

International Winter School- Manipal University Jaipur [IWSMUJ]-2023



[Hybrid Mode]

Course/Project Overview

Name of Course- Climate change and sun studies for field work

Name of instructor: Mr Sagar Gupta & Dr Tejbahadur

Session: Jan.-Feb. 2023

Language of instruction: English

Number of contact hours: 36

Credit awarded: 03

Objective of Course/Project- The student will be able to

1. Interpretate emission at household and industry level
2. Design and develop tailored sun study data for miscellaneous work.
3. To develop carbon emission inventory for field studies.

Syllabus: introduction to solar radiation studies, climate change. introduction to IPCC, Types of GHG gasses, measurements of carbon emission.

Organization of Course

Total contact hrs 36		
1st week:	10 hrs (classes)	2 hrs (self-study/project)
2nd week:	10 hrs (classes)	2 hrs (Mid-term exam/assessment/discussion)
3rd week:	10 hrs (classes)	2 hrs
4 th week:	6 hrs (Classes)	2hrs (End term exam)

Mode of lectures: Hybrid mode lecture/videos/case study/ discussion/ workshop/ hands-on

Course/Project Plan

Lecture no.	Topic	Lecture mode	Instructor
L: 1-3	Basic concepts of sun studies	power point presentation	Dr Tej Bahadur
L: 4-5	Solar observatory studies at Jaipur city	field visit	Dr Tej Bahadur & Mr Sagar Gupta
L: 6-7	Climate change and the environment	power point presentation	Mr sagar Gupta
L: 8-9	Introduction to IPCC	powerpoint presentation	Dr Tej Bahadur & Mr sagar
L: 10-11	field visit to stp for understanding emissions	field visit	Dr Tej Bahadur & Mr sagar
L:12-13	Household carbon emission calculation	power point	Mr sagar Gupta
L:14-15	Household carbon emission calculation	power point	Mr sagar Gupta
L: 15-19	field based assignment for data collection of industry carbon emission	field	Dr Tej & Mr Sagar Gupta
L:20-21	Assessment of the GHG emission	Group exe	Dr Tej & Mr Sagar Gupta
L: 22-25	Assessment of the GHG emission	Group exe	Dr Tej & Mr Sagar Gupta
L: 26-30	Preparation of report on the field assignment	PowerPoint	Dr Tej & Mr Sagar Gupta
L: 31-34	Preparation of report on the field assignment	PowerPoint	Dr Tej & Mr Sagar Gupta
L: 35-36	Wrap up	Chalk & board	Dr Tej & Mr Sagar Gupta

Brief profile of the instructor



Mr Sagar Gupta is Assistant Professor (Sr.Scale) in the department of Civil Engineering. He has 8 years of experience in teaching and research. His qualification involves B.Tech and M.Tech Degree in civil engineering, Graduate Professional Diploma in sanitation (IHE Delft), Post-graduation certification in leadership in Public Health (MAHE), University Teaching Qualification, Netherlands, He is also pursuing his PhD from MUJ. He has been recipient of BMGF fellowship in sanitation(2018-19) in MSc sanitation Training of Trainers(ToT) Programme at IHE Delft. He is core committee member of IWA India chapter and a young water professional. Also, reviewer for SCOPUS index journals.



Dr. Tej Bahadur is working as Associate Professor in the Department of Civil Engineering, Faculty of Engineering, Manipal University Jaipur. He completed his Ph.D. in Sedimentary Geology from the University of Rajasthan, Jaipur in 2004. He is the subject expert of Sedimentology, Carbonate Petrography, Stratigraphy, Palaeoecology, Underground Coal Gasification, and Sun Dial Studies.