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
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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 minute 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)
Simplified schedule, subject to revision

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

**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/](http://www.umt.edu/dss/)