

Department of Planning & Geomatics
Islamic University of Science & Technology Kashmir

Category: Open Elective

Course Code: DPG101OE	L	T	P	S	Credits
Course Name: Geographic Information Systems (GIS) and Spatial Analysis	1	0	1	0	2
Course Description: This course introduces the basic principles and practices of Geographic Information Systems (GIS). Students will explore the capabilities of GIS in capturing, analysing, and visualizing spatial data. Emphasis will be placed on learning key concepts, tools, and techniques, with practical applications and hands-on experience in GIS software. By the end of the course, students will be able to use GIS for spatial analysis and understand how GIS is used in various fields, such as environmental management, urban planning, and architecture.					
Course Outcomes: By the end of the course, students will be able to: <ul style="list-style-type: none"> • Understand the basic concepts, definitions, and components of GIS. • Explore different types of GIS data, including vector and raster data models. • Develop skills in geospatial data acquisition, processing, and management. • Apply spatial analysis techniques using GIS software. • Interpret and present geospatial information effectively. 					

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Course Code: DPG102OE	L	T	P	S	Credits
Course Name: Introduction to Remote Sensing	1	0	1	0	2
Course Description: This course introduces the basic principles of Remote Sensing (RS) and Electromagnetic radiation. Students will gain basic knowledge about the interaction of electromagnetic radiation with different earth surface features, sensors used in earth observation, different areal and space born platforms and some key application areas of RS. Practical applications and hands-on experience in Digital image processing will be given to students. By the end of the course, students will be able to choose and apply application specific RS data, such as environmental management, urban planning, and architecture.					
Course Outcomes: By the end of the course, students will be able to: <ul style="list-style-type: none"> • Understand the basic concepts, definitions, and components of RS. • Explore various RS platforms and data, including. • Develop skills in RS data acquisition, processing, and management. • Basic Digital Image Processing and software's required. • Basic satellite data interpretation. 					

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Course Code: DPG103OE	L	T	P	S	Credits
Course Name: Fundamentals of Climate Science	1	0	1	0	2
Course Description: This introductory course provides the students with essential concepts in climate science. It focuses on the fundamental components of the climate system, the mechanisms driving					

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climate change, and the tools used to study climate. Each chapter includes a hands-on activity to reinforce learning.

Course Outcomes:

By the end of the course, students will be able to:

- Differentiate between weather and climate, explaining the key components of the climate system and their interactions.
- Identify the natural and anthropogenic factors that contribute to climate change, demonstrating an understanding of the greenhouse effect.
- Utilize climate models and tools to analyze climate data, predicting potential changes in climate based on various scenarios.
- Engage in hands-on activities that reinforce theoretical concepts, fostering critical thinking and practical application in climate science.

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