DIPARTIMENTO DI SCIENZE

COURSE: Paleontology			
ACADEMIC YEAR: **2018-2019**			
TYPE OF EDUCATIONAL ACTIVITY: Basic			
TEACHER: Prof. Angela Laviano			
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phone: : 0971 /202165835		mobile (optional): **331 3468460**	
Language: **Italian**			
ECTS: : 8 (lessons 6 e tutorials/practice2)	n. of hours: : 48 lessons and 24 tutorials/practice	Campus: **Potenza** **Dept./School: Department of Science** CdS: Geological Science (L34)	Semester: II 01/03/2019-20/06/2019

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

- *The course of Paleontology proposes to provide the basic knowledge and the fundamental concepts necessary for the acquisition of any further increase cultural concerning fossils, both from the scientific point of view and for professional applications. In the context of general paleontology will provide knowledge concerning the taphonomy, evolution, paleoecology, biostratigraphy and paleobiogeography. These concepts are used during the teaching of the systematic that takes place in the second part. These concepts are used during the teaching of the systematic . The part of systematic palaeontology aims to provide students with the basic tools for the knowledge of fossils found in the sedimentary successions of the Mediterranean area in order to evaluate the paleobiodiversity through the Phanerozoic eras.*
- *At the end of the course the student will have acquired the theoretical and practical knowledges in the main fields of Palaeontology. In particular will be able: to collect, identify and prepare paleontological samples, to apply the principles of biostratigraphy and to use palaeoenvironmental and paleobiogeographic data and schemas*

PRE-REQUIREMENTS

Knowledge and mastery of an appropriate scientific terminology; ; processing capacity such as observation, recognition and interpretation of data; ability to organize knowledge and competences in interactive situations

SYLLABUS

A short account of the history of paleontology. Taphonomy; Biostratinomic and diagenetic processes; Fossil deposits.

The science of classification. Principles of biologic/paleontological nomenclature. Taxonomy and parataxonomy. Taxonomic schools.

Evolution. Micro- and macroevolution. Biologic and paleontological evidence of evolution. Development of evolutionary theory from Lamarck and Darwin to the modern synthetic theory. Mutations as a primary basis in evolution. Species origins. Models of phyletic gradualism and punctuated equilibria. Macroevolution. Origin of new structural plans. Evolutionary trends. Rates of evolution. Biologic crises and adaptive radiations.

Origin of life and the main steps in evolution of the biosphere. Evolution of living forms in the Precambrian and Cambrian.

Ecology and paleoecology. Autecology and synecology. Marine ecosystems. Zonation of the benthic and pelagic marine environments. Factors limiting dispersal of marine organisms.

Stratigraphy: biostratigraphy, chronostratigraphic and geochronological units. Global standard chronostratigraphic scale. Integrated stratigraphic correlations.

Systematic paleontology: Foraminifers, radiolarians, diatoms, silicoflagellates, coccolithophorids, sponges including archaeocyathines, cnidarians, bryozoans, brachiopods, molluscs, arthropods (principally trilobites, ostracods), echinoderms. Morphologic characters, palaeoenviromental significance, evolutionary trends and stratigraphic distribution of these groups. Exercises on identification and description (taxonomy) of fossils.
Vertebrates : the genus Homo

TEACHING METHODS

Theoretical lessons, Classroom tutorials, Laboratory tutorials,

EVALUATION METHODS

Intermediate verifications and oral examination.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- ALLASINAZ, INVERTEBRATI FOSSILI, UTET, 2003
- RAFFI & SERPAGLI, PALEONTOLOGIA GENERALE. 2° EDIZIONE, UTET, 2001
- PROTHERO, BRINGING FOSSILS TO LIFE. WCB/MCGRAW-HILL, 1998
- BENTON & HARPER, INTRODUCTION TO PALEOBIOLOGY AND THE FOSSIL RECORD,
- WILEY-BLACKWELL, 2009
- SITI INTERNET DI INTERESSE: HTTP://DIPBSF.UNINSUBRIA.IT/PALEO/LEZIONI_ONLINE.HTM; SOCIETÀ PALEONTOLOGICA ITALIANA - HTTP://PALEOITALIA.ORG/; HTTP://PIKAIA.EU/

INTERACTION WITH STUDENTS

Encourage students to participate actively and collaboratively to lectures, encouraging both individual and group contribution; to be available and authoritative to listen any needs of students; always seek, together with the student in trouble, a possibility of recovery and a way out of facing a difficult problem or to a situation seemingly unsuccessful.

EXAMINATION SESSIONS (FORECAST)[1]

Mese	**Anno**	**Appello previsto**
Febbraio	2019	13
Marzo	2019	20
Maggio	2019	16
Giugno	2019	20
Luglio	2019	18
Settembre	2019	18
Ottobre	2019	04
Dicembre	2019	12

SEMINARS BY EXTERNAL EXPERTS YES X□ NO

FURTHER INFORMATION

[1]Subject to possible changes: check the web site of the Teacher or the Department/School for updates.