

# TECTONICS – GEOL472

## Syllabus for Spring

**Class Goals:** Have fun exploring the tectonics of the Earth. Improve your ability to analyze and think critically about important geologic issues. Practice recognizing the important issues. Improve your scientific writing and speaking.

**Overview:** In this class we will explore some of the most important unanswered questions in geology. Unlike most classes you've taken, though, you will define what you think are the most important questions and then guide our discussion of them. Throughout the semester you will practice recognizing the important questions, summarizing existing information about them, identifying likely ways to advance our knowledge, and presenting a clear proposal to carry out this work. I believe these complex processes to be many of the fundamental abilities required of a successful researcher.

**Instructor:** Dr. Aaron J. Martin  
Chemistry Building (CHM), Room 1217A  
martinaj@geol.umd.edu (By far the best way to reach me)  
301-405-5352

**Office Hours:**  
Monday, 12:30am-1:30pm, CHM 1217A  
Other meetings by appointment or you may try to find me in my office without an appointment.

**Prerequisites:** Required prerequisite courses are GEOL100 or 120, GEOL110, GEOL102, and GEOL341. Please see me immediately if you have not taken these courses.

**Class meeting time and place:**  
Wednesday, 9am-12pm in PLS 1164

**General course outline (dates subject to change):**  
1/24-1/31: Introductions. Selection of class discussion topics.  
2/1-2/26: Discussion topic 1.  
2/27-4/6: Discussion topic 2.  
4/7-5/9: Discussion topic 3.

**Assessment:**

*Undergraduates*

Discussion topic proposal oral:	10%	January 31
Topical presentations oral:	25%	Various
Topic 1 written summary:	5%	March 7
Topic 2 written summary:	5%	April 6
Topic 3 written summary:	5%	May 4

Research project proposal written:	30%	Draft 1 April 11
Research project proposal oral:	10%	May 2
<u>Class participation:</u>	<u>10%</u>	
Total:	100%	

*Graduates*

Discussion topic proposal oral:	10%	January 31
Topical presentations oral:	20%	Various
Topic 1 written summary:	5%	March 7
Topic 2 written summary:	5%	April 6
Topic 3 written summary:	5%	May 4
Research project proposal written:	25%	Draft 1 April 11
Research project proposal oral:	5%	May 2
Research project website	15%	May 9
<u>Class participation:</u>	<u>10%</u>	
Total:	100%	

*Topic proposal (U 10%/G 10%):* At the second class meeting, each student will orally present his or her proposed topic to the class. I will assess the presentation using a grading rubric handed out before the presentations. After all the presentations, we will vote on which topics we want to investigate in class this semester. We will study the top three vote-getting topics.

*Topical presentations (25%/20%):* Teams of students, in coordination with me, will lead all aspects of our investigation of the discussion topics. The students will be responsible for identifying key papers about their topic, copying those papers for their classmates, clearly framing the issues discussed in the papers, and facilitating discussion in during class.

*Written summaries of each topic (15%/15%):* The week following the conclusion of each class topic, you will turn in a written summary of the topic and our discussion about it. I will provide you with much more detail about the summaries before the first due date.

*Research project proposal (40%/30%):* Each student will prepare an NSF-style proposal for original research in either one particular orogen or on one topic within in the field of tectonics. This requirement means that you must not only understand the previous work in that mountain belt or on that topic, you must be able to identify an unanswered question about the subject and propose a plan to answer that question. Further, you must write and speak clearly about your idea.

The research project proposal is the single biggest part of your grade. It represents a major piece of scholarship. Such scholarship takes time, so you should get started on the proposal right away. You will work on the proposal in steps over the course of the semester. I will provide you with much more information about each step as it comes due.

*Research project website (0%/15%):* In addition to the written and oral presentations of the research proposal, each graduate student will produce a website that conveys the same information in a visually exciting form. The website will be viewable by the public in perpetuity. A master tectonics webpage will contain links to each of the student websites, and each year the students will contribute new information to the website. This process will slowly build a comprehensive website that contains information about most of the orogens on Earth and about most of the important tectonic processes that operate on Earth.

*Class participation (10%/10%):* The success of this class rests on active, thoughtful participation by you before and during class. You must read each paper carefully before class, taking care to understand the methods and conclusions discussed in the paper and its importance in the context of our discussion topic. You must share your understanding with your colleagues and me by e-mailing a discussion question or statement that we will use to frame our discourse by the Monday before class. I will grade this discussion-starter based on the depth of thought required to produce it. I also will grade your in-class participation based on the quality and depth of your comments and questions.

**Collaborative work:** Working together is essential in class, on presentations, on parts of research papers, and on your websites. However, **all graded work must represent your own efforts.**

**Grades:** With diligent work, it is possible for each student to attain an A in this class. Grading will be based on points gained from the assignments listed above as follows:

100-90% = A

89-80% = B

79-70% = C

69-60% = D

<60% = F

**Attendance:** Attendance will not be taken. However, your learning in this class depends on participation and discussion, and they count as 10% of your grade. In order to do well in this class you must attend regularly and actively contribute deep, thoughtful comments and questions.

**Missed class:** If you miss class it is your responsibility to make up the work on your time, not mine.

**Late work:** I do not accept late work; **work turned in late will be given a 0** unless previous arrangements were made or unless accompanied by a documented, valid excuse. Valid excuses include, but are not limited to: documented personal illness, documented family medical emergency, and religious observations (see below).

**Additional expectations:** In addition to the academic expectations listed in this document, you are expected to treat your classmates and me with respect. You are also expected to behave in a safe and legal manner at all times. Failure to meet these expectations may result in your dismissal from class.

**Required textbook:** None.

**E-mail:** I will communicate with you both during class and by e-mail, and your classmates will communicate with you by e-mail as well. Please make sure that your university e-mail account functions and that you check it regularly.

**Academic integrity:** The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit <http://www.studenthonorcouncil.umd.edu/index.html>.

**Special academic accommodations:** If you have a documented disability you should contact Disability Support Services at 0126 Shoemaker Hall. Students with documented disabilities should apply to DSS for an accommodation request form that can be provided to me as proof of your eligibility for accommodations. The rules for eligibility and the types of accommodations a student may request can be reviewed on the DSS web site at <http://www.counseling.umd.edu/DSS/index.html>.

**Religious observances:** University System of Maryland policy provides that students not be penalized because of observances of their religious beliefs and that students shall be given an opportunity, whenever feasible, to make up within a reasonable time any academic assignment that is missed due to individual participation in religious observances. It is **your responsibility to inform me** of any intended absences for religious observances **in advance**. Notice should be provided as soon as possible. Prior notification is especially important in connection with final exams because failure to reschedule a final exam before the conclusion of the final examination period may result in loss of credits for the semester.

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