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Fall 9-2015

### GEO 508.01: Fundamentals of Academic Research

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## **Fundamentals of Graduate Research – autumn 2015**

Fridays 10:10-11:50 AM, SC333

Note: *This Course has a Moodle Site. Information and assignments will be posted there with frequent updates and homework assignments, so check the site often.*

### **Instructor information**

Joel Harper

Office: ISB 406C

Office ph: 243-5867

Home ph: 829-0671 (before 9 PM)

e-mail: [Joel@mso.umt.edu](mailto:Joel@mso.umt.edu)

*E-mail is the best way to reach me – I check it often including weekends and evenings.*

### **Course objective**

This course will develop skills needed to perform successfully as a graduate student in geosciences. Specific goals are to enhance the student's ability to: 1) design research projects having sound scientific methods, 2) write successful grant proposals, and 3) make effective written and oral presentations of research results to peers. The course will also provide a brief introduction to specialized tools for conducting research in the geosciences. The course is intended for first semester graduate students. Two credits.

### **Course Assignments and Grading**

#### ***Required Elements***

1. Write three research proposals.
2. Prepare and deliver a 15 presentation to the class.
2. Prepare and deliver a 15 minute oral presentation to the geosciences department.
3. Create a poster using graphics software.
4. Create a website.
5. Complete written and reading assignments, such as peer reviews and writing exercises.
6. Actively participate in class discussions and peer review sessions.
7. Attend and evaluate all departmental guest lectures and thesis defenses.

#### ***Evaluation***

Improving one's ability to design research projects and write successful proposals are skills most scientists strive to improve throughout their careers. Assessment will focus on the student's level of commitment to the course objectives partitioned as follows:

Proposals – 40%

Oral presentations – 30%

Peer reviews and other written assignments – 15%

Course participation – 15%

**Course Text (this book, or something similar, is recommended)**

The Craft of Scientific Writing  
Michael Alley  
Springer; 3rd edition (February 22, 2009)  
ISBN-10: 0387947663  
304 pages

***Simplified schedule, subject to revision***

<b>Week</b>	<b>Meeting</b>	<b>Class Topic</b>
1	Sept 4	Introduction, degree requirements, equip. & facilities
2	Sept. 11	Literature and the publication process, library searching
3	Sept. 18	Scientific method/developing research projects
4	Sept. 25	Proposal mechanics, funding sources
5	Oct. 2	GSA proposal panel review
6	Oct. 9	Writing strategy/tips: review of proposal abstracts
7	Oct. 16	Computer Graphics, referencing, data viz/modeling
8	Oct. 23	Individual meetings on project/proposal
9	Oct. 30	Professional presentations: abstracts, posters, talks
10	Nov. 6	Research design; more on scientific writing
11	Nov. 13	Senior grad student open forum
12	Nov. 20	Poster session
13	Nov. 27	Thanksgiving break – no class
14	Dec. 7	Oral presentations (Dept. lecture Monday at 4)
15	Dec. 11	Debrief from talks
16	Dec. 18	End of finals week (and AGU week)

**UM's E-mail policy**

The UM email policy requires that faculty “must use *only* UM assigned student email accounts for all email exchanges with students, since such communication typically involves private student information.” You are therefore required to send correspondence to us through your GrizMail account.

**UM's Academic honesty policy**

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at: [http://life.umt.edu/vpsa/student\\_conduct.php](http://life.umt.edu/vpsa/student_conduct.php)

**Students with Disabilities**

Whenever possible, and in accordance with civil rights laws, the University of Montana will attempt to provide reasonable modifications to students with disabilities who request and require them. Please feel free to setup a time with me to discuss any modifications that may be necessary for this course. For more information, visit the Disability Services for Students website at: <http://www.umt.edu/dss/>