

ECTS Syllabus

Course Title	EU/Global Sustainable Technologies				
Course Code	PGT-409				
Course Type	Core				
Level	1 st Cycle				
Year / Semester	4 th Year				
Teacher's Name	Odysseas Christou				
ECTS	6	Lectures / week	12	Laboratories / week	N/A
Course Purpose and Objectives	The main objectives of the course are to: 1. Analyze the development and implementation of sustainable technologies within EU and global governance frameworks. 2. Evaluate the role of policy, regulation, and international cooperation in promoting sustainability through technological innovation. 3. Apply interdisciplinary perspectives to assess the impact of transformative technologies on sustainable development goals.				
Learning Outcomes	After completion of the course students are expected to be able to: 1. Define key concepts and goals related to sustainable technologies at both EU and global levels. 2. Explain major policy instruments, regulatory frameworks, and actors shaping sustainable technology adoption. 3. Assess the interaction between technological innovation and sustainability challenges, including climate change and resource management. 4. Compare EU approaches with those of other global actors in advancing sustainable technologies. 5. Analyze ethical, social, and economic considerations in the deployment of sustainable technologies. 6. Discuss case studies illustrating the successes and obstacles in sustainable technology implementation. 7. Formulate recommendations for advancing sustainable technologies in policy and practice.				

Prerequisites	None	Required	N/A		
Course Content	1. Introduction: Sustainable Technologies in the EU and Global Context 2. History and Principles of Sustainability and Technological Innovation 3. The Sustainable Development Goals and Global Policy Frameworks 4. Key Actors: Governments, EU Institutions, and International Organizations 5. Regulatory Approaches: EU Green Deal, Fit for 55, and International Agreements 6. Energy Transition: Renewable Energy Technologies and Grid Integration 7. Sustainable Urbanization: Smart Cities and Circular Economy Models 8. Digitalization and Green Technologies: The Role of ICT and AI 9. Ethical, Social, and Economic Dimensions of Sustainable Technology 10. Case Studies: Global Comparisons and Lessons Learned 11. Future Trends and Policy Recommendations for Advancing Sustainability				
Teaching Methodology	Lectures, Student Presentations, Question and Answers, Discussions and Assignments				
Bibliography	Required Textbook:				
	Authors	Title	Publisher	Year	ISBN
	Zbigniew Makieła, Magdalena M. Stuss, Ryszard Borowiecki (Eds.)	Sustainability, Technology and Innovation 4.0	Routledge	2022	9781032025919
	Recommended Textbooks/Reading:				
	Authors	Title	Publisher	Year	ISBN
	Andrea Cardoni , Evgeniia Kiseleva	Sustainable Governance: Concept, Metrics and Contexts	Springer	2023	9783031374944
Duncan Russel, Nick Kirsop-Taylor	Handbook on the Governance of Sustainable Development	Edward Elgar	2022	9781789904314	

Assessment	Final Examination Mid-Term Project Two Presentations Participation
Language	English