



Discipline Information

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

Code: GSA5812 - 2 Type: POS
Name: Paleobotany: Plant Evolution and its relations with the Continental Drift
Concentration area: Geotectônica (44141)

Approval dates:

CCP: 22/08/2013 CPG: 27/08/2013 CoPGr:

Activation date: 27/08/2013 Inactivation date:

Workload:

Total: 150 h Theory: 4 h Practice: 3 h Study: 3 h

Credits: 10 Duration: 15 weeks

Professors: 25999 - Mary Elizabeth Cerruti Bernardes de Oliveira - 27/08/2013 until today

Content:

01) Plant taphonomy: Collection and preparation of phytofossils; 02) The phytofossil record: systematics, nomenclature and favorable continental sedimentary environments; 03) The primitive forms of plant life; 04) The colonization of the continents: lichens, bryophytes, the Cambrian and Ordovician environmental changes and early Paleozoic phytogeographic distribution; 05) Primitive vascular plants: Rhyniopsida, Zosterophylloids and Trimerophytids and Telome theory; 06) The evolution of Microphyloids or Lycopodiopsida: The first forests, environmental changes and Devonian-Pennsylvanian phytogeography; 07) The origin and evolution of Sphenopsida; 08) Filicopsida: Primofiles, Marattiales, Ophioglossales, Filicales, Salviniales and Marsiliales; 09) Progymnospermopsida and the evolution of seed; 10) Gymnospermopsida - Pteridospermales: Glossopteris flora, its evolution in the Paraná Basin and Continental Drift; 11) Mesophytic flora and fragmentation of Pangea: Cycadales, Bennettitales, Ginkgoales, Coniferales and Gnetales. The Brazilian mesophytic floras in the paleofloristic world scenario; 12) Origin of Angiospermopsida - its nature and initial geographical distribution; 13) Diversification and global distribution of angiosperms in the last 65 Ma; 14) The phytofossils as paleoclimatic indicators; 15) Mass extinctions and evidence of persistence in the plant fossil record. Adaptations of plants for survival. Why is plant evolution related to periods of higher intensity of movement of tectonic plates?

Bibliography:

ALLISON, P. A.; BOTTJER, D. J. - 2011 -Taphonomy: Process and Bias through Time. Springer, 599 p. BEERLING, D.-2008-The Emerald Planet: How plants changed Earth's History. Oxford University Press, 288 p. CLEAL, C. J. & THOMAS, B.A.-2009- Introduction to plant fossils. Cambridge University Press, 237 p. FRANKEL, H. R. – 2012- The Continental Drift Controversy: Introduction of Seafloor Spreading. Cambridge University Press, 492 p. GREB, S. F., DIMICHELE, W. A. – 2006 - Wetlands through Time, Geological Society of America, 332 p. KERNICK, P. & DAVIS, P. – 2004 – Fossil Plants. Smithsonian Books, Washington in Association with Natural History Museum of London. Washington, D.C., 216p. KOUTSOUKOS, E. A. M. - 2005 - Applied Stratigraphy, Springer, 488 p. KNOLL, A.H.; CANFIELD, D.E., KONHAUSER, K.O. (eds.)-2012- Fundamentals of Geobiology. Wiley-Blackwell, 443 p. RANKER, T.A. & HAUFLE, C. H. -2008- Biology and Evolution of Ferns and Lycophytes. Cambridge University Press, 480 p. STEWART, P. & GLOBIG, S. (eds.)- 2012- Vascular Plants and Palaeobotany. Apple Academic Press Inc., CRC Press, 2011, 322 p. TAYLOR, T.N.; TAYLOR, E.L. & KRINGS, M. 2009. The biology and evolution of fossil plants. 2nd Edition, Academic Press by Elsevier, San Diego, CA, 1230 p. WILLIS, K.J.; MCELWAIN, J.C. -2002- The evolution of plants. Oxford. Oxford University Press, 378p.

