

## Provisional Outline of Lectures, March 31 – May 29, 2009

Textbook: Stanley: Earth System History, Third Edition. Read Chapter 6 (lectures 1-5), chapters 11-13 (lectures 6-12). For those without previous courses in geology, suggest you read for background chapters 4-5, and 7, and without previous courses in biology, chapter 3. For those who have already purchased the Second Edition, that is OK, but if you have not purchased a text, I strongly recommend the Third Edition.

March 31. Historical Geology Introduction. Development of Geological Time Scale. Law of Superposition. Unconformities. Time scales. Founding of Silurian and Cambrian Periods (Cambrian-Silurian controversy).

April 2. Establishment of Devonian Period and controversy. William Smith's "Map that Changed the World." Lithostratigraphic, biostratigraphic, and other kinds of correlation.

April 3. Stratigraphic classification. Biostratigraphic zones and correlation.

April 7. Magnetic Polarity scale. The technique of Graphic correlation.

April 9. Radiometric dating.

April 10. Archean – Early Proterozoic.

April 14. Late Proterozoic.

April 16. Finish Late Proterozoic and begin Cambrian.

April 17. Cambrian – Burgess Shale and other soft-bodied faunas

April 21. Interpretations of Cambrian radiation.

April 23. Finish Cambrian radiation, Ordovician, and Phanerozoic diversity patterns.

April 24. Ordovician and paleogeography.

April 28. Silurian.

April 30. Devonian, part 1.

May 1. Review session for Midterm.

May 5. Midterm. Emphasis will be on material presented in the lectures, although there will be some questions from the text. Test will consist

entirely of short answer questions. Memorization of the geological time is required.

May 7. Devonian, part 2.

May 8. Devonian fish evolution and evolutionary transitions.

May 12. Carboniferous (Mississippian and Pennsylvanian).

May 14. Permian, Gondwana, and glaciation.

May 15. End Permian mass extinction(s).

May 19. Triassic and Jurassic.

May 21. Cretaceous.

May 22. K/T boundary, end Cretaceous mass extinction.

May 26. Paleogene (Paleocene-Oligocene). Punctuated Equilibrium.

May 28. Neogene.

May 29. Hominid evolution.

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