concept and implications			