

JEE 696 Greenhouse gas Measurement, Monitoring and Mitigation

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Wk	Topic	Expected outcome	Instructor
1 (Aug 12)	Greenhouse gas emission, global warming and climate change	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
2	Climate change policy, greenhouse gas emission and reduction targets (UNFCCC, IPCC, and related international agreements)	Understand the mechanism and aims that the world communities are using to drive cooperations towards emission mitigation.	AC
3	Energy sector: Basic needs	Understand the basics need of activity data and emission factors for estimate of emission according to IPCC methodology	AC
4	Energy sector: emission estimate	Understand and able to apply the methodology to estimate greenhouse gas emissions from sources in energy sector and to estimate the mitigation effects in energy sector	AP
5	Energy sector: Mitigation-baseline, measures and impacts (practices through exercises)		AP
6	Waste sector: Basics and emission estimate	Understand the basics need of activity data and emission factors for estimate of emission according to IPCC methodology in waste sector. Able to apply the methodology to estimate greenhouse gas emissions from sources in energy sector and to estimate the mitigation effects in waste sector	KW
7	Waste sector: Mitigation measures and impacts (hand on practices through excercises)		KW
Midterm exam			
8	Industrial process sector: Basics and emission estimate	Identify key sources and how to estimate greenhouse emissions from IPPU sector	AC/Invited
9	AFOLU sector: Basics and emission estimate	Understand the basics need of activity data and emission factors for estimate of emission according to IPCC methodology	AC
10	AFOLU sector: Basics and emission estimate		AC
11	AFOLU: Mitigation measures and its impacts	Able to apply the methodology to estimate greenhouse gas emissions from sources in energy sector and to estimate the mitigation effects in AFOLU sector	AC
12	AFOLU: Mitigation measures and its impacts		AC
13	Carbon neutrality, net zero emission concepts	Understand the policies, drivers. Learn what is the baseline, and how we could approach the mitigations towards reduction goals.	AC
14	Carbon footprint: Scope and estimate	Able to estimate carbon footprint of certain a given product/CFO.	AC
15	Carbon credit: Concept and implications	Understand the concept, able to estimate carbon credit of a simplified case.	AC
Midterm exam & Evaluation			