California State Polytechnic University, Pomona
Civil Engineering Department

# Guidelines. Policies, and Procedures for Master's Projects and Master's Theses

1st Edition
Approved September 19, 2007

## 1. Curricular Requirements

All MSCE students must complete either a master's project or a master's thesis, which consist of successfully completing one of the following course sequences:

Master's Project
- CE 690 – Research Methods (1 unit)
- CE 695 – Master's Project (4 units)
  - Projects typically consist of 2 units in each of two successive quarters

Master's Thesis
- CE 690 – Research Methods (1 unit)
- CE 696 – Master's Thesis (8 units)
  - Thesis units are typically spread over three or four quarters

This document presents Department policies and procedures for completing master's projects and master's theses. Additional University requirements are outlined in the University Catalog, and at the research and graduate studies website www.csupomona.edu/~research.

## 2. Educational Objectives

The master's project and master's thesis satisfy the university's "culminating experience" requirement, and thus are a key part of the MSCE degree program. In addition, the project or thesis is one of the key ways students "demonstrate an ability to apply advanced level knowledge in a specialized area of engineering" as required by ABET. Successful completion is one of the important ways a student demonstrates mastery of civil engineering.

Civil engineering is a professional discipline (as compared to History, Mathematics, and others, which are academic disciplines). In addition, the MSCE program at Cal Poly Pomona is a practice-oriented degree. Thus, both master's projects and master's theses should focus on the direct or indirect application of engineering principles and practices to real-world problems, or contribute to the development of civil engineering practice in a

way that would help others address practical problems. This objective is interpreted broadly, so a wide range of topics are suitable. However, topics that have little or no association with civil engineering principles or practices are not acceptable.

Although multiple students may, on occasion, work on related topics and may even collaborate with other Cal Poly Pomona students or with students from other universities, each student must have his or her own clearly-defined project or thesis and ultimately is responsible for his or her own work. There are no group projects or group theses.

### 2.1. Master's Projects

In general, master's projects focus on improvements of the state-of-practice as applied to a specific civil engineering problem. Such projects are more intensive and detailed than routine engineering designs, and are intended to explore the subtleties, limits, or applicability of customary or proposed practices.

For example, a certain kind of structural element or system might routinely be designed using specific provisions in the building code. A MSCE master's project might begin with a detailed evaluation of the origin, basis, underlying assumptions, and limitations of these code provisions. The project then might apply this routine design process to typical structures and compare the results to alternative or more detailed analyses. The project might then draw conclusions from this work and produce recommendations for engineering practice.

In some cases, projects might address improvements in the state-of-the-art. For example, such a project might study the design requirements for a newly-developed material or process.

Alternatively, master's projects could consist of evaluating the failure of an engineering element or system. Such an evaluation might include a detailed investigation and explanation of the failure, a comparison of the analysis, design, and construction methods with standard engineering practices. The project then might address implications for future projects.

These examples are not intended to be limiting. A wide range of other kinds of projects also are possible and encouraged. However, all master's projects must demonstrate a mastery of engineering principles and practices beyond that expected for undergraduates and beyond that required to implement standard analysis and design techniques. In other words, projects that simply implement standard design methods, no matter how extensive, are not sufficient.

In some cases, students might use a project from their employer as the basis for a master's project. This is acceptable and often beneficial, since it may facilitate access to data from a real project. However, the master's project must go well beyond the work performed for the employer and must develop suitable depth and insights that would

potentially improve the state-of-practice. The student is responsible for clearly demonstrating conformance with this requirement.

Master's projects are not required to be of sufficient rigor to be publishable in refereed journals. However, outstanding projects may very well be publishable.

### 2.2. Master's Theses

Master's theses are significantly more intensive and detailed than master's projects, a difference reflected in the additional units the student receives and the additional time required to complete the project. Some theses may be similar in purpose to master's projects, but sufficiently larger in scope and significance. Others may have a stronger emphasis on developing new knowledge or contributing to the basic understanding of civil engineering or to the state-of-the-art.

Some theses might include experimental work in the laboratory or elsewhere, along with an analysis and interpretation of the test results. However, simply repeating the work of others without adding any new insights is not sufficient.

Although not necessarily publishable, a master's thesis should contain some new contribution to the profession. Simply applying existing principles to a new project without generating any new insights is not sufficient. However, the expectations for advancing the state-of-knowledge are not as great as for a doctoral dissertation. Exemplary theses may be suitable for publication in a refereed journal.

## 3. CE 690 – Research Methods

The first course for both the project and thesis sequences is CE 690. This section describes the associated objectives,format, and requirements.

### 3.1. Prerequisites

The prerequisites for enrolling in CE 690 are all of the following:

- For students who were conditionally admitted, completion of all conditions of admission. These conditions were enumerated in the letter of acceptance to the MSCE program, and should have been reflected in the student's program of study.
- Completion of at least 16 units of coursework applicable toward the MSCE degree, as outlined in the student's program of study. This does not include any additional coursework beyond the 45 MSCE units that may have been required as part of a conditional admission.
- Good academic standing (i.e. graduate GPA $\geq$ 3.00)

Students should complete their master's project or these during their final quarters in the MSCE program (see the prerequisites in Sections 4.1 and 5.1). Thus, they should enroll in CE 690 during the latest quarter that best facilitates that schedule. Enrolling in CE 690

too early (i.e. well before the student is ready to begin their project or thesis) diminishes the value of the course. See the planned course offerings page on the civil engineering web site (www.csupomona.edu/ce) to determine when CE 690 will be offered.

### 3.2. Educational Objectives

Upon completion of this course, students are expected to:

- Demonstrate the ability to independently enhance their understanding of civil engineering principles and practices by locating, gathering, and synthesizing technical journal articles, technical conference papers, manufacturer's publications, and other civil engineering professional literature; by personal interviews; and by other appropriate methods.
- Develop a suitable a topic for their master's project or thesis, completed a thorough review of the literature and state-of-practice of the chosen topic, and demonstrated an understanding of this information.
- Obtain an advisor and formed a committee.
- Complet a project or thesis proposal, and had this proposal approved by the advisor, the committee, and the CE 690 instructor.
- Present the proposal to a panel of MSCE candidates (normally the members of the current CE 690 class).

### 3.3. The Advisor

The student is responsible for finding a faculty member to serve as the project or thesis advisor. Normally the advisor is a full-time civil engineering faculty member at Cal Poly Pomona. In some cases, the department chair may approve another person as the advisor. The project or thesis advisor is not necessarily the same person as the student's academic advisor. The student must have an advisor by the end of the CE 690 course.

### 3.4. The Topic

The "topic" consists of the title of the project or thesis and a one-paragraph description of the scope, methodologies, and objectives. In some cases the student generates the topic, and finds an advisor who is willing to oversee this work. In other cases, the advisor defines the topic, and finds students who are interested in working on it. In either case, the topic must be consistent with the educational objectives described in Section 2, and the student is responsible for preparing a written description of the topic.

### 3.5. The Committee

The student and the advisor must form the project committee or thesis committee, which will oversee the project. The committee normally consists of the advisor (who serves as chair of the committee) and one other faculty member (for a project) or two other faculty members (for a thesis), but can include additional members if appropriate. The members of the committee are to have technical expertise that contributes to the project, and

typically are full-time or part-time engineering faculty members at Cal Poly Pomona. The advisor has the option of requiring one or more of the committee members to be from outside the Civil Engineering Department. The committee may include members from outside Cal Poly Pomona, including practicing engineers. The advisor has the final responsibility and authority to approve the committee membership. Changes to the committee membership are highly discouraged, but may be approved by the advisor, if necessary.

The student's primary contact is with the advisor. However, the committee members serve as resources for the student, and thus are available for consultation. In addition, the student is obligated to keep the committee members informed of his/her progress.

The student shall have identified the committee members and obtained their consent to serve in this capacity no later than the third week of the quarter.

## 3.6. Course Requirements

CE 690 has the following submittals. Due dates are shown on the CE 690 syllabus.

### 3.6.1. Tentative Topic and Tentative Advisor

The student shall prepare a Microsoft Word document with the following information:

- Tentative title of proposed project or thesis
- Name of tentative advisor
- One-paragraph description of the proposed scope, methodologies, and objectives

The student shall e-mail this document to the advisor and to the CE 690 instructor. If the committee has been formed, then it should be e-mailed to the committee members. The student also shall post this document on the CE 690 Blackboard site.

### 3.6.2. Bibliography

Once the tentative master's project or thesis topic has been selected, the student shall conduct a thorough literature search on the subject. The first step in this process is to develop a bibliography. All key references from professional literature on this topic must be included. For narrow topics, the bibliography shall be as complete as possible. For broader topics, the noteworthy references shall be included. The advisor, the committee members, and the CE 690 instructor can assist in defining the kinds of references that might be appropriate for the selected subject.

The bibliography shall be submitted as a Microsoft Word file sent via e-mail to the CE 690 instructor, the advisor, and the committee. The student also shall post a copy of this file on the CE 690 Blackboard site.

All bibliographic citations shall conform to the style defined in the author-date references section of the ASCE guidelines, which are available from the following website:

http://pubs.asce.org/authors/journal/

This bibliography ultimately will be included in the student's final project or thesis report. Although the student should make every effort to prepare a complete bibliography for CE 690, it is likely that he/she will find additional references during the course of the project, and these additional references also will appear in the final report. Other citations may later prove to be irrelevant and will ultimately be removed from the final list.

Note that this submittal does not include any discussions, summaries, abstracts, or other descriptions of the content contained in these references. The *Review of Literature and Current Practices* submittal will serve that function.

In some cases, the literature search may result in a rejection or modification of the tentative topic. For example, the student may discover that the tentative topic has already been sufficiently addressed by others. In such cases, the student shall develop a new or modified topic, update his submittal on the CE 690 Blackboard site, obtain approval from the advisor and CE 690 instructor, and prepare the bibliography accordingly.

### 3.6.3. Review of Literature and Current Practices

Once the bibliography has been prepared, the student shall review the various references in order to become thoroughly familiar with the topic. The key references and those that directly impact the topic should be read in their entirety and thoroughly understood. References that are only peripherally associated may sometimes be skimmed. In some cases, references may be found to be irrelevant and will be deleted from the bibliography.

In addition, the student will usually need to speak with practicing engineers, material suppliers, researchers, contractors, or others to better understand the state of practice and state-of-the-art. In some cases, students also may rely on their own professional experience. The advisor and committee members will typically be very important resources, so the student should be in close communication with them during this process. The objective is to become thoroughly familiar with the current state of practice and with the state-of-the-art.

The student shall then compile this information into a written review of the literature and current practices. This review shall be in a formal narrative format, and ultimately will form the basis for a comparable chapter in the final thesis or project report. Typically this submittal will be five to fifteen pages in length. However, the length of the document will vary depending on the topic, so thoroughness, completeness, correctness, conciseness and clarity are more important than length. In most cases illustrations and/or photographs will me needed to supplement the narrative.

This submittal shall be prepared in accordance with the ASCE guildelines, which are available from the following web page:

http://pubs.asce.org/authors/journal/

It is best for the student to submit a draft of this document to the advisor and request an informal review prior to submitting it to the CE 690 instructor for grading.

In some cases, the review of literature and current practices may result in a rejection or modification of the tentative topic. For example, the student may discover that the tentative topic has already been sufficiently addressed by others. In such cases, the student shall develop a new or modified topic, and develop a new or updated bibliography. The student also shall update his previous submittals on the CE 690 Blackboard site, obtain approval from the advisor and CE 690 instructor, and prepare the review of literature and current practices accordingly.

### 3.6.4. Proposal

Upon completion of the Literature and Current Practices Review, the student should begin preparing the Project Proposal or Thesis Proposal. The purpose of this proposal is to describe the objectives and methodology of the proposed work, and the final deliverables. It is unlikely that the project or thesis will be any better than the proposal, so the faculty have very high expectations for the quality and completeness of the proposal. The student should be in close communication with the advisor while developing the proposal so that both will have a common vision of the project scope and expectations.

. This proposal must use the following format:

Cover sheet (see Page 18 of these Guidelines for the standard format)

1. Objective
   Include problem statement and the objective of the project or thesis
2. Review of literature and current practices
   This section consists of the previously-submitted review, which may be further edited, if necessary.
3. Proposed investigation
   Describe the methods planned to investigate the topic. Identify software, laboratory facilities, and any other special resources that will be utilized.
4. Deliverables
   Describe the final deliverables expected from the project.
5. Timeline
   Divide the project into tasks and milestones. Provide a Gantt chart or other suitable presentation of the planned schedule.
6. Budget
   Required only if the project or thesis will need more $200 to complete. Identify the source of funding.
7. Bibliography

This section consists of the previously-submitted bibliography, which may be further edited, if necessary.

This submittal shall be prepared in accordance with the ASCE guildelines, which are available from the following web page:

http://pubs.asce.org/authors/journal/

The student shall submit a draft proposal to the advisor, the committee, and the CE 690 instructor by the due date shown on the CE 690 syllabus. This draft should be at the 90% completion level or better and shall be submitted as a Microsoft Word document via e-mail. The student also shall post a copy of this document on his/her space on the CE 690 Blackboard site.

The advisor has the primary responsibility for reviewing and approving the proposal. The committee and the CE 690 instructor will forward any comments to the advisor, who then will advise the student of any changes that need to be made.

The student shall then finalize the proposal and once again submit electronic copies to the advisor, the committee, the CE 690 instructor, and the CE 690 Blackboard site. The student also shall circulate a bound hard copy of the proposal to the committee and the advisor for signature, then submit the signed copy to the CE 690 instructor no later than the deadline shown on the syllabus.

### 3.7. Class Presentation

Each student shall orally present his/her approved proposal to the CE 690 class. The date, format, allttted time, and expectations will be provided by the CE 690 instructor.

### 3.8. Grading

In order to complete the course requirements for CE 690, the student must complete the requirements of Section 3.6. The CE 690 syllabus and course materials provide more specific information and deadlines.

Students who satisfy the course requirements by producing satisfactory work will receive a grade of A, A-, B+, or B. Students who are making progress but do not complete all of the course requirements, or who produce work judged to be B- or lower will receive in an I grade (incomplete) and will continue working on the course requirements. Once the course requirements have been satisfied, the instructor of record will file a grade change. An I grade will automatically revert to an IC (equivalent to an F) if the student does not complete the outstanding tasks and the instructor does not file a change of grade within one year. Students who made little or no progress on meeting the course requirements will receive an F or WU grade.

## 4. CE 695 – Master's Project

### 4.1. Prerequisites

The prerequisites for enrolling in the first quarter of CE 695 are:

- Successful completion of CE 690. Grades of I or RD are not sufficient.
- "Advancement to candidacy" status, which consists of:
    - Completion of all conditions of admission, including any preparatory courses that may have been specified
    - Having an approved program of study on file
    - Completion of at least 32 units of graduate-level coursework (500 or 600 level) with a grade point average of 3.0 or better
    - Passing the Graduate Writing Test (GWT) or receiving a waiver

Students who have not completed all of these prerequisites by the first day of the quarter may not enroll in CE 695.

The prerequisite for enrolling in the second quarter of CE 695 is a grade of B or better in the first quarter, or an RP grade with a statement from the advisor that the student is making adequate progress. Students who do not meet this requirement must delay their enrollment in the second quarter of CE 695 until the expectations for the first quarter are met and the advisor files a grade change.

### 4.2. Enrolling

To enroll in the first quarter of CE 695, the student must complete the form on Page 19 (also available from www.csupomona.edu/ce), obtain the necessary signatures, and submit the form to the Civil Engineering Department Office. The Department will e-mail the course number and/or permission number to the student.

To enroll in the second quarter of CE 695, the student must send an e-mail to the advisor, who then confirms the student has satisfied the prerequisite and forwards the request to the Civil Engineering Department Office. The Department will then e-mail the course number and/or permission number to the student.

### 4.3. Communication with the Committee

The student is responsible for maintaining regular and close communication with the advisor in order to receive the necessary guidance, to keep the advisor informed of ones progress, and to clearly understand the advisor's expectations. This communication is typically a combination of e-mail, telephone conversations, and face-to-face meetings.

The student also is responsible for keeping the remainder of the committee informed of his/her progress (typically by e-mail) and consulting with committee members as

appropriate. Communications with the other committee members are typically less frequent than those with the advisor. However, it is problematic if the entire committee is not involved until the oral defense.

### 4.4. The Final Report

The master's project must culminate in a formal written report, which shall include the following:

- Title page (see Page 20 for standard format)
- Signature page (see Page 21 for standard format)
- Acknowledgement page (optional)
- Table of contents
- Abstract
- List of figures
- List of tables
- Body of the report (with subject headings as appropriate)
- Bibliography
- Appendices

This submittal shall be prepared in accordance with the ASCE guildelines, which are available from the following website:

http://pubs.asce.org/authors/journal/

The report must be submitted in draft form to the committee no later than the end of the seventh week of the final quarter of the project or thesis.

### 4.5. The Oral Defense

All project students must orally defend their work before the entire committee, and should consult with the advisor in order to become familiar with the format and expectations. The student is responsible for scheduling the oral defense at a time agreeable to the committee. A 60-minute session should be scheduled. The student shall work with the civil engineering administrative support coordinator to locate a room and to arrange for any necessary audio-visual equipment. If all the committee members are not present, the defense will need to be rescheduled.

The oral defense shall consist of a 30-minute presentation, followed by approximately 15 minutes of questions and answers. The oral defense is open to the public, but only the committee members may ask questions.

The oral defense must be completed by the end of the ninth week of the quarter the student plans to graduate.

After reading the draft report and hearing the oral defense, the committee may require revisions to the report, a second oral defense, or both. In such cases, the updated report and the second oral defense must be completed by the end of final exams week.

If one or more of the committee members is not satisfied with the report and/or oral defense, then he or she should consult with the advisor, who should then work with the student to resolve the committee member's concerns. The committee member also must be reasonably available to advise the student as needed to resolve the concerns. However, the ultimate responsibility for producing a satisfactory result lies solely with the student. Irreconcilable differences between the student and any of the committee members (including the advisor) should be referred to the department chair.

### 4.6. Final Submittals

Once the committee has unanimously approved the report and oral defense, the student shall obtain the committee members' signatures on the signature page, then submit the following no later than the Monday following final exams week:

- A complete report with the original signature page and all drawings to the advisor. This report shall be velo bound with a clear cover and a black solid vinyl back cover.
- An electronic version of the complete report and drawings in PDF format on a CD to each of the committee members, and the civil engineering department office. In addition, one of these CDs shall be included in an appropriate pocket in the original bound report. This submittal may include one or more PDF files, as appropriate. In some cases additional electronic files, such as data files, may be needed.
- A Report of Culminating Experience with the advisor's signature (in the "department use only" section) to the civil engineering department office. The department staff will obtain the graduate coordinator and department chair's signature and will forward this form to the graduate studies office.. This form may be downloaded from the graduate studies website, www.csupomona.edu/~research

Master's projects are not submitted to the University Library.

### 4.7. Grading

The advisor is responsible for determining and issuing the grades, in consultation with the other committee members. The project is considered acceptable only if it is of sufficient quality and merit to receive a grade of B or better.

An "A" grade is appropriate when the project clearly satisfies all of the following requirements:

- The technical content is correct and complete, and demonstrates superior insights into the issues being addressed.

- The academic rigor is fully consistent with master's level work, and the results might possibly be publishable
- The use of engineering judgment is clear and appropriate
- The report is clear, complete, and professionally written
- The oral defense is professional and demonstrates an excellent understanding of the project

A "B" grade is appropriate when these requirements have generally been satisfied, but not to the level of rigor consistent with the expectations for an "A" grade. Grades of A- or B+ also may be issued.

The advisor has the option of issuing either a letter grade or an RP for the first quarter.

If the project is not completed at the end of the second quarter of enrollment in CE 695, students making reasonable progress will receive an RP grade. This will be changed to a letter grade upon satisfactory completion of the project.

## 5. CE 696 – Master's Thesis

### 5.1. Prerequisites

The prerequisites for enrolling in the first quarter of CE 696 are:

- One of the following:
  - Approval from a previously-identified thesis advisor and concurrent enrollment in CE 690, or
  - Successful completion of CE 690. Grades of I or RD are not sufficient.
- "Advancement to candidacy" status, which consists of:
  - Completion of all conditions of admission, including any preparatory courses that may have been specified
  - Having an approved program of study on file
  - Completion of at least 32 units of graduate-level coursework (500 or 600 level) with a grade point average of 3.0 or better
  - Passing the Graduate Writing Test (GWT) or receiving a waiver

Students who have not completed all of these prerequisites by the first day of the quarter may not enroll in CE 696.

The prerequisites for enrolling in a subsequent quarter of CE 696 are:

- A grade of B or better in the preceding quarter, or an RP grade with a statement from the advisor that the student is making adequate progress
- A grade of B or better in CE 690

Students who do not meet these requirements must delay their enrollment in the subsequent quarter of CE 696 until the expectations for the preceding quarter are met and the advisor files a grade change.

## 5.2. Enrolling

To enroll in the first quarter of CE 696, the student must complete the form on Page __ (also available from www.csupomona.edu/ce), obtain the necessary signatures, and submit the form to the Civil Engineering Department Office. The Department will e-mail the course number and/or permission number to the student.

To enroll in subsequent quarters of CE 696, the student must send an e-mail to the advisor, who then confirms the student has satisfied the prerequisite and forwards the request to the Civil Engineering Department Office. The Department will then e-mail the course number and/or permission number to the student.

## 5.3. Communication with the Committee

The student is responsible for maintaining regular and close communication with the advisor in order to receive the necessary guidance, to keep the advisor informed of ones progress, and to clearly understand the advisor's expectations. This communication is typically a combination of e-mail, telephone conversations, and face-to-face meetings.

The student also is responsible for keeping the entire committee informed of his/her progress (typically by e-mail) and consulting with committee members as appropriate. Communications with the rest of the committee are typically less frequent than those with the advisor. However, it is problematic if the committee is not involved until the oral defense.

## 5.4. The Final Report

The master's thesis must culminate in a formal written report, which shall include the following:

- Title page (see Page 20 for standard format)
- Signature page (see Page 21 for standard format)
- Acknowledgement page (optional)
- Table of contents
- Abstract
- List of figures
- List of tables
- Body of the report (with subject headings as appropriate)
- Bibliography
- Appendices

This submittal shall be prepared in accordance with the ASCE guildelines, which are available from the following website:

http://pubs.asce.org/authors/journal/

The report must be submitted in draft form to the committee no later than the end of the seventh week of the final quarter of the project or thesis.

### 5.5. The Oral Defense

All project students must orally defend their work before the advisor and the entire committee, and should consult with the advisor in order to become familiar with the format and expectations. The student is responsible for scheduling the oral defense at a time agreeable to the committee. A 90-minute session should be scheduled. The student shall work with the civil engineering administrative support coordinator to locate a room and to arrange for any necessary audio-visual equipment. If all of the committee members are not present, the defense will need to be rescheduled.

The oral defense shall consist of a 50-minute presentation, followed by approximately 15 minutes of questions and answers. The oral defense is open to the public, but only the committee members may ask questions.

The oral defense must be completed by the end of the ninth week of the quarter the student plans to graduate.

After reading the draft report and hearing the oral defense, the committee may require revisions to the report, a second oral defense, or both. In such cases, the updated report and the second oral defense must be completed by the end of final exams week.

If one or more of the committee members is not satisfied with the report and/or oral defense, then he or she should consult with the advisor, who should then work with the student to resolve the committee member's concerns. The committee member also must be reasonably available to advise the student as needed to resolve the concerns. However, the ultimate responsibility for producing a satisfactory result lies solely with the student. Irreconcilable differences between the student and any of the committee members (including the advisor) should be referred to the department chair.

### 5.6. Final Submittals

Once the committee has unanimously approved the report and oral defense, the student shall obtain the committee members' signatures on the signature page, then submit the following:

To the University Library

- Official copies. See www.csupomona.edu/research for specific instructions, requirements, and deadlines

To the Civil Engineering Department (no later than the Monday following final exams week):

- A complete report with the original signature page and all drawings to the advisor. This report shall be velo bound with a clear cover and a black solid vinyl back cover. This is identical to the library submittal, except for the binding.
- An electronic version of the complete report and drawings in PDF format on a CD each of the committee members, and the civil engineering department office. In addition, one of these CDs shall be included in an appropriate pocket in the original bound report. This submittal may include one or more PDF files, as appropriate. In some cases additional electronic files, such as data files, may be needed.
- A Report of Culminating Experience with the advisor's signature (in the "department use only" section) to the civil engineering department office. The department staff will obtain the graduate coordinator and department chair's signature and will forward this form to the graduate studies office. This form may be downloaded from the graduate studies website, www.csupomona.edu/~research

### 5.7. Grading

The advisor is responsible for determining and issuing the grades, in consultation with the committee. The thesis is considered acceptable only if it is of sufficient quality and merit to receive a grade of B or better.

An "A" grade is appropriate when the thesis clearly satisfies all of the following requirements:

- The technical content is correct and complete, demonstrates superior insights into the issues being addressed, and clearly is a contribution to the state-of-the-art or the state-of-practice.
- The academic rigor is full-consistent with master's level work, and the results are publishable
- The use of engineering judgment is clear and appropriate
- The report is clear, complete, and professionally written
- The oral defense is professional and demonstrates an excellent understanding of the thesis

A "B" grade is appropriate when these requirements have generally been satisfied, but not to the level of rigor consistent with the expectations for an "A" grade. Grades of A- or B+ also may be issued.

The advisor has the option of issuing either a letter grade or an RP during any of the quarters.

If the project is not completed at the end of the last quarter of enrollment in CE 696, students making reasonable progress will receive an RP grade. This will be changed to a letter grade upon satisfactory completion of the project.

## 6. CE 699 – Master's Degree Continuation

Students who received an RP grade in their last quarter of CE 695 or CE 696 must complete their project and apply for graduation in a subsequent quarter. Graduate students must be enrolled during the quarter they graduate, so students in this situation who have completed their other coursework should enroll in CE 699 during their final quarter. This is a 0-unit course that allows the student to maintain residency.

To enroll in this course, the student must send an e-mail to his or her advisor requesting a seat in CE 699 for a specified quarter. This request should be sent as early as possible, preferably no later than the 9th week of the preceding quarter. Upon approving this request, the advisor forwards the e-mail to the associate department chair, who schedules the course and provides the course number and/or permission number to the student.

## 7. Academic Integrity

The public relies on civil engineers to work with skill and integrity, as reflected in the ASCE Code of Ethics. Academic institutions, such as Cal Poly Pomona, also have a strong commitment to academic integrity. Both of these emphases on integrity impact the conduct of master's projects and theses, so it is essential for all students and faculty to work in accordance with the highest standards of academic integrity.

Examples of academic integrity violations include:

- Representing the work of another as one's own work. This includes failure to properly cite the work of others,
- Falsifying data
- Failing to disclose conflicts of interest, such as a financial interest in the outcome of the project or thesis

Academic integrity is especially important in the context of graduate-level projects and theses. Violations will be handled in accordance with University policies and procedures, and could result in failure of the project or thesis, dismissal from the program, annotation of the student's permanent transcript, or other penalties.

## 8. References

Mauch, J. E. and Birch, J. W. (2003), *Guide to the Successful Thesis and Dissertation*, 5th Ed., CRC Press

## Appendices

Proposal Cover Sheet
Request for Registration in Master's Project or Master's Thesis
Project or Thesis Cover Sheet
Project or Thesis Signature Page

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA
Civil Engineering Department

MASTER'S PROJECT PROPOSAL

**[PROJECT TITLE]**

Submited by:

Student Name _____ _____
Date

Approved by:

Committee Member Name
Project Committee Chair
Civil Engineering Department _____ _____
Date

Committee Member Name
Civil Engineering Department
Project Committee Member _____ _____
Date

Committee Member Name
Civil Engineering Department
Project Committee Member _____ _____
Date

CE 690 Instructor Name
Civil Engineering Department
CE 690 Instructor _____ _____
Date

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA
Civil Engineering Department

**Request for Registration in Master's Project or Master's Thesis**

Student Name:_____ Bronco No. _____

E-mail address: _____ Phone: _____

By the end of the current quarter I will have satisfied the requirements outlined in the Civil Engineering Department's *Guidelines and Policies for Master's Projects and Master's Theses*, and request registration in:

☐ CE 695 Master's Project for _____Quarters

☐ CE 696 Master's Thesis for _____Quarters

Project or Thesis Title _____

_____ _____
Student Signature Date

Advisor and Chair of the Committee

_____ _____ _____
Name (print) Department Signature/Date

Committee Members (minimum one for a project, two for a thesis)

_____ _____
Name (print) Department

_____ _____
Name (print) Department

Completion of CE 690 Requirements

_____ _____
CE 690 Instructor Date

Approved

_____ _____

Department Chair Date

**FULL TITLE OF YOUR REPORT**

A Project

Presented to the

Faculty of

California State Polytechnic University, Pomona

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science

In

Civil Engineering

By

John Q. Student

2007

**SIGNATURE PAGE**

PROJECT: PROJECT TITLE

AUTHOR: John Q. Student

DATE SUBMITTED: Fall 2007

Civil Engineering Department

Committee Member Name
Project Committee Chair
Civil Engineering Department _____ _____
Date

Committee Member Name
Civil Engineering Department _____ _____
Date

Committee Member Name
Civil Engineering Department _____ _____
Date