



INTRODUCTION TO GEOLOGY	
Enrollment year	2018/2019
Academic year	2018/2019
Regulations	DM270
Academic discipline	GEO/02 (STRATIGRAPHIC AND SEDIMENTOLOGICAL GEOLOGY)
Department	DEPARTMENT OF EARTH AND ENVIRONMENTAL SCIENCES
Course	GEOLOGICAL SCIENCES
Curriculum	PERCORSO COMUNE
Year of study	1°
Period	1st semester (01/10/2018 - 18/01/2019)
ECTS	6
Lesson hours	58 lesson hours
Language	Italian
Activity type	ORAL TEST
Teacher	COBIANCHI MIRIAM (titolare) - 6 ECTS
Prerequisites	No prerequisites are required
Learning outcomes	<p>As a first class of Geology, this teaching aims at providing the basis to understanding the Rock's cycle, the genetic processes and the environments of genesis of the main rock types (sedimentary, igneous and metamorphic). The laboratory exercises point to the practise with identification and description of rock samples and to the drawing of basic stratigraphic sections. This class also provides the fundamentals of the main concepts of the Geological Sciences.</p>
Course contents	<p>Lectures: Geology and Earth Sciences: applications to the social welfare; the dynamic Earth: genesis of the endogenous, exogenous and climatic systems; the different subjects of the Earth Sciences. The endogenous system: atoms, chemical elements and minerals; interior of the Earth; features and genesis of the magmatic rocks; features and genesis of the metamorphic rocks; the earth's surface as results of the</p>

	<p>interplay between endogenous and exogenous systems: the plate tectonics. Earth deformations: faults, folds and other structures. Plate tectonics and orogeny. Earthquakes and volcanoes. The exogenous system: cratons, mountain ranges and ocean basins; biosphere, cryosphere, hydrosphere, atmosphere; the sedimentary rocks: features and genesis; the climatic system: components and perturbations; elements of the climatic history of the Earth; the concept of relative and absolute geological time. Dynamics of the stratigraphic and sedimentary processes; the stratigraphic successions; strata and geometry of the successions; basic concepts of stratigraphy.</p> <p>Practicals</p> <p>Description and recognition of hand samples of the different types of rocks: magmatic (intrusive, effusive and pyroclastic), metamorphic (from low to high grade) and sedimentary (clastic, carbonaceous, chemical). Field- excursions. Stratigraphic exercises using the basic principles of stratigraphy on stratigraphic patterns</p>
Teaching methods	Lectures on the different topics of the course, practice on macroscopic rock samples, field excursions in order to introduce students to the observation of the outcrops and of the texture of the rocks.
Reccomended or required readings	<p>Borsellini A., Cavatori T., Fantini F. (2009) - Corso di Scienze del Cielo e della Terra. Italo Bovolenta Editore.</p> <p>Press F., Siever R., Grotzinger J. and Jordan T.H. (2003) - Understanding Earth. Fourth Edition. W.H.Freeman & Company</p>
Assessment methods	Oral Examination composed by five questions. The number one is about a subject chosen by students
Further information	
Sustainable development goals - Agenda 2030	\$Ibl legenda sviluppo sostenibile