GEOL 314 - 001          Marine Geology

Prof. Barber          Fall 2004

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Summary: This course provides an introduction to 1) the general structure of ocean basins, 2) marine sedimentology, including coastal processes, and paleoceanography, and 3) the ocean’s role within the Earth system (i.e., ocean interactions with atmosphere, freshwater and biota). Overviews of physical oceanography (e.g., waves, tides and ocean circulation), chemical oceanography (seawater chemistry and isotopic composition), and biological oceanography also will be briefly covered. Discussion of several outside readings will highlight how oceanographic research has shaped our knowledge of coastal geology, earth history and modern earth processes such as the carbon cycle.

Class meets twice weekly (Tu-Th), in Rm 259 PSB, 10 - 11:30 am.

Grading: The final grade will be based on:

- Participation/attendance, especially during discussions and activities 10%
- 4 pg. field trip report, w/ sketched illustrations & refs as needed 20%
- one mid-term exam (written in class) tentatively to be on 28 Oct. 20%
- 6 – 8 pg. paper, either topical literature review or small research project 35%
  NOTE: the paper also must also include figures created to accompany it; additional figures from other sources are acceptable (they must be properly referenced), but you must create at least two figures (one must be a map).
- in-class presentation of term paper, w/ original figures 15%


Other readings may come from journals (e.g., Science), or chapter excerpts from:

Important schedule items/dates:

Class will not meet:

  Tuesday, Nov. 9\textsuperscript{th}  I’ll be in Denver for the Geological Society of America Mtg.

Field trip

  •  \textbf{Full-day trip} to NJ coast, \textbf{on Sunday 3 October 2004}, departs at 7:45 am from PSB parking lot outside room 100, return 7:30pm.

  •  Complete \textbf{field trip report} is due the week after the trip..

Term Paper/Project/Presentation

  •  You must \textbf{meet with me before Fall Break} to discuss your research paper topic (I also can suggest ideas).

  •  \textbf{15-minute paper presentation} will be made during the 2\textsuperscript{nd} to last week of classes.

  •  A complete \textbf{first draft of term paper} is due before Thanksgiving Break (Wed., Nov 21\textsuperscript{st}), at this stage the figures may be rough/conceptual. Complete references should be supplied, but they need not be in perfect final format.

  •  \textbf{Revised, final versions} of your papers are due no later than the last day of classes.