

GEOL 4049 & 4055: Undergraduate Research I & II Syllabus

Fall 2016

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Important Deadlines (Subject to Revision):

Monday, 12 September	Proposals due to Department (by 4:30 pm)
Friday, 16 September	Faculty Evaluations emailed to students (by noon)
Tuesday, 20 September	Proposal Presentations (10:30 am)
Tuesday, 27 September	Proposal Revisions due (by 4:30 pm)
Tuesday, 25 October	Progress Report / Update
Tuesday, 15 November	Last day to drop course
Tuesday, 22 November	Final draft due to Advisor
Tuesday, 29 November	Final draft back to the student from the Advisor
Monday, 5 December	Final copy due to Department (by 4:30 pm)
Thursday, 8 December	Oral Presentations I (afternoon)
Friday, 9 December	Oral Presentations II

Proposal Deadline: Monday, 12 September 2016

Instructions:

A digital file of the proposal, written in English, must be submitted by the students to **Google Drive** before 4:30 PM. Your proposal must be entirely contained in one PDF file (no extra files are allowed). The Folder and File should be labeled as: “**studentlastnamePROP.pdf**”. DO NOT label your digital Folder and File “topico.”

Procedure in Google Drive:

- Download the Google Drive app if you do not have it.
- Create a Folder in your Google Drive **named** with your **last name** first and then your **first name**. *You will use this folder ALL semester.*
- Insert your proposal pdf file labeled as: “**studentlastnamePROP.pdf**” in your folder **named** with your **last name** first and then your **first name**. Since you will use this same folder ALL semester all the documents you add during the semester need to be named correctly so the faculty do not confuse the different documents in your folder.
- Share your folder **named** with your **last name** first and then your **first name** with Lizzette A. Rodriguez <lizzette.rodriguez1@upr.edu>.

Proposal--Writing Guide (Note: there is a different guide for Final Reports):

General Format

- Length: Your proposal needs to be minimum of 3 up to a maximum of 5 pages of text, not including cover pages, figures, etc.
- Spacing: Use normal double-spacing
- Font: Use Times or Times New Roman; 12 point
- Margins: Use normal 1-1.5 inch margins on the left and right, and 0.75-1.0 inch margins on the

top and bottom

- Page numbers: Include page numbers in your proposal, with the cover page as #0 (not labeled)
- Section Headings: Each section should be clearly labeled with an appropriate heading (see below):
 - I. **Proposal Statement:** One (1) paragraph statement of what you are proposing to do as your research topic, **briefly** describing the scientific problem that you are going to study. This section may include a **brief** description of how you are going to conduct your study. All topics should be in the general area of Earth and Planetary Science. Think of this as a summary of **what** you are going to do. This is **not** an **Introduction** but a concise statement of what you are proposing to research and should not exceed one (1) paragraph.
 - II. **Objective Statement:** One (1) paragraph statement about the purpose and goals of your research and the significance of what you hope to achieve – Remember objectives are **not** methods. Think of this as a summary of **why** you are going to do what you are going to do. This is not an Introduction or Methodology section but a concise statement about the purpose of your research and what outcomes you hope to achieve and should not exceed 1 paragraph. Do not repeat what has been stated in the Proposal Statement.
 - III. **Introduction/Background:** Two (2) to three (3) pages where you introduce the reader to the background knowledge and literature of your area of study and fully explain and specifically describe **what you** are going to do and **why**. This is where you explain, in detail, the reasoning behind **why** you are studying this problem and **how** the results of your study will be **specifically applied** to address the problem. This section should include many figures and references. This is also a great place to state your **hypothesis**.
 - IV. **Methods:** This section describes all of the procedures you will use for data or sample collection and analysis, and usually includes references. All field and laboratory equipment, machines, instrumentation, etc. should be described here, and if applicable, a description of the **uncertainty** associated with any measuring devices (all methods have uncertainty). For example, if you are going to make thin sections, you should state **why** these thin sections are important.
 - V. **Timeline:** This is a schedule of **when** you will accomplish your research activities. This should include **dates** by which specific activities will be accomplished.
 - VI. **Cited References:**
 - ✓ Your proposal must include a minimum of **five (5)** references. There is no limit to the number of references and more are better! All of them need to be cited in the text and/or figure captions.
 - ✓ Recent references are better than old references when appropriate.
 - ✓ **All** facts should be referenced!
 - ✓ You are required to use the GSA style of referencing for both the proposal and the final report.
 - ✓ See bottom of page at: http://www.geosociety.org/pubs/documents/GSA_RefGuide_Examples.pdf. There are many examples at this webpage, so there is no reason your reference style should be different.
 - ✓ The following materials can be included in your references but **do not count** toward your 5 references:
 1. Previous UPRM topico reports
 2. Unpublished data, M.S. theses, Ph.D. dissertations, etc.

3. Web sites
4. Personal Communication

VI. **Figures:** Figures are essential, and your proposal must have at least two figures included. Figures are an easy way to illustrate concepts that are difficult to convey in words. Locate all your figures at the end of your proposal after the references and before the appendices. Do not make intercalations of figures in the text. This commonly causes problems.

Important points to remember about figures:

1. **They must be legible and of high quality.** This is important. If your figures are blurry, fuzzy, low resolution, or contain text that is too small to read, it is not a good figure. If the information in your figure cannot be read, it is not a useful figure. You need to re-do, re-scan, re-draft the figure.
2. **Figures must be complete.** If you are using maps, they need a north arrow, scale bar, legend, etc. All symbols, map units, etc. must be defined. Important features should be marked or located.
3. **Captions.** All figures require a caption. This includes a title, and then a description that helps the reader understand why you included the figure. Why do you want me to look at the figure?
4. **Margins.** Remember to maintain appropriate margins in all of your figures. This includes margins of 1” at the top/bottom, and 1.25” at the sides.
5. **Organization.** Figures must be presented in the order they are referenced in the text, even if you have them all listed in the back of your proposal. They need to be in order.
6. **Simplicity.** It is usually a good idea to put only one figure on a single page.
7. **Reference.** Figures other than the ones that you have created must be properly referenced. The source-reference of the figure or adapted figure must be cited either on the figure or in the caption.

***Note: Deviations from the above FORMAT and suggestions may result in you having to rewrite and present your proposal to the faculty. Computer related malfunctions are not acceptable excuses for late submittal of your proposal. You must back-up your files frequently.*

Proposal evaluation by the Dept. of Geology faculty

The proposals will be evaluated by the faculty on a pass-revise-present basis. Results of the faculty evaluation will be e-mailed to the students by Friday, 16 September 2016. Students who are required to give an oral presentation of their project proposal will do so on **Tuesday, 20 September 2016** (10:30 am). All proposal revisions (for proposals required to be resubmitted) will be delivered by **Tuesday, 27 September 2016** (before 4:30 pm). Revisions must be submitted to **Google Drive**. The digital file should be labeled as: “**studentlastnameRESUB.pdf**”

Procedure in Google Drive:

Insert your proposal pdf file labeled as: “**studentlastnameRESUB.pdf**” in the folder that you created to submit your initial proposal *named* with your **last name** first and then your **first name**. Since you will use this same folder ALL semester all the documents you add during the semester need to be named correctly so the faculty do not confuse the different documents in your folder.

- Students who do not resubmit or present as required (as certified by the Undergraduate Research Coordinator), or whose proposal does not receive a pass grade after resubmission-presentation, will be advised to withdraw. Students who do not withdraw will be given a final grade of F in the course.
- Students who hand in the proposal after the deadline (*Monday, 12 September 2016*) will be penalized with a one-letter grade reduction of their final grade.
- Students who are still without a proposal by the proposal presentation deadline (*Tuesday, 20 September 2016*) will be advised to withdraw or given a final grade of F in the course.

Progress Report

The students must produce a progress report and send it **to their advisor** by **Tuesday, 25 October 2016**. The progress report will be delivered ONLY to the student advisor and will be evaluated ONLY by the student advisor (no need to send the progress report to the coordinator by Google Drive). Your advisor will give you the guidelines on the format and length of the interim report. Students with little progress or with special problems affecting their progress should state so in the progress report, describe the status of their project, and explain how they intend to accomplish the remainder of their proposed work within the available time. It is the advisors responsibility to evaluate the student's progress and problems prior to the partial drop date on *Tuesday, 15 November*, and to advise the student accordingly. If the students do not submit a progress report to their advisors they will have their final grade in the course reduced by one letter grade.

Final Report

A draft of your final report in English must be submitted by email to the student's faculty advisor before **4:30 PM on Tuesday, 22 November 2016**. Students who fail to submit the final report draft are subject to having their final grade in the course reduced by one letter grade. The advisor-reviewed final report will be returned to the student by the advisor before **4:30 PM on Tuesday, 29 November 2016**.

A digital copy of the final report, written in English, with the revisions required by the advisor, must be submitted to the topic's coordinator to **Google Drive** on **Monday, 5 December 2016** by **4:30 pm**. The time and date of submission of the final report will be recorded. The final written report must be entirely contained in one PDF file (no extra files are allowed). The digital file should be labeled as: "**studentlastnameFINAL.pdf**". DO NOT label your digital file "topico."

Procedure in Google Drive:

Insert your proposal pdf file labeled as: "**studentlastnameFINAL.pdf**" in the folder that you created to submit your proposal *named* with your **last name** first and then your **first name**. Since you will use this same folder ALL semester all the documents you add during the semester need to be named correctly so the faculty do not confuse the different documents in your folder.

****Reports submitted after the required time and date will be penalized by having the final grade reduced by one-letter grade. Reports submitted on the day of their presentation will be penalized by a two-letter grade reduction of the final grade. No reports will be accepted after the date of the assigned presentation:**

a final grade of F or IF will be given in this circumstance.

Topics Research Reports- writing guide

Your Final Research Reports should contain the following components:

- I. Length of text:
 - GEOL 4049: Minimum of 7 to a maximum of 10 pages of text (not including cover page, figures, or references).
 - GEOL 4055: Minimum of 10 to a maximum of 15 pages of text (not including cover page, figures, or references).
- II. The first page must include a Title, your name, your advisor's name, and the course number.
- III. Abstract (max. 250 words)
- IV. 4-5 "Keywords" to be listed below the abstract.
- V. Introduction (contains purpose and/or objectives)
- VI. Methods
- VII. Results
- VIII. Discussion/Interpretation
- IX. Conclusion/Summary
- X. Acknowledgements
- XI. References
 - GEOL 4049: Minimum of 7 references.
 - GEOL 4055: Minimum of 10 references.
 - Recent references are better than old references when appropriate.
 - All facts should be referenced!
 - GSA style of referencing required for the final report: http://www.geosociety.org/pubs/documents/GSA_RefGuide_Examples.pdf.
 - The following materials can be included in your references but do not count toward your reference total:
 1. previous UPRM topic reports
 2. unpublished data
 3. M.S. theses
 4. Ph.D. dissertations
 5. web sites
 6. personal communication
- XII. Tables (if applicable)
- XIII. Figures and graphs (see III. 2. g.)
- XIV. Appendices (if applicable)

Note: The exact structure and content of your report is to be discussed with your advisor, but it must have the above components (or equivalents) present. Significant deviations from the above FORMAT and suggestions will be penalized. Computer related malfunctions are not acceptable excuses for late submittal of your report. You must back-up your files frequently.

Oral Presentations

The oral presentation of the student's work will be on **Thursday, 8** (afternoon) and **Friday, 9**

December 2016. The time of the presentation will be assigned to the students, one week in advance, by the Undergraduate Research Coordinator. The students will have 20 minutes for the presentation and they will be questioned for 10 minutes by the faculty. Timing will be enforced, after the 20 minutes the students will be asked to stop their presentations if they have not finished and after the 10 minutes of questions the professors will be asked to stop.

Final Grade

Final grades for the course are determined by the faculty based on the written proposal (10%), the final written report (40%), the oral presentation (including the answering of questions in a proper way showing adequate knowledge of the theme presented) (40%), and an additional input from the advisor based on student merit (10%). The advisor will assign the student merit grade based on the amount of working hours invested by the student during the semester (consistency) and the quality of the work produced by the student during the “corrections” process. Students that do not work consistently in the project during the semester will get a low merit grade and students that produce poor drafts of proposals, interims and final written reports that require substantial corrections by the professor will get a low merit grade. This grade may be subject to change as indicated in previous sections (proposal, interim report and final report requirements).

Grades of Incomplete

A student may request a grade of incomplete for the semester if the project is not completed. If an incomplete is requested, the student still must submit a complete final report on time, and give a presentation of whatever results they have. At the end of the presentation, the student must inform the faculty that they are asking for an incomplete. If an incomplete is awarded, it will be with a grade below I-A (I-B, I-C, I-D, I-F). If the student does not later complete the project, this grade will be final.

The faculty will only award an incomplete grade in two situations: (1) when circumstances beyond the control of the student have prevented the student from effectively completing the work, (2) if the student does not return all departmental material on loan to the student (e.g. topographic and geologic maps, books, etc.) by the time of the final oral presentation, a grade of I-F will be assigned. The incomplete grade will be removed upon return of the materials.

Work Schedule and Supervision

The number of credits for this course is 2 per semester. This is equivalent to a minimum of 6 hours work per week on the project for the entire semester. To be successful you need to start work early on your project and keep working continuously 6 hours per week in your project during the whole semester. The work is supposed to be supervised undergraduate research. The student is expected to make arrangements to discuss the project and its progress and/or difficulties with the advisor at regular, mutually-agreed times throughout the semester. The student is also encouraged to consult with other faculty members regarding his/her project.

Final Note: Computer related malfunctions are not acceptable excuses for late submittal of the proposal, the interim report, and the final report. You must back-up your files frequently.