



UNIVERSITÀ DI PAVIA

Anno Accademico 2017/2018

GIS LABORATORY

Enrollment year	2017/2018
Academic year	2017/2018
Regulations	DM270
Academic discipline	GEO/04 (PHYSICAL GEOGRAPHY AND GEOMORPHOLOGY)
Department	DEPARTMENT OF EARTH AND ENVIRONMENTAL SCIENCES
Course	APPLIED GEOLOGICAL SCIENCES
Curriculum	PERCORSO COMUNE
Year of study	1°
Period	2nd semester (01/03/2018 - 15/06/2018)
ECTS	6
Lesson hours	68 lesson hours
Language	Italian
Activity type	ORAL TEST
Teacher	MAERKER MICHAEL (titolare) - 6 ECTS
Prerequisites	basic knowledge in informatics, operating system windows, windows office (excel). Cartography (compulsory). lecture in Geomorphology and Physical Geography
Learning outcomes	At the end of the course the students should be able to: - handle data with different coordinate systems and projections (EPSG) - visualize territorial information using various symbol types; - create and edit point, line and polygon features - import XY tables; - assess and modify attribute information; - work with databases related to spatial information; - select information by attribute or position; - join tables; - attribute and calculate new information on attribute table; - calculate length and surface of features - relate spatial information with hyperlinks

	- create and modify raster data - carry out a basic terrain analysis - connect to basic WebGIS services and applications - Create a map layout
Course contents	Introduction to GIS and numeric cartography GIS Project design, GIS models Data formats and geometries Acquisition methods and georeferencing of vector and raster data. Editing attribute information Digital elevation information, points, isohypses, Digital elevation model, digital surface model Spatial analysis, terrain analysis Layout and Map preparation Database interfaces and DB integration WebGIS structure and components Development of a conceptual structure for a pilot project
Teaching methods	The course is structured in a theoretical and practical part. The practical part takes place in the Computer pool. Students will prepare an own GIS project that has to be presented at the end of the course preferable in English. The presentation as well as a mid-term exam is part of the final vote.
Reccomended or required readings	The bibliographic references will be provided during the first lectures
Assessment methods	Theer will be a final exam of the theoric part of the course and a presentation of the project students will carry out.
Further information	
Sustainable development goals - Agenda 2030	\$lbl_legenda_sviluppo_sostenibile