

Course title: Infrastructure Development and Sustainability: Issues & Policy Perspectives			
Course code: PPS 157	No. of credits: 2	L-T-P: 22-08-00	Learning hours: 30
Pre-requisite course code and title (if any): None			
Department: Department of Policy & Management Studies			
Course coordinator(s): Mr. Shri Prakash		Course instructor(s): Mr. Shri Prakash	
Contact details: <a href="mailto:shri.prakash@terisas.ac.in">shri.prakash@terisas.ac.in</a>			
Course type: Core		Course offered in: 2 <sup>nd</sup> Semester	
<b>Course description</b> Transportation, energy and telecommunications infrastructure are essential for effective functioning and growth across various sectors in an economy. Together, they facilitate commerce, enhance connectivity, enable communication, and play a critical role in promoting sustainability and development. The integration of sustainability into infrastructure planning and implementation is crucial for addressing the environmental, social, and economic challenges associated with rapid urbanization, climate change, and resource depletion.  This course examines the critical relationship between infrastructure development and sustainability, focusing on how policies and practices can address contemporary infrastructure challenges while promoting environmental stewardship, social equity, and economic viability. Students will engage with various issues related to infrastructure and explore policy frameworks designed to create sustainable infrastructure solutions.  This course is divided into four modules. The first module introduces the fundamental concepts of infrastructure development, covering its importance in economic growth, social equity, and environmental management. Focusing on the principles of sustainability, the second module examines how infrastructure development can incorporate environmental, social, and economic considerations. It covers sustainable design practices, resource efficiency, climate resilience, and methodologies for assessing infrastructure sustainability. The third module analyses the policy landscapes and regulatory frameworks that govern infrastructure development. It covers key policies at international, national, and local levels, focusing on their implications for sustainability. In the final module, students will examine recent and relevant real-world examples of innovative infrastructure projects that successfully integrate sustainability principles. Through international and Indian case studies, participants will analyse different initiatives, focusing on their design, execution, outcomes, and lessons learned. The module encourages critical thinking about how innovative practices can be scaled and replicated, addressing current industry challenges and contributing to a sustainable future in infrastructure development.			
<b>Learning objectives:</b> <ul style="list-style-type: none"><li>• To orient students on the fundamentals of infrastructure development and its role in economic growth and sustainable development, analyzing the interplay between infrastructure, sustainability, and public policy.</li><li>• To help students identify and assess the challenges associated with traditional infrastructure development practices.</li><li>• To explore and discuss regulatory frameworks and innovative strategies for promoting sustainable infrastructure solutions.</li><li>• To assist students to examine case studies to inform discussions on best practices and lessons learned in infrastructure sustainability.</li></ul>			
<b>Evaluation criteria:</b> Course grades will be based on the following criteria: <ul style="list-style-type: none"><li>• <b>Minor Test-1:</b> Short-Answer Type Questions/Quizzes/MCQs (30%)</li><li>• <b>Minor Test-2:</b> Case Study Presentation on select cases based on Module-4 (20%)</li><li>• <b>Major Test:</b> Written Test/Term Paper Submission &amp; Presentation (50%)</li></ul>			
<b>Learning outcomes</b> Upon completion of this course, candidates will be: <ol style="list-style-type: none"><li>1. having a comprehensive understanding of the challenges and opportunities in integrating sustainability into infrastructure development (All evaluations)</li><li>2. equipped with the knowledge and skills necessary to advocate for and implement sustainable infrastructure solutions in their future careers (All evaluations)</li></ol>			
<b>Student responsibilities</b> <ul style="list-style-type: none"><li>• At least 75% attendance will be necessary to be able to appear for the final exam.</li><li>• Active classroom participation; Critical reflections and timely submission according to the evaluation criterion.</li></ul>			
Course Outline prepared by: Mr. Shri Prakash, and Dr. Chandan Kumar			
<b>Course Reviewers</b> <ol style="list-style-type: none"><li>1. Prof. D. K. Nauriyal, Professor, Department of Humanities &amp; Social Sciences, Indian Institute of Technology Roorkee (IITR), Roorkee, Uttarakhand, India.</li><li>2. Mr Subodh Kumar Jain, Former Member, Infrastructure, Railway Board, Govt. of India.</li></ol>			
<b>Additional Information</b> This Course outline was approved in the 60 <sup>th</sup> Academic Council Meeting held on 24 <sup>th</sup> December 2024 at TERI School of Advanced Studies, New Delhi.			

Note: This is a brief outline of the course. Detailed Course Content is available to students through University Intranet.