UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Architettura
ACADEMIC YEAR	2021/2022
SECOND CYCLE (7TH LEVEL) COURSE	URBAN, REGIONAL AND ENVIRONMENTAL PLANNING
SUBJECT	GEOMATICS
TYPE OF EDUCATIONAL ACTIVITY	B
AMBIT	50458-Ingegneria e scienze del territorio
CODE	15594
SCIENTIFIC SECTOR(S)	ICAR/06
HEAD PROFESSOR(S)	MIDULLA PATRIZIA Professore Associato Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	6
INDIVIDUAL STUDY (Hrs)	102
COURSE ACTIVITY (Hrs)	48
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	1
TERM (SEMESTER)	2° semester
ATTENDANCE	Not mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	**MIDULLA PATRIZIA** Monday 08:30 13:30 stanza 208 ed. 14 corpo C. Previo appuntamento (attendere conferma da parte del docente)

DOCENTE: Prof.ssa PATRIZIA MIDULLA

PREREQUISITES	Basic knowledge of descriptive geometry
LEARNING OUTCOMES	Knowledge and Comprehension: Abilities The students shall acquire those tools that can help them to understand the recent evolutions of Geomatics, and particularly the most widespread cartographic reference systems, photogrammetric data acquisition methods, treatment, storage and retrieving of geo-referred spatial data as well as cartographic products used today for representing the territory. The students shall also be able to understand the technical language of Geomatics. Ability to Apply Knowledge and Comprehension The students will be able to use maps for activities of control, management and evaluation of the territory, relating them with interdisciplinary data. Judgement Autonomy The students will be able to express judgments about the quality of the various cartographic products, evaluating their precision and quality. Communication Abilities The students will be able to exhibit their knowledge about survey methods and maps in a clear and understandable technical language. Learning Abilities The students will be able to autonomously increase their skills and to follow the evolution of Geomatics.
ASSESSMENT METHODS	Oral exam Evaluation criteria The candidate will answer at least two questions, on all the topics of the program. Final evaluation will consider the knowledge and understanding of the student, and his/her competence and independence of judgment. The lowest evaluation grade will be achieved if the student proves his/her knowledge and comprehension of the main subjects, at least within a general framework, and if the student can apply that knowledge (i.e. he/her is able to read a map or to determine coordinates of a point on a map) The student shall also be able to present to the examiner, while competently discussing, the topics related to Geomatics in a successful way. Below that threshold, the student will not be able to pass the examination. On the contrary, the more the student will be able to interact with the examiner and discuss the topics, and the more he/she will prove to have acquired the basics of Geomatics and of the techniques of qualitative research, the higher will the evaluation grade be. The evaluation grades range is comprised between 18 and 30, according to the following criteria: Excellent (30 – 30 e lode): Excellent knowledge of the subjects studied in the course, excellent language skills, good analytical and interpretative capacity; the student is fully able to use the maps employed today for the representation and the knowledge of territories and cities. Very good (26-29): Good mastery of the subjects studied in the course, very good language skills; the student is able to use the maps employed today for the representation and the knowledge of territories and cities. Good (24-25): Knowledge of the main subjects studied in the course, good language skills; the student shows a limited ability to use the maps employed today for the representation and the knowledge of the territories and cities. Average (21-23): Basic knowledge of some subjects studied in the course, adequate language skills; poor ability to autonomously use the maps employed today for the representation and the knowledge of the territories and cities. Pass (18-20): Minimal knowledge of some geographic subjects and of the technical language; very poor or inexistent ability to able to use the maps employed today for the representation and the knowledge of the territories and cities. Fail: The student does not have an acceptable knowledge of the subjects studied in the Geomatics course.
EDUCATIONAL OBJECTIVES	The course in Geomatics aims at teaching cartographic tools for the analysis, the description, the interpretation and the evaluation of the urban, territorial and environmental transformations.
TEACHING METHODS	Lectures
SUGGESTED BIBLIOGRAPHY	- argomenti di Cartografia da: BARTORELLI U. Topografia, Patron Editore, Bologna, EAN 9788855515818. - argomenti di Cartografia e Fotogrammetria: GALETTO R., SPALLA A. Lezioni di Topografia, CUSL, Pavia. - link ad articoli e siti internet di approfondimento forniti durante le lezioni del corso - links to papers and websites providing during the lectures.

SYLLABUS

Hrs	Frontal teaching
1	Geomatics: introduction
3	Hints of Geodesy

SYLLABUS

Hrs	Frontal teaching
4	Geo-cartographic reference systems
4	Carthografic systems in Italy
2	DTM (Digital Terrain Model), DEM (Digital Elevation Model), DSM (Digital Surface Model)
3	Widespread maps in Italy
1	INSPIRE
6	Geoportals
4	Retriving and use of medium and large scale maps
3	Hints of Geographical Information Systems
1	Photogrammetry: introduction
4	Instruments for the photogrammetric survey
4	Method of acquisition of photos and layout of the camera stations. Stereoscopy and stereoscopic model
3	Inner and external orientations
2	Restitution
3	Rectification of the photos and orthophotos