

Main course information	
Academic subject	Geography and Physical Geography
Degree course	Bachelor's Degree in Nature Sciences
Classe di laurea	L/32
ECTS credits (CFU)	7
Compulsory attendance	Strongly recommended
Teaching language	Italian
Accademic Year	2019/2020

Docente responsabile	
Name & SURNAME	Massimo Angelo Caldara
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Tutorial time/day	Monday 11 am-1pm at the studio located on the second floor of the Earth Sciences building, University campus

Course details	Study area	SSD code	Type of class
	exam with mark	GEO/04	Lecture

Teaching schedule	Year	Semester
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Modalità erogazione	CFU/ECTS	Lessons (hours)	CFU/ECTS lab	Lab hours	CFU/ECTS tutorial/workshop	Tutorial/workshop hours	CFU/ECTS field trip	Field trip Hours
		7	56	0	0	0	0	0

Time management	Total hours	Teaching hours	Self-study hours
	175	56	119

Academic Calendar	First lesson	Final lesson
	October 1, 2019	October 1, 2019

Syllabus	
Course entry requirements	A good knowledge of basic 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 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.
<i>Applying knowledge and understanding</i>	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.
<i>Making informed judgements 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
<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.
<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.

Syllabus

Course content	<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>
Course books/Bibliography	<p>Geographic atlas (any one of good quality)</p> <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</p> <p>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.</p> <p>2) Grotzinger J.P. & Jordan T.H. (2016) – <i>Capire la terra</i>. Zanichelli</p> <p>3)McKnight T. & Hess D. (2005) - <i>Geografia Fisica. Comprendere il paesaggio</i>. Piccin</p> <p>4)Strahler A. N. (1984) - <i>Geografia Fisica</i>. - Piccin</p> <p>Specific Internet sites: NASA, Wikipedia, various observatories, etc.</p> <p>Notes and lesson slides</p>
Notes	<p>High school books are recommended for chapters 1 and 2, while more specific texts for the remaining chapters.</p> <p>All texts are available in the library of the building of Earth Sciences, or partly on loan from EDISU</p>
Teaching methods	<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>
Assessment methods (indicate at least the type written, oral, other)	<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).</p> <p>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> <p>The final mark will be awarded on the basis of expository clarity, language properties,</p>

	ability to link the contents of different disciplines.
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><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>
Further information	