Main course information	
Academic subject	Paleontology
Degree course	Natural Sciences
Classe di laurea	L32
ECTS credits (CFU)	6
Compulsory attendance	Strongly recommended
Teaching language	Italian
Accademic Year	2019/2020

Teacher information	
Name & SURNAME	Maria Marino
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Tel.	0805443454 - 3397429003
Tutorial time/day	Always, by previous request by means of email. Palazzo di Scienze della Terra, Universitary Campus

Details	Study area	SSD code	Type of class
	Earth Science	GEO01	Lecture, workshop, field exercise

Teaching schedule	Year	Semester
	III	II

Mode of Didactic supply	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	0

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

Academic Calendar	First lesson	Final lesson
	2.3.2020	5.6.2020

Syllabus	
Course entry requirements	Contents of di Zoology, Ecology, Geology
Expected learning outcomes (according to Dublin Descriptors)	
Knowledge and understanding	Knowledge of fossils and fossilization processes integrating the different physical-chemical components involved. Ability to recognize taphonomic features. Knowledge of first fossil documentation of Life on the Earth, and comprehension of fossil value for territory promotion and enhancement. This knowledge is provided by means of class lectures.
Applying knowledge and understanding	Knowledge of all the main aspects of taphonomy from the dead of organism to the diagenesis in order to understand relationships with sedimentary environments and their characteristics and to reconstruct the most important paleoenvironmental parameters. Skill to solve elementary paleoentological problematic concerning paleoenvironmental reconstruction and to frame fossils in the geological time scale. Ability to transmit the value of fossils as natural capital. These abilities are acquired by means frontal didactic and class exercises.

Making informed judgements and choices	Interpretation of fossil content in the rocks for paleoenvironmental recontruction based on thaphonomic analysis. Ability to link fossil preservational features to chemical-physical environmental parameters. Students are stimulated to discuss together paleontological problematic during class lectures and exercises.
Communicating knowledge and understanding	Acquisition of scientific glossary e paleontological terminology in order to make clear the exposition of paleontological concepts explained during the class lectures and workshop.
Ability to continue learning	Ability to interpret the fossil value for the comprehension of evolution Life through geological time and the enhancement of natural/cultural capital of territory. Skill to use paleontological knowledge and methods for integrating biotic and abiotic components of past environments, improving the connection between the knowledges acquired in several disciplines. Students are involved in class discussion to enhance its skill to learn.

Sylabus	
Course content	The fossil record and its importance for several aims. Control factors influencing fossilization process. Species concept in paleontology. Chronospecies. Monophyletic, paraphyletic and polyphyletic groups. Paratassonomy. Stratinomic process, diagenesis. Time-averaging; Analysis of fossil concentration. Classification of fossil concentrations. Taphonomic feedback. Origin of Life. Main evolutionary steps at the beginning. Ediacara fauna. Evolution, history of evolution thought. The origin of species. Synthetic and punctuated equilibria theories. Evolution rate. Phyletic and phylogenetic trends. Radiation phenomena, background and mass extinctions. Micro- and macro-evolution. Class exercises: thaphonomic analysis of fossiliferous samples.
Course books/Bibliography	MANUALE di PALEONTOLOGIA FONDAMENTI – APPLICAZIONI. Edizioni Idelson Gnocchi 1908 Srl, April 2020. 472 pp. ISBN: 9788879477147
Notes	
Teaching methods	Lectures; Inquiry-based learning; Flipped classroom. Frontal lessons are supported by multimedia projections. Exercises and class workshop are also performed in order to improve ability of students to solve simple paleontological problems and stimulate active and productive discussion.
Assessment methods (indicate at least the type written, oral, other)	The final evaluation bases on oral examination and one ongoing test on thaphonomy, and it takes into account: general knowledge of course contents, degree of participation during lectures and exercises, clarity of exposition, language property, synthesis skill and integration with other disciplines. Evaluation is integrated with that of Laboratory of Paleontology course.
Evaluation criteria	**Conoscenza e capacità di comprensione** Knowledge of all the themes of the course applying connections among different topics. This is necessary for a positive evaluation. **Capacità di applicare conoscenza e comprensione** Fruitful use of analysis criteria for thaphonomic studies of fossils and fossil concentration. Knowledge of evolutionary models arising from fossil record by using examples provided by different taxa from diverse time interval. This ability is necessary for a positive evaluation. **Autonomia di giudizio** Ability to show maturity to discuss and argue simple paleontological topics proposed during the semester making connection between main disciplines such as geology and ecology. This is necessary for a very positive evaluation. **Abilità comunicative** Ability to explain clearly concepts, propose interpretation by using appropriate language and correct scientific terminology. This may contribute to a very positive evaluation. **Capacità di apprendimento** The student has to document its ability to improve knowledge independently and enhance its critical thinking during discussion of paleontological themes. This may provide an excellent evaluation.
Other information	