

| Main course information |  |
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| Academic subject        | Laboratory of Geography and Physical Geography |
| Degree course           | Natural Sciences Bachelor Degree               |
| Degree class            | L32  |
| ECTS credits (CFU)      | 2  |
| Compulsory attendance   | Strongly recommended                           |
| Teaching language       | Italian  |
| Accademic Year          | 2019/2020                                      |

| Professor/Lecturer |  |
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| Name & SURNAME     | Vincenzo De Santis   |
| email              | vincenzo.desantis@uniba.it   |
| Tel.               | 0805442604   |
| Tutorial time/day  | Monday 10-12, at the studio located on the II floor of the Earth Sciences building, University campus. By appointment. |

| Course details | Pass-fail exam/Exam with mark out of 30 | SSD code | Type of class    |
|----------------|---|----------|------------------|
|                | Examination by vote                     | GEO/04   | Lecture/workshop |

| Teaching schedule | Year | Semester |
|-------------------|------|----------|
|                   | I    | I        |

| Lesson type | CFU/ECTS | Lessons (hours) | CFU/ECTS lab | Lab hours | CFU/ECTS tutorial/workshop | Tutorial/workshop hours | CFU/ECTS field trip | Field trip Hours |
|-------------|----------|-----------------|--------------|-----------|----------------------------|-------------------------|---------------------|------------------|
|             |          | 0               | 0            | 2         | 30                         | 0                       | 0                   | 0                |

| Time management | Total hours | Teaching hours | Self-study hours |
|-----------------|-------------|----------------|------------------|
|                 | 50          | 30             | 20               |

| Academic Calendar | First lesson | Final lesson |
|-------------------|--------------|--------------|
|                   |              |              |

| Syllabus   |  |
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| Course entry requirements  | Good basic knowledge of Geography  |
| 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) |  |
| <i>Knowledge and understanding</i>   | The student must know the symbolism used in the cartography, the concept of scale and the legend. He must be able to recognize the different cartographic projections used. He must be able to understand definitions and meaning of a topographical section and a hydrogeological basin. He will have to learn to imagine the landscape starting from the symbolic representation in paper. This knowledge will be acquired through lectures. |
| <i>Applying knowledge and understanding</i>  | The student must be able to calculate the coordinates of a point, perform a topographic section, delimit a river basin, run the hierarchy of water courses and calculate the bifurcation ratio. He must also learn to imagine the landscape  |

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|  | starting from the symbolic representation in paper.   |
| <i>Making informed judgements and choices</i>    | The student must be able to interpret geographical and topographic maps at various scales, starting from the recognition of the key role of the legend. He must also learn to imagine the landscape starting from the symbolic representation in paper, whatever the type of card he has before him. The participatory discussion between students and between students and lecturer during classroom exercises will be a useful teaching tool to develop these skills. |
| <i>Communicating knowledge and understanding</i> | The student will have to acquire new vocabulary deriving from the acquisition of correct and more effective terminologies to transfer the knowledge related to reading a card. During the semester the student will be stimulated to actively participate in group work during the classroom exercises and to expose to colleagues the result of observations or the development of concepts.   |
| <i>Capacities to continue learning</i>           | The student will have to acquire the ability to understand how and why different cartographic products are chosen based on different situations. He will have to develop the ability to extract as much information as possible from the cards. The student will be stimulated to acquire this ability during the discussions and exercises in the classroom.   |

## Syllabus

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| Course content | <ol style="list-style-type: none"> <li>1. Orientation: Cardinal points. Geographical pattern, geographical coordinates.</li> <li>2. Representation of the Earth's surface. Means of representation: globes, models, maps; numerical and graphic scale. Classification of maps (scale and purpose). Cartographic projections: properties (equivalence, equidistance, conformity and isogony), construction (true and conventional). True projections: perspective (centrographic, stereographic, scenographic and orthographic; polar, equatorial and oblique) and by surface (cylindrical, conic). Modified projections: cylindrical (Mercator) conical (Lambert). Conventional projections: pseudocylindrical (sinusoidal, Gauss, Mollweide) and pseudo-conic. Interrupted or discontinuous projections.</li> <li>3. Reading and interpretation of topographic maps: Universal Transverse Mercator Projection; Gauss-Boaga modifications; UTM zones. Cartographic symbolism: planimetric and altimetric. The I.G.M. topographic map (sheets, tablets), thematic derivative cartography and special Italian papers. Reading and interpretation of a topographic map.</li> <li>4. Calculation of the coordinates.</li> <li>4. Topographic section.</li> <li>5. Catchment area, stream order, bifurcation ratios</li> <li>6. Teaching</li> <li>6.1 Approaches to teaching and learning strategies</li> </ol> |
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|   | 6.2 Collection and processing of geographical informations   |
| Course books/Bibliography   | <p>Recommended readings:</p> <p>An ordinary high school astronomical geography book, to be used as a base, for example:</p> <ol style="list-style-type: none"> <li>1) ACCORDI B, LUPIA PALMIERI E.- Il globo terrestre e la sua evoluzione. – Zanichelli</li> <li>2) NEVIANI I &amp; PIGNOCCHINO FEYLES C. - Geografia generale - SEI Torino</li> <li>3) Geographical Atlas.</li> </ol> <p>In addition, the following specific texts may be consulted:</p> <ol style="list-style-type: none"> <li>1) Mori A. *- Geografia astronomica e cartografia. *- Libreria Goliardica Firenze.</li> <li>2) Strahler A. N. (1984)* - Geografia Fisica. *- Piccin.</li> <li>3) Sestini A. *- Lettura ed interpretazione delle carte geografiche. *- Le Monnier.</li> </ol> <p>Specific websites: NASA, GoogleEarth, etc.<br/>Lesson notes and slides</p> |
| Notes   | The recommended text should be supplemented by pdf files and by the lessons in electronic format provided by teacher   |
| Teaching methods  | <p>Frontal lessons with the use of PowerPoint. Classroom exercises for the part of: Reading and interpretation of topographic maps, calculation of the coordinates, topographic section, catchment area, stream order, bifurcation ratios. Open discussions on individual cases identified in the different maps distributed to students in all the exercise sessions.</p> <p>Students are encouraged to work in groups to discuss and make observations together to develop critical and self-assessment skills.</p>  |
| Assessment methods (indicate at least the type written, oral, other)  | Written  |
| 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</b></p> <p>The student must demonstrate to know all the contents of the course and in a special way: the projections used in the official Italian cartography, the ability to read a legend and apply it to the map, the scale, the meaning of the contour lines, of a topographic section and of a catchment area.</p> <p><b>Applying knowledge and understanding</b></p> <p>The student must be able to calculate the coordinates, perform a topographic section, delimit a catchment area, make the stream order and calculate the bifurcation ratio.</p>   |

***Making informed judgements and choices***

In addition to the acquisition of the concepts explained in the classroom and during the exercises, the student will have to demonstrate, with the personal ability to provide reasoning and arguments, to be able to create simple but significant connections between geographic and cartographic knowledge and those of other disciplines such as geology and geomorphology.

***Communicating knowledge and understanding***

The ability to express concepts and formulate interpretations with language properties and clarity will be assessed very positively.

***Capacities to continue learning***

During the final exam, the student must show that he has acquired critical skills and that he is able to independently obtain new knowledge in order to solve or at least adequately discuss simple problems in the interpretation of topography.

Further information