

**ES 203W - Historical Geology****Spring 2006**

**Instructor:** Dr. Jeff Myers  
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**Office Hours:** MWF 12:00-1:00; T 8:00-9:00, T/Th. 8:00-9:00, by appointment, or any time my door is open

**Text:** Steven Stanley, Earth System History, 2nd ed. \*\*students with geology background may use a different book\*\*

Week of	Topic	Reading	Paper	Lab
1) April 3-7	Earth in 3 Dimensions - Introduction to physical stratigraphy - Fossils and chronostratigraphy - Geochronology	Ch 1 Ch 6	(WO)	Introduction to lab Review of Rocks Time in geology (Ch 2)
2) April 10-14	Formation of the Earth-Moon System - the big bang and planetary accretion - differentiation and the heat of the earth - origin of the oceans and protoatmosphere - the oldest rocks and how they formed	Ch 11 Ch 8	(WD)	Geochronology and Cross-Cutting Relationships (Ch 6)
3) April 17-21	Archean plate tectonics - magma fractionation the protocontinents - shields and cratons - the earliest evidence of life	Ch 11 Ch 8 Ch. 9 Ch 12	(WF)	Physical correlation of rocks (Ch 6)
4) April 24-28	The Atmosphere, Oceans, and Archean Life - "modern" plate tectonics - BIFs and stromatolites	Ch 3	(WO)	Plate Tectonics
5) May 1-5	The Proterozoic Eon: Earth Grows Up - Wopmay/Keweenaw events - Grenville Orogeny and mobile belts - the "snowball" earth	Ch 12 Ch 12	(WD)	Intro to fossils (Ch 7)
6) May 8-12	Climate and life at the end of the Pre-Phanerozoic - life grows up - the Burgess Shale Fauna - environments of the stable craton	Ch 13	(WF)	Biostratigraphy (Ch 6)
7) May 15-19	Early Paleozoic North America - the early Appalachian collisions - early Paleozoic geography, climate, and life	Ch. 13	(WO)	Early Paleozoic life (Ch 13-14)
8) May 22-26	On the Road to Pangea - The Late Paleozoic - the late Appalachian collisions - the west wakes up - the Antler and Sonoma collisions and the Triassic arc - late Paleozoic environments	Ch 14-15	(WD)	Late Paleozoic life (Ch 14-15)
9) May 29 June 2	The Early Mesozoic World <b>Monday May 29 Memorial Day – No Class</b> - the breakup of Pangea and the Permo-Triassic extinction - geography, climate, and environments of the Mesozoic	Ch 14-15 Ch 16	(WF)	No lab
10) June 5-9	The New World: Cretaceous and Tertiary North America - the flat slab period - teetering on the edge - the Cretaceous-Tertiary boundary			Mesozoic-Cenozoic life (Ch 16-17)

**Final Examination: Friday June 16, 10:00 AM NS 101**

## GRADING POLICY

Grading:	Laboratory reports	25%
	Writing assignments	25%
	Outline (WO) - 4%	
	Draft (WD) - 6%	
	Final (WF) - 15%	
	5 quizzes (drop lowest grade)	25%
	Final	25%

### Writing Component of the Course

ES203W is a writing intensive class. This does not mean that that you will write in volume, but that you will intensively edit your writing. In this class you will learn techniques for focused and forceful communication.

Specific assignments and expectations will be discussed during lecture each Monday. In brief, you will be expected to complete three major writing assignments during the quarter. The exact focus of assignments will be described in class, but each will be limited to 250 carefully edited words targeting a specific readership. The resulting product must be free of grammatical and spelling errors. You should expect to rewrite each assignment once or several times. Each assignment will be due on Friday in class, and will be returned to you the following Monday.

**Important: Identify yourself on writing assignments by the last four digits of your STUDENT NUMBER. Do not sign your name on writing assignments. Do write your name on all other lab and lecture assignments.**

### Graded Assignments:

Writing assignment topics will be discussed on MONDAY in class, and are due on FRIDAY. Laboratory exercises will be due one week from the date they are assigned. I will NOT accept late lab reports or writing assignments. If you are unable to attend class, have a friend turn in your assignment.

### Grades:

My grading policy is simple. Grades will not be curved; however the grading scale is adjusted in such a way that the highest score given for any test or assignment is equivalent to a 100% score. Hence, if the highest grade given on a midterm is 93/100, grades will be calculated out of a score of 93, rather than 100.

### Course Policies:

- You are required to attend lab. Attendance will be assessed from your turned-in assignments. Tests will emphasize information covered in lecture. You will find that the readings are NOT a substitute for participation in lecture.
- Quizzes will be announced one or more lectures beforehand. Quizzes will NOT be cumulative, will emphasize material covered in homework questions, and may not be made up without a formal WRITTEN explanation. The final examination WILL be cumulative.  
Procedure for making up missed quizzes: Your first missed quiz will be your "dropped" quiz. If you will miss an additional quiz because of a game or club trip, IT WILL BE THE RESPONSIBILITY OF YOUR COACH OR CLUB ADVISOR TO ADMINISTER THE QUIZ TO YOU AND TO RETURN THE QUIZ TO ME BY CAMPUS MAIL. Makeup exams in other circumstances will ONLY be allowed if you have an emergency situation that necessitates a broadcast message of your circumstance by the office of the Dean of Students. In all circumstances, you must arrange a time to make up the quiz during my office hours. Makeups may be oral or written.
- If for any reason you expect to miss class, **let me know beforehand if at all possible**. If you are going to be out of town for a game, you MUST tell me personally beforehand. There are no exceptions to these rules. If you cannot reach me, contact the Office of Student Affairs (88821), and they will notify me.
- If you would benefit from an alternative testing environment I encourage you to work with the Office of Disability Services (Werner Center 012 phone 88250).
- Cheating or copying in either lab or lecture is unacceptable, and will result in a ZERO score on that assignment, and may result in consequences at the administrative level.
- I do not assign incompletes in class for any reason except extreme documented emergencies for students with a PASSING grade. In this case notify Dean Chadney's office with appropriate documentation.
- Office hours are YOUR time. Please use them to your benefit. If you would like to organize a study group during office hours, please do it. If you need to see me at a time outside of normal office hours time, please stop by or call. If I'm busy, please don't take it personally.

**\*NOTE ON USE OF COMPUTER TECHNOLOGY\*** Local and system-wide malfunctions are a normal and expected aspect of any computer system. It is YOUR responsibility to save files on drives that are always accessible to you. Computer malfunction is NOT an excuse for turning in late or incomplete assignments.

### Writing Guidelines

"Scientific writing" should be direct, simple, brief, vigorous, lucid and precise.

- 1) Start out by asking yourself what is your main message - the single point or points you want your reader to know, to remember?
  - a) who is your reader? Geologist? Layman? Amateur? Politician? The answer will determine the terminology and detail you will put in your report.
  - b) what do you think your reader wants to know? The answer may surprise you and cause you to write the paper for the reader and not for yourself.
- 2) What is the problem, what techniques were used to solve it, where was it solved, when, by whom? This will be the introduction. In brief papers the introduction may be limited to one sentence.
- 3) Then write the title. The title abstracts your paper; and the entire paper should reflect the title.
- 4) Then write the main conclusions. This will focus your attention upon #5.
- 5) List information (observations) required to substantiate those conclusions. For example:
  - a) decide what figures you need to substantiate or illustrate the conclusions.
  - b) describe the kinds of rocks and their relations to one another
    - i) stratigraphy, contacts, structure
    - ii) how they got to be that way - geologic history
  - c) observations must have a specific bearing on the problem addressed in your paper
- 6) Derive logical and clearly expressed interpretations from the data. Interpretation may follow observation in a paragraph or a separate section of the paper, but observation and interpretation must at all times be clearly distinct.
- 7) Summarize data and interpretation critical to the resolution of the problem in a tight conclusion.

#### Five rules:

- 1) Be simple and concise - "make every word tell" (Strunk)

"Insufficient data are presently in hand to completely negate the distinct possibility that partial or entire removal of the above mentioned augite from the magma chamber is not a factor of importance." Huh?

- 2) Make sure of the meaning of every word - this, above all, increases precision

"Jennifer had not the slightest idea what Latitude was or Longitude either, but she thought they were nice grand words to say."

Don't be like Jennifer, look up these words in your dictionary before you use them: constrain, comprise, manifest, obviate, evince.

3) Use verbs instead of abstract nouns

Type B lava lies upon type A (direct, vigorous). But we have to suffer the following woolly syntax:

"The separation of type A from Type B was evidenced by a contact where type B cinders were placed upon the type A by B flowage onto A."

Non-verbs: evidence, source, outcrop

Colorless verbs: accomplished, achieved, attained, carried out, conducted, done, effected, experienced, facilitated, given, implemented, indicated, involved, made, obtained, occurred, performed, proceeded, produced, required, utilized

Woolly words - area, character, conditions, field, level, nature, problem, process, situation, structure, system

Words incorrectly used as synonyms (look up each in your dictionary): amount, concentration, content, level; it's, its; alternate, alternative; majority, bulk; minimal, negligible, slight; to, too, two; varying, various, varied, variable, different; further, farther; comprise, compose, constitute, consist; between, among

Vague qualifiers - can usually be omitted because they mean nothing: fairly, quite, rather, several, very much, all of

Buzzwords - everyone has to use these words at least once: constrain, essentially, architecture, scenario

4) Avoid or break up noun clusters and stacked modifiers, e.g., single component rock acquisition system = rock hammer

5) Avoid "school newspaper" syntax - ponderous left branching sentences

"Avoiding the obvious in the preceding instructions, students commonly major in geology."