

Syllabus

Descrizione corso

Titolo insegnamento	Advanced geomatics and Landscape planning
Codice insegnamento	47075
Titolo aggiuntivo	
Settore Scientifico-Disciplinare	
Lingua	Inglese
Corso di Studio	Corso di laurea magistrale in Gestione sostenibile dell'ambiente montano
Altri Corsi di Studio (mutuati)	
Docenti	dr. Michele Torresani, Michele.Torresani@unibz.it https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/academic-staff/person/37414
Assistente	
Semestre	Secondo semestre
Anno/i di corso	1
CFU	6
Ore didattica frontale	36
Ore di laboratorio	24
Ore di studio individuale	90
Ore di ricevimento previste	18
Sintesi contenuti	The course introduces the principles, theories, methods, and decision-making processes of landscape and land-use planning, with particular reference to mountain landscapes. It examines the ecological, cultural, social, and gender dimensions of mountain landscapes, their functioning, and the interactions between natural processes, human activities, and landscape change. Students explore the concepts, objectives, methods, and instruments of landscape and land-use planning, including landscape assessment, environmental assessment, zoning, design control, stakeholder

	participation, and the implementation of planning strategies. Particular attention is devoted to landscape context, theories of intervention, the critical evaluation of planning alternatives, and the role of planning in balancing environmental protection, landscape quality, ecosystem services, cultural values, and sustainable territorial development.
Argomenti dell'insegnamento	The Landscape planning module course introduces key concepts, methods and tools for landscape planning, with a particular focus on mountain and Alpine regions. Topics include landscape analysis and assessment, landscape change, governance, ecosystem services, climate change and natural hazards, land-use conflicts, participation and scenario planning. Comparative case studies and a planning workshop connect theoretical approaches with practical landscape strategies. The Advanced Geomatics module provides theoretical and practical knowledge of advanced geomatics methods for spatial and environmental analysis. It covers vector and raster data, coordinate systems and GPS, optical remote sensing using for example Sentinel-2 and Landsat imagery, drone based data acquisition, LiDAR and photogrammetry. Students learn data processing, spatial analysis and interpretation techniques, integrating multiple geospatial sources for landscape and territorial applications
Parole chiave	Landscape Ecology, Earth Observation, Land-Use Change, Territorial Planning, Geomatics
Prerequisiti	
Insegnamenti propedeutici	Basic knowledge of environmental sciences, ecology, and human geography is recommended.
Modalità di insegnamento	Theoretical and practical activities
Obbligo di frequenza	Attendance is recommended
Obiettivi formativi specifici e risultati di apprendimento attesi	The course aims to provide students with the theoretical foundations and practical skills required to understand, analyse, and contribute to landscape and land-use planning in mountain environments. Upon successful completion of the course, students will be able to interpret mountain landscapes as socio-ecological systems, considering their ecological, cultural, social, and gender dimensions; understand the concepts, theories, methods, and operational stages of landscape and land-use planning; analyse landscape context and evaluate planning alternatives using

	appropriate planning instruments, environmental assessment approaches, and participatory processes; assess the implementation of planning strategies in relation to environmental protection, landscape quality, and sustainable territorial development; and communicate planning concepts, analyses, and proposals effectively using appropriate scientific and technical terminology.
Obiettivi formativi specifici e risultati di apprendimento attesi (ulteriori info.)	
Modalità di esame	Students will present projects based on the theoretical and practical concepts introduced during the lectures
Criteri di valutazione	Quality of the project implementation (accuracy, completeness, and technical soundness) Innovation and originality of the proposed project Consistency and coherence of the project with the topics covered during the course
Bibliografia obbligatoria	NA
Bibliografia facoltativa	
Altre informazioni	
Obiettivi di Sviluppo Sostenibile (SDGs)	Buona salute, Istruzione di qualità, Utilizzo sostenibile della terra, Città e comunità sostenibili, Lotta contro il cambiamento climatico, Acqua pulita e servizi igienico-sanitari

Modulo del corso

Titolo della parte costituente del corso	Advanced geomatics
Codice insegnamento	47075A
Settore Scientifico-Disciplinare	AGRI-04/C
Lingua	Inglese
Docenti	dr. Michele Torresani, Michele.Torresani@unibz.it https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/academic-staff/person/37414

Assistente	
Semestre	Secondo semestre
CFU	3
Docente responsabile	
Ore didattica frontale	18
Ore di laboratorio	12
Ore di studio individuale	45
Ore di ricevimento previste	9
Sintesi contenuti	The course introduces the principles, theories, methods, and decision-making processes of landscape and land-use planning, with particular reference to mountain landscapes. It examines the ecological, cultural, social, and gender dimensions of mountain landscapes, their functioning, and the interactions between natural processes, human activities, and landscape change. Students explore the concepts, objectives, methods, and instruments of landscape and land-use planning, including landscape assessment, environmental assessment, zoning, design control, stakeholder participation, and the implementation of planning strategies. Particular attention is devoted to landscape context, theories of intervention, the critical evaluation of planning alternatives, and the role of planning in balancing environmental protection, landscape quality, ecosystem services, cultural values, and sustainable territorial development.
Argomenti dell'insegnamento	The Advanced Geomatics module provides theoretical and practical knowledge of advanced geomatics methods for spatial and environmental analysis. It covers vector and raster data, coordinate systems and GPS, optical remote sensing using for example Sentinel-2 and Landsat imagery, drone based data acquisition, LiDAR and photogrammetry. Students learn data processing, spatial analysis and interpretation techniques, integrating multiple geospatial sources for landscape and territorial applications
Modalità di insegnamento	Theoretical and practical activities
Bibliografia obbligatoria	NA
Bibliografia facoltativa	

Modulo del corso

Titolo della parte costituente del corso	Landscape planning
Codice insegnamento	47075B
Settore Scientifico-Disciplinare	AGRI-03/B
Lingua	Inglese
Docenti	dr. Michele Torresani, Michele.Torresani@unibz.it https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/academic-staff/person/37414
Assistente	
Semestre	Secondo semestre
CFU	3
Docente responsabile	
Ore didattica frontale	18
Ore di laboratorio	12
Ore di studio individuale	45
Ore di ricevimento previste	9
Sintesi contenuti	The course introduces the principles, theories, methods, and decision-making processes of landscape and land-use planning, with particular reference to mountain landscapes. It examines the ecological, cultural, social, and gender dimensions of mountain landscapes, their functioning, and the interactions between natural processes, human activities, and landscape change. Students explore the concepts, objectives, methods, and instruments of landscape and land-use planning, including landscape assessment, environmental assessment, zoning, design control, stakeholder participation, and the implementation of planning strategies. Particular attention is devoted to landscape context, theories of intervention, the critical evaluation of planning alternatives, and the role of planning in balancing environmental protection, landscape quality, ecosystem services, cultural values, and sustainable territorial development.
Argomenti	The Landscape planning module course introduces key concepts,

dell'insegnamento	methods and tools for landscape planning, with a particular focus on mountain and Alpine regions. Topics include landscape analysis and assessment, landscape change, governance, ecosystem services, climate change and natural hazards, land-use conflicts, participation and scenario planning. Comparative case studies and a planning workshop connect theoretical approaches with practical landscape strategies.
Modalità di insegnamento	Theoretical and practical activities
Bibliografia obbligatoria	NA
Bibliografia facoltativa	