

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA

COURSE NUMBER and TITLE: GSC 6930 “Master’s Thesis Proposal”—1 Semester Unit

COURSE CLASSIFICATION: S-25

DATE REVISED: December, 2016

PREPARED BY: Drs. Nourse, Marshall, Polet, Osborn and VanBuer

EXPANDED COURSE OUTLINE

I. Catalog Description

Oral presentation and discussion of a proposed research plan for the Master’s thesis, accompanied by a written proposal. Required for Advancement to Candidacy.

II. Required Background or Experience

Graduate standing required.

III. Expected Educational Outcomes

This course constitutes the important preliminary step of initiating a successful Master’s thesis. Masters candidates will work closely with a Geology faculty adviser to develop a thesis plan fit to student interests and work or family constraints. A wide variety of thesis projects may be appropriate, ranging from classical research to scientific extensions of industry-related work efforts.

Students are expected to achieve the following learning outcomes:

- 1) Conduct preliminary background investigation to select a unique project;
- 2) Define a research topic and attainable research objectives appropriate for a Master’s Thesis in Geology,
- 3) Write a thesis proposal, formatted to Geology Department specifications, that includes research questions, methods, work plan and timeline necessary to complete the thesis, and annotated bibliography;
- 4) Present a formal Powerpoint talk of thesis proposal to the Graduate Committee and graduate student peers.

IV. Text and Readings

There is no required textbook for this course. Background readings will likely consist of journal articles or technical reports detailing historical and current research findings related to chosen topic or problem. Access to some readings may be facilitated by the faculty supervisor.

Below are examples of textbooks on writing mechanics that might be utilized:

Strunk, W. and White, E.B., 1999, *The Elements of Style, 4th Edition*, Longman Publishing Co., 105 p.

Kallan, Richard, 2012, *Renovating Your Writing: Shaping Ideas into Clear, Concise, and Compelling Messages*, Taylor and Francis, 160 p.

V. Minimum Student Materials

Standard report-preparation materials; computer with internet access and Powerpoint software.

VI. Minimum College Facilities

Space for faculty-student meetings; seminar room with computer projection facilities.

VII. Course Outline

This is a directed study course, hence there is no specific outline or timeline of activities other than students are expected to meet regularly with faculty advisor to accomplish the learning objectives presented in Part III above. These objectives must be accomplished during one quarter.

VIII. Instructional Methods

Masters candidates will meet regularly with a chosen Geology faculty advisor to discuss potential thesis topics, define the project and set specific research objectives. Students will work independently, keeping in mind the overarching objective of selecting a scientifically relevant thesis topic that meets their particular interests and work or family schedule.

IX. Evaluation of Outcomes

Recommended grading components for this 1-unit course are as follows:

Written Thesis Proposal with annotated bibliography	50%
Formal oral presentation of thesis proposal	50%

The Master's Thesis Supervisor assigns a grade for the written proposal; Thesis Committee members assign a collective grade for the oral presentation.

Passing letter grades will correspond approximately with these ranges:

100-90 (A); 89-80 (B); 79-70 (C); 69-60 (D)

X. Outcomes Assessment

Faculty advisor will periodically evaluate the level and quality of student progress toward meeting Learning Objectives 1, 2 and 3 above. Near the end of the quarter, a Thesis Committee composed of at least three members shall attend the student's formal presentation of the proposal and ask relevant questions. Presentation rubrics will be used to evaluate the oral presentation. The Thesis Proposal process is intended to be a learning experience for the Masters candidate in that back-and-forth dialogue between the student and faculty members will provide guidance for efficient completion of a successful, scientifically relevant Master's thesis.

XI. Minimum Proposal Requirements

The purpose of the proposal is for the graduate student to demonstrate knowledge of their project, which includes background information, research questions/hypotheses, methods of data collection, and a timeline of completion.

Suggested minimum guidelines are below:

Written Thesis Proposal:

- 1) The proposal should be ~10 pages, double spaced, including cover page, illustrations and bibliography. Use 12-point font.
- 2) The proposal should include a cover page with the title of the project, the student's name, and the following language: "A thesis proposal submitted to the faculty of the Geological Sciences Department, California State Polytechnic University, Pomona in partial fulfillment of the requirements for the degree of Master of Science." Other required elements include:
- 3) An Introduction section that provides a basic description of the project, location, review of pertinent papers and previous work, background/historical information that may be relevant, importance of the project, and knowledge gaps,
- 4) A section that specifically details Research Questions and Hypotheses,
- 5) A Methods section that details how data collection is to be conducted and how it will address research questions,
- 6) An Estimated Timeline for field and laboratory work, submission of written thesis outlines and drafts, related conference presentations, and thesis completion,
- 7) A Bibliography that includes a minimum of 3 annotated references. Each reference should be cited at least once within the text of your proposal. Use a citation style and bibliography format consistent with journals in your discipline, e.g., GSA Bulletin, Journal of Geophysical Research, Bulletin of SSA, Journal of Environmental Hydrology, Hydrogeology Journal.

- 8) Figures should carefully chosen to illustrate location, background context, research targets or methods, etc. Write your own unique caption for each illustration—do not simply copy captions from the published source journal. Illustrations borrowed from published journals or faculty advisors should cite those sources directly in the figure caption. Number your illustrations and corresponding captions sequentially: Figure 1, Figure 2, etc. Each figure displayed should be cited within the text of your proposal. (Again, use the formatting style of a journal appropriate for your discipline.)

Oral Presentation (to be scheduled several weeks in advance):

Please design a Powerpoint slide presentation, 10-15 minutes long, to explain the details of your proposal to Graduate faculty and student peers. Balance your illustrations with text such that the required elements listed under Written Thesis Proposal are adequately addressed and clearly articulated. Creating your slide show will only take a few minutes if your written proposal is completed ahead of time (it should be). Following your talk, be prepared to field questions from the audience.

*****The Master's Thesis Proposal must be presented no later than the beginning of 3rd semester of enrollment in Geology MS program. The Written Thesis Proposal must be submitted to the primary faculty advisor no later than one week after the Oral Presentation.***