



Discipline Information

The following dates are in (dd/mm/yyyy) format.

Code: GSA5807 - 3 Type: POS

Name: Micropaleontology and Geotectonics with emphasis on the geological history of basins and oceans

Concentration area: Geotectônica (44141)

Approval dates:

CCP: 06/02/2017 CPG: 06/02/2017 CoPGr:

Activation date: 06/02/2017 Inactivation date:

Workload:

Total: 120 h Theory: 4 h Practice: 2 h Study: 2 h

Credits: 8 Duration: 15 weeks

Professors: 14260 - Setembrino Petri - 06/02/2017 until today
1563783 - Paulo Eduardo de Oliveira - 06/02/2017 until today

Objectives:

This course aims to provide the students with a broad vision of Micropaleontology, its methods and techniques, premisses, by means of a multidisciplinary approach related to the fields of evolution of paleozoic, mesozoic and cenozoic.

Rationale:

Micropaleontology is a discipline of fundamental importance to researchers interested in biostratigraphy, application of microfossils in the oil industry, environmental studies, specially those within the Quaternary time frame, with applications which involve changes in ecosystems caused by glaciation and deglaciation and in the evolution of ecosystems under the perspective of future climatic change.

Content:

01. General aspects and main groups of microfossils: biology, taxonomy, geochronological distribution. Sediment sampling methods for micropaleontology studies. 02. Paleocology and environmental reconstruction: definitions, interrelationships between microfossil and their environments in the geological time scale. Isotopic geochemistry and trace-elements in micropaleontology: microfossils as environmental proxies. 03. Concepts of biostratigraphy and geological time. 04. Foraminiferan biostratigraphy: evolutionary explosions, extinctions and low recuperation phases within the geological time scale. 05. Quaternary foraminiferans and their use in the paleoclimatic reconstitution and in geoenvironmental studies. 06. Paleopalynology and index-fossils for the Paleozoic, Mesozoic and Cenozoic. 07. Quaternary Palynology with emphasis on the use of pollen, spores, algal cysts and other microfossils on the paleovegetational and paleoclimatic reconstructions of Brazilian ecosystems. 08. Siliceous microfossils and their use in the paleocological and paleoenvironmental studies. 09. Other groups of microfossils used in paleoecological studies.

Bibliography:

ARMSTRONG, H. & BRAISIER M. (2005). Microfossils. Blackwell Publishing Incorporated; 2nd edition. 304 pp.
CARVALHO, I. S. (2011). Paleontologia: microfósseis, Paleoinvertebrados. Editora Interciência, Volume 2, 3ª edição.
FAURE, G. & MENSING, T.M. (2005). Isotopes: Principles and Applications. John Wiley & Sons. 866 pp. LIPPS, J. (1983). Fossil prokaryotes and protists. Blackwell Publishing, 342pp. LOEBLICH, A.R.&TAPPAN, H. (1988). Foraminiferal genera and their classification. New York, Van Nostrand, v1, 970p., v2, 847 pranchas. MCGOWRAN B. (2005). Biostratigraphy, Microfossils and Geological Time. Cambridge University Press, 480 pp. OLSON, H.C. & LECKIE, R.M. (2003) Micropaleontological proxies for sea-level change and stratigraphic discontinuities. SEPM Special

Publication no. 75: 383 pp.

Type of Assessment:

2 dissertative exam and a seminar presentation.

Note:

Lab practice will be held in the microscopy room, Room 108 and eventually in the IGc/USP Micropaleontology Laboratory.

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