

<b>General Information</b>	
Academic subject	<b>Geomatics</b>
Degree course	<b>Land and Environmental Science and Technology (STAF)</b>
Curriculum	
ECTS credits	<b>6 ECTS</b>
Compulsory attendance	<b>No</b>
Language	<b>Italian</b>

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

<b>ECTS credits details</b>			
	<b>4 ECTS Lectures [L]</b>	<b>2 ECT Lab &amp; field cl [L&amp;Fcs])</b>	

<b>Class schedule</b>	
Period	II semester
Year	I year
Type of class	Lecture-workshops

<b>Time management</b>	
Hours	<b>150</b>
In-class study hours	<b>60</b>
Out-of-class study hours	<b>90</b>

<b>Academic calendar</b>	
Class begins	
Class ends	

<b>Syllabus</b>	
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"> <li>• Knowledge and understanding of land maps</li> <li>• Knowledge and understanding of geographic information systems (GIS)</li> <li>• Basics of land image classification</li> </ul> <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> <li>• Capacity to realize a GIS project, based on land maps and data</li> <li>• Capacity to carry out classification of land image from remote sensing</li> </ul> <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> <li>• Ability to realize an integrated GIS project from different base maps and databases</li> <li>• Ability to design and realize a classification of an image from remote sensing</li> </ul> <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> <li>• Ability to use informatics (drawing, graphic representation, and so on)</li> </ul> <p><i>Capacities to continue learning</i></p>

	<ul style="list-style-type: none"> <li>• Ability to continue learning by consulting books, papers and computerized catalogues.</li> </ul> <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"> <li>• Maps; the projections; coordinate systems; distance; elevation; angles; accuracy.</li> <li>• Methods for the measurements of horizontal distances and elevation; equipment for the measurement of distances and angles; plan creation by means of CAD software.</li> <li>• Geographic Information Systems (GIS);</li> <li>• Remote sensing and image classification;</li> <li>• Global Navigation Satellite Systems (GNSS).</li> </ul>
Course program	
Bibliography	<ul style="list-style-type: none"> <li>• Notes of the lectures and tables distributed during the course</li> <li>• Dragonetti A., Prolino F., Rossi D. "Topografia e disegno topografico". Ed. A.P.E., Mursia. 1998.</li> <li>• Bezoari G., Monti C., Sellini A. "Topografia Generale con elementi di Geodesia" UTET, 2002.</li> <li>• Lesson notes</li> <li>• <a href="http://www.qgis.org/">www.qgis.org/</a></li> </ul>
Notes	
Teaching methods	<p>The teacher will use PowerPoint presentations.</p> <p>Practical exercises to explain the use of GIS and CAD software will be provided. The students will be divided into groups.</p> <p>The students are advised to install the GIS and CAD 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><b>Knowledge and understanding skills</b></p> <ul style="list-style-type: none"> <li>• Knowledge and understanding of land maps</li> <li>• Knowledge and understanding of land surveying methods</li> <li>• Knowledge and use of the topographic instruments</li> <li>• Knowledge and use of CAD and GIS software</li> </ul> <p><b>Knowledge and understanding skills applied</b></p> <ul style="list-style-type: none"> <li>• Design of a GIS system</li> </ul>

	<ul style="list-style-type: none"> <li>• Realization of land image classification</li> </ul> <p><b>Autonomy of judgment</b></p> <ul style="list-style-type: none"> <li>• design of a GIS project with different conditions Ability to define the techniques for land image classification</li> </ul> <p><b>Communicative Skills</b></p> <ul style="list-style-type: none"> <li>• Ability to communicate clearly the knowledge to specialists and non specialists</li> </ul> <p><b>Ability to learn</b></p> <ul style="list-style-type: none"> <li>• Ability to learn and deepen in a self-directed and autonomous way</li> </ul>
Further information	