

EARTH SYSTEM SCIENCE: A WAY TO UNDERSTAND HOW THE PLANET WORKS

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The disciplines Earth System Science I and II compose the core of the Earth Sciences undergraduate course, at the State University of Campinas. The biggest challenge is to combine the contents of both geology and geography to enable the students to understand Earth. Because it, these disciplines should approach the nature of knowledge and the methods of the two sciences in order to integrate knowledge about environmental interactions. Would this be possible by means of such an introductory course? Our approach has favoured a treatment of the relationship among different spheres: geosphere, hydrosphere, atmosphere, biosphere and the human sphere. During the initial classes, Plate Tectonics starts the understanding of the logic of studying the Earth's past, as it emphasizes long to medium time-span cycles and processes. On the other hand the fossilized forms registered in the lithosphere are the unique way for us to know events of the geologic past. To understand present cycles and processes we also depend on fossilized forms in order to recover the evolution and the environmental history. The present and short-time-span phenomena are considered natural events with relations of mankind and all other terrestrial spheres. Field trips are essential to observe these natural and human-related processes. Supported on the idea of the technical-scientific-informational medium, our point-of-view addresses to environmental questions and hazard events. As well as the teachers encourage the students to conquest their own apprenticeship they play an active role to organize these situations.