

General Information	
Academic subject	Geomatics
Degree course	Land and Environmental Science and Technology
Curriculum	
ECTS credits	6 ECTS
Compulsory attendance	No
Language	Italian

Subject teacher	Name Surname	Mail address	SSD
	Giuliano VOX	giuliano.vox@uniba.it	AGR/10

ECTS credits details			
	4 ECTS Lectures [L]	2 ECT Lab & field cl [L&Fcs])	

Class schedule	
Period	II semester
Year	I year
Type of class	Lecture-workshops

Time management	
Hours	150
In-class study hours	60
Out-of-class study hours	90

Academic calendar	
Class begins	
Class ends	

Syllabus	
Prerequisites/requirements	Knowledge of principles of Mathematics and Informatics Knowledge of principles of Physics of the Earth
Expected learning outcomes (according to Dublin Descriptors) (it is recommended that they are congruent with the learning outcomes contained in A4a, A4b, A4c tables of the SUA-CdS)	<p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> • Knowledge and understanding of land maps • Knowledge and understanding of geographic information systems (GIS) • Basics of using topographic instruments <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> • Capacity to realize a GIS project, based on land maps and data • Capacity to carry out land surveying by means of topographic instruments and CAD software <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> • Ability to realize an integrated GIS project from different base maps and databases • Ability to design and realize a land surveying in presence of different land characteristics <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> • Ability to use informatics (drawing, graphic representation, and so on)

	<p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> • Ability to continue learning by consulting books, papers and computerized catalogs. <p>Expected learning outcomes in terms of knowledge and skills are listed in Annex A of the Study Guide Course Guidelines (expressed through the European Degree Program Title)</p>
Contents	<ul style="list-style-type: none"> • Maps; the projections; coordinate systems; distance; angles; the topographic measures; accuracy. • Methods for the measurements of horizontal distances, vertical distances, angles; equipment for the measurement of distances and angles; field measurements. Data management by means of spreadsheet and CAD software. • Geographic Information Systems (GIS); • Global Navigation Satellite Systems (GNSS).
Course program	
Bibliography	<ul style="list-style-type: none"> • Notes of the lectures and tables distributed during the course • Dragonetti A., Prolino F., Rossi D. "Topografia e disegno topografico". Ed. A.P.E., Mursia. 1998. • Bezoari G., Monti C., Sellini A. "Topografia Generale con elementi di Geodesia" UTET, 2002. • Lesson notes • www.qgis.org/
Notes	
Teaching methods	<p>The teacher will use PowerPoint presentations, topographic instruments, GIS software.</p> <p>Practical exercises to explain the use of GIS and CAD software and the topographic instruments will be provided. The students will be divided into groups.</p> <p>The students are advised to install the GIS software on their own PC</p>
Assessment methods (indicate at least the type written, oral, other)	<p>For students attending the course there will be a partial exam after the first part of the course. This partial exam consists of an oral test on the subjects developed during the hours of lecture and exercise. The outcome of this test contributes to the evaluation of the examination of profit and is valid for one academic year. The test is passed with a vote of at least 18/30.</p> <p>The exam consists of an oral exam on the topics developed during the course. During the oral exam the design work will be a topic of discussion. The test is passed with a vote of at least 18/30.</p> <p>For students who have stood the first part of the exam, the final vote is expressed by the average of the votes obtained in the two oral tests.</p> <p>The oral examinations are public.</p> <p>For foreign, the exam can be done in English</p>
Evaluation criteria (Explain for each expected learning outcome what a student has to know, or is able to do, and how many levels of achievement there are.	<p>Knowledge and understanding skills</p> <ul style="list-style-type: none"> • Knowledge and understanding of land maps • Knowledge and understanding of land surveying methods • Knowledge and use of the topographic instruments • Knowledge and use of CAD and GIS software

	<p>Knowledge and understanding skills applied</p> <ul style="list-style-type: none"> • Design of a GIS system • Realization of a land surveying <p>Autonomy of judgment</p> <ul style="list-style-type: none"> • design of a GIS project with different conditions • Ability to realize a land surveying in different land conditions <p>Communicative Skills</p> <ul style="list-style-type: none"> • Ability to communicate clearly the knowledge to specialists and non specialists <p>Ability to learn</p> <ul style="list-style-type: none"> • Ability to learn and deepen in a self-directed and autonomous way
Further information	