

Main course information	
Academic subject	Petrography
Degree course	Bachelor's degree
Degree class	L/32
ECTS credits (CFU)	6
Compulsory attendance	suggested
Teaching language	Italian
Accademic Year	2020/2021

Professor/Lecturer	
Name & SURNAME	Annamaria Fornelli
email	annamaria.fornelli@uniba.it
Tel.	080-5442661
Tutorial time/day	Monday and Thursday 11-13, room n. 33 third floor of Earth Science palace Campus Bari

Course details	Pass-fail exam/Exam with mark out of 30	SSD code	Type of class
	Exam with mark out of 30	Geo07	Lecture

Teaching schedule	Year	Semester
	2° year	2°

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
		6	48	0	0	0	0	0

Time management	Total hours	Teaching hours	Self-study hours
	150	48	102

Academic Calendar	First lesson	Final lesson
	01 March 2021	15 June 2021

Syllabus	
Course entry requirements	Matematic, physic, chemistry, mineralogy
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>	Knowledge of the main geological processes forming the magmatic, sedimentary and metamorphic rocks that characterize the substrate of Planet Earth on which plants and animals develop. Plate tectonic and petrogenesis. Lectures promote the achievement of this goal.
<i>Applying knowledge and understanding</i>	Ability to understand the relationships between the main petrogenetic environments and plate tectonics. Understanding the relationship between the rocky substrate and ecosystems. This ability is promoted through continuous talks during classroom lectures.
<i>Making informed judgements and choices</i>	The students acquire the scientific method in the study of environment for its petrographic features. Development of scientific procedures and judgements during the lectures.
<i>Communicating knowledge and understanding</i>	Acquisition of the specific and technical language of Petrography. Ability to organize a scientific talk even with digital support.
<i>Capacities to continue learning</i>	Ability to understand English scientific works. The students develop the capacities to select the fundamental concepts of petrography and make connections with other geological disciplines. The capacities to continue learning is actuated during the lectures and field trip

Syllabus

Course content	<p>The main objectives of the course are to provide the principles of magmatism, sedimentary process and metamorphism, and to provide the basis for the recognition and classification of igneous, sedimentary and metamorphic rocks using textural and mineralogical parameters at the macroscopic scale on hand samples.</p> <p>Magmatism Silicate classification. Chemical Composition of Earth as a planetary body. Composition of mantle and crust. Composition and structure of the common rock-forming minerals. Chemical, mineralogical and textural classification of magmatic rocks. Magmatic series. Introduction to phase equilibria; melting processes and magma production; crystallization and consolidation of magma. Magma genesis. Fractional crystallization, assimilation, mixing and mingling. Bowen series. Yoder and Tilley diagram.</p> <p>Sedimentary rocks Chemical and physical alteration of primary rocks; transport and deposition of sediments. Diagenesis, classification of silico-clastic and carbonatic rocks.</p> <p>Metamorphism Solid-state reactions in rock materials; metamorphic reactions. Metamorphic facies. Metamorphic degree. Types of metamorphism. Metamorphism and geodynamic relationships. Classification of metamorphic rocks on the basis of protoliths and mineralogy.</p>
Course books/Bibliography	<p>Winter –An introduction igneous and metamorphic petrology. Prentice Hall Slides of teacher, lecture notes. C. Klein, A. R. Philpotts -Mineralogia e Petrografia Zanichelli</p>
Notes	
Teaching methods	Lectures and group work
Assessment methods (indicate at least the type written, oral, other)	Oral evaluation starting from the observation of macroscopic samples of rocks. The evaluation of this module is strongly integrated with that of the Petrography Laboratory teaching.
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>At the end of the course the student should know the principles of petrogenesis of igneous, sedimentary and metamorphic rocks and recognize hand samples of the main lithologies.</p> <p>Petrographic descriptions (rock descriptions) of metamorphic, sedimentary and igneous rocks through the hand specimen. The students should be able to apply their observations to interpret the formation of igneous, sedimentary and metamorphic rocks even by igneous and metamorphic phase diagram.</p>
Further information	