

GEOLOGY 422K - PALEOBIOLOGY

FALL, 2008 - DR. SPRINKLE

- Thursday, Aug. 28 Introduction to the study of fossils; how good is the fossil record?
Prothero, p. vii-viii, p. 5-8, p. 18
Paul, 1985, p. 7-14
- Tuesday, Sept. 2 Fossils and time – basic definitions
Prothero, p. 169-185
Eicher, p. 60-65, p. 99-104
- Thursday, Sept. 4 Biostratigraphy – specific examples
Raup & Stanley, p. 209-225
Eicher, p. 104-110
- Tuesday, Sept. 9 Correlation problems, bioheres, and ranges of major groups
Raup & Stanley, p. 225-229
Eicher, p. 68-75
Simpson & Beck, p. 727-737
- Thursday, Sept. 11 Fossils and environments – basic parameters
Beerbower, p. 33-34
McAlester, p. 44-52, p. 69-70
Laporte, p. 68-78
Extra - read Ager, p. 3-12 for an introduction to paleoecology
- Tuesday, Sept. 16 Ancient environments and their preserved organisms
Prothero, p. 119-122, p. 124-129
Laporte, p. 2-11
- Thursday, Sept. 18 Paleoecologic analysis – specific examples
Raup & Stanley, p. 239-245, p. 338-342
Ager, p. 57-72
- Tuesday, Sept. 23 First draft of Abstract due in class + Fossil communities – structure and evolution
Ziegler, p. 680-685
Bretsky, p. 1231-1233
Broadhead, p. 263-277
- Thursday, Sept. 25 Preview of Austin field trip + Paleontologists and their work I –
Seilacher, Chamberlain, Droser, and Bottjer's trace fossils
Prothero, p. 403-432
Bottjer and Droser, p. 130-141
- *Saturday, Sept. 27 1-day field trip in Austin and Waco to collect Cretaceous fossils for a biostratigraphy project (field trip report)
- Tuesday, Sept. 30 Final draft of Abstract due in class + Banks, reefs, and mud mounds
Prothero, p. 227-229
Laporte, p. 29-34, p. 45-47
Newell, p. 54-65

- Thursday, Oct. 2 Paleobiogeography and plate tectonics
Prothero, p. 149-167
- *Tuesday, Oct. 7 1st Hour Exam (15%) (GSA)
- Thursday, Oct. 9 Classification and study of fossils – species and genera
Prothero, p. 39-40, p. 47-49
Raup & Stanley, p. 114-117, p. 124-128
Gould, 1975, p. 824-826
Extra - see Mayr & Ashlock, p. 23-28 for more information on species.
- *Tuesday, Oct. 14 Pass back and discuss corrected exams + 1st Field Trip Report due in class + Speciation in the fossil record
Eldredge & Gould, p. 82-114
Gould, 1991, p. 12-18
Freeman & Herron, 2000, p. 521-526
Extra - see Gould and Eldredge, 1977 and 1986, and Ruse, 1989, for more recent work.
- Thursday, Oct. 16 Evolution of higher taxa
Prothero, p. 49-55
Raup & Stanley, p. 129-138, p. 363-369
Stanley, 1975, p. 646-650
- Tuesday, Oct. 21 Extinctions in the fossil record
Raup & Sepkoski, p. 1501-1502
Raup, 1986, p. 1528-1533
Prothero, p. 81-92(top), 92(bottom)-95
- Thursday, Oct. 23 Preview of Brownwood field trip + Size and growth in evolution
Raup & Stanley, p. 59-66, p. 352-356
Foote & Miller, 2006, p. 44-48 (+ Fig. 2.22)
- *Saturday, Oct. 25 1-day field trip to Brownwood, Texas, area to study several Pennsylvanian marine faunal communities (field trip report)
- Tuesday, Oct. 28 Paleontologists and their work II – Raup's shell coiling
Raup & Stanley, p. 165-177
- Thursday, Oct. 30 Precambrian life and atmospheric evolution
Schopf, p. 51-58
Stanley, 1973, p. 1486-1488
Knoll, 2003, p. 89-98, p. 122-135
- *Tuesday, Nov. 4 2nd Hour Exam (15%)
- Thursday, Nov. 6 Pass back and discuss corrected exams + Ediacaran appearance & 'Cambrian Explosion' of metazoans
Glaessner, p. 50-69
Gould, 1998, p. 20-22, p. 58-65
Freeman & Herron, 2000, p. 511, p. 514-521

