

General information	
Academic subject	Geography and Physical Geography
Degree course	Bachelor's Degree in Nature Sciences
Academic Year	2021/2022
European Credit Transfer and Accumulation System (ECTS)	7
Language	italian
Academic calendar (starting and ending date)	October 4, 2021 - January 21, 2022.
Attendance	Strongly recommended

Professor/ Lecturer	
Name and Surname	Massimo Angelo Caldara
E-mail	massimoangelo.caldara@uniba.it
Telephone	080-5442565
Department and address	Dipartimento di Scienze della Terra e Geoambientali
Virtual headquarters	Teams code xhbd199
Tutoring (time and day)	Monday 11 am-1pm at the studio located on the second floor of the Earth Sciences building, University campus

Syllabus	
Course prerequisites	A good knowledge of basic geography
Contents	<p>1 Elements of cosmology, astronomy and astrophysics. 1.1 The universe, 1.2 The solar system</p> <p>2 Astronomical geography. 2.1 The planet Earth; 2.2 The Moon; 2.3 The measurement of time</p> <p>3 Meteorology. 3.1 Earth atmosphere: 3.2 Radiation and sunstroke</p> <p>3.3 The air temperature; 3.4 Atmospheric pressure; 3.5 Air humidity; 3.6 Atmospheric precipitation</p> <p>4 The climate 4.1 Elements; 4.2 Classifications of the climates 4.2.1 The megathermal humid climates (equatorial, savanna and monsoon), arid (predesertic and desert), mesothermal (sinic, Mediterranean, cool temperate), microthermal (cold to hot summer, cold to prolonged winter), nivali (tundra, perennial frost, high mountain). The climate of Italy and the Apulian climate. 5 The morphogenetic action of the atmosphere</p> <p>5.1 Atmospheric agents as means of demolition, transport and accumulation; 5.2 Physical action or disintegration; 5.3 Chemical action or chemical weathering; 5.4 Biological action; 5.5 The wind and its action.</p> <p>6 Elements of pedology. 6.1 Definition of soil, physico-chemical properties; 6.2 Pedogenetic processes and factors; 6.3 Pedogenetic regimes 6.4 Paleosoil; 6.5 Classification of soils</p> <p>7 General features of the earth's surface</p> <p>8 Continental hydrography. 8.1 General characteristics; 8.2 The washing waters; 8.3 Groundwater; 8.4 Karstism</p> <p>9 The water courses. 9.1 General characteristics; 9.2 Erosive action of the channeled waters; 9.3 Balance profile of a water course; 9.4 Forms of accumulation</p> <p>10 Lake basins</p> <p>11 The sea and the coasts. 11.1 General information on the sea and oceans; 11.2 The movements of the seas; 11.3 The coasts; 11.4 Classification of the coasts.</p>
Books and bibliography	Geographic atlas (any one of good quality)



	<p>An ordinary high school astronomical geography book, to be used as a base, for example:</p> <p>1) Accordi B. & Lupia Palmieri E. - <i>Il globo terrestre e la sua evoluzione</i>. – Zanichelli 2) Neviani I. & Pignocchino Feyles C. - <i>Geografia generale</i> - SEI Torino</p> <p>specific texts:</p> <p>1) Castiglioni G. B. (1989) - <i>Geomorfologia</i>. - UTET. 2) Grotzinger J.P. & Jordan T.H. (2016) – <i>Capire la terra</i>. Zanichelli 3) McKnight T. & Hess D. (2005) - <i>Geografia Fisica. Comprendere il paesaggio</i>. Piccin 4) Strahler A. N. (1984) - <i>Geografia Fisica</i>. - Piccin</p>
Additional materials	<p>Specific Internet sites: NASA, Wikipedia, various observatories, etc. Notes and lesson slides</p>

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
Hours			
175	56		119
ECTS			
7			
Teaching strategy			
<p>Frontal lessons supported by multimedia projections and photographic material collected over the years by the teacher during the various missions in Italy and abroad. Multimedia material will be provided to students who request it.</p>			
Expected learning outcomes			
Knowledge and understanding on:	<p>The student must fully learn the basics of geography and physical geography with particular reference to astronomical and meteorological factors, morphogenetic processes, pedology and climatology. Such knowledge, useful for informative and educational purposes, will be acquired through the theoretical lessons.</p>		
Applying knowledge and understanding on:	<p>The student will have to interpret in climatic form the processes that shape the relief forms with particular reference to their spatial and temporal variability. During the lessons the student will be invited to make connections between the various processes and the corresponding climate</p>		
Soft skills	<p><i>Making informed judgments and choices</i> Students will have to demonstrate an aptitude for researching original sources by discussing and criticizing the various geographical theories. Their comments or criticisms will be the basis for a collegial discussion</p> <p><i>Communicating knowledge and understanding</i> The students will have to master the vocabulary and terminology related to physical geography. They will have to acquire the ability to explain in a simple way the fundamental concepts characterising the physical geography and make them accessible to an audience of non-experts but above all to high school students.</p> <p><i>Capacities to continue learning</i> Acquisition of the ability to deepen the understanding of complex concepts by developing autonomous reasoning aimed at identifying the links and differences between the various topics of the course of study and the various naturalistic disciplines. The level reached in this capacity will be verified by discussing the topics of the exam.</p>		



Assessment and feedback	
Methods of assessment	<p>The oral exam involves the discussion of three topics: astronomical geography (chap. 1-3), meteorology and climatology (chap. 4-6) and physical geography (chap. 7-11). The examination is normally conducted by the candidates as their first exam, in order to make them feel at ease, the first question always focuses on a topic of their own. This also helps to understand at what level is the preparation of the student and to what extent you can push subsequent in-depth studies.</p> <p>The assiduous and active participation during the teaching course will contribute to a very positive evaluation.</p>
Evaluation criteria	<p><i>Knowledge and understanding</i> The student must demonstrate to know all the contents of the teaching and in a special way: astronomical geography, meteorology and climatology and physical geography.</p> <p><i>Applying knowledge and understanding</i> The student must be able to apply, in the most appropriate way, the knowledge of the processes that shape the relief in a temporal space vision.</p> <p><i>Autonomy of judgment</i> In addition to ascertaining the acquisition of the concepts, it is also evaluated the ability to answer all the possible questions and make connections between the numerous topics of the course and the other naturalistic disciplines, both abiotic and biotic.</p> <p><i>Communication skills</i> The mastery of the scientific vocabulary, the clarity and simplicity of exposure, essential elements for teaching and scientific dissemination, will be assessed very positively.</p>
Criteria for assessment and attribution of the final mark	<p>The final mark will be awarded on the basis of expository clarity, language properties, ability to link the contents of different disciplines.</p>
Additional information	