

**Handbook for Graduate Students**

In

**CIVIL ENGINEERING**

**AY 2016-2017**

**Version 2**

**California State University ◊ Fresno**

**Fresno CA 93740-8030**

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**Disclaimer**

This Handbook is designed to serve as an aid for graduate students as they navigate through the MSCE Program towards successful completion of their degree. Although significant effort has been devoted to ensuring that the content is correct, errors are likely to exist in any document of this size. Please consult the General Catalog and Division of Research and Graduate Studies for the most complete and accurate information on University and MSCE Program policies, procedures, and deadlines.

General Catalog web page: [www.csufresno.edu/catalog/](http://www.csufresno.edu/catalog/)

Division of Research and Graduate Studies webpages:

[www.fresnostate.edu/academics/gradstudies/](http://www.fresnostate.edu/academics/gradstudies/)

[www.fresnostate.edu/catalog/academic-regulations/gradstudies-regulations.html](http://www.fresnostate.edu/catalog/academic-regulations/gradstudies-regulations.html)

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# Mission of the MSCE Program:

The mission of the Master of Science in Civil Engineering (MSCE) Program and the Program’s option in Water Resources and Environmental Engineering (WREE) is to educate engineers who, entrusted by society, will create a sustainable world and enhance the quality of life during the 21st century as planners, analysts, designers, constructors, and operators of the built environment. The basic tenet of their formation is the instilling of the professional rectitude of intention1. As professionals, using the principles of mathematics and the natural sciences, theywill use economically the materials and forces of nature for the progressive well-being of society in the following activities: creating, improving, and protecting the environment; planning, designing, and building facilities and structures for community living, industry, and transportation.

Our program is designed for students who wish to gain technical depth and educational experience, geared toward professional practice and advanced study, through creative instruction and research.

# MSCE Program Goals:

The overall goal of the MSCE program and the WREE Option is to prepare students for professional practice and advanced study beyond the master’s degree. Upon completion of the graduate program of study in Civil Engineering, the competent student will successfully attain the knowledge and skills necessary to:

* Describe and embrace principles of professional ethics**,** personal responsibility, and environmental stewardship.
* Describe and explain, beyond the undergraduate level, the scientific principles involved in the planning, analysis and design of the built environment, or in the mapping and measurement of it.
* Evaluate and employ advanced concepts and methodologies for the design of the built infrastructure, or for mapping and measuring it.
* Evaluate and employ advanced techniques of analysis, including mathematical analysis and modeling, numerical techniques, and professional software for analysis and design in civil or geomatics engineering.
* Exhibit excellent communication skills.

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1 “professional rectitude of intention” refers to faithfully fulfilling the various demands entailed in doing your work in an excellent or correct manner.

# MSCE Student Learning Outcomes:

Students graduating from the MSCE Program and WREE Option will ( according to their area of concentration ) be able to:

1. Describe and embrace principles of professional ethics**,** personal responsibility, and environmental stewardship.
2. Describe, explain, and employ the scientific principles and modern professional techniques used in the analysis and/or design of:
	* buildings, bridges, and other structures, and/ or
	* transportation systems, transportation planning, and traffic operations, and/ or
	* water supply, flood management, water treatment, and environmental protection/ remediation facilities, and/ or
	* soil engineering, retaining walls, foundations, tunnels, and other geotechnical structures, and/or
	* measuring and mapping the earth and the built infrastructure.
3. Identify major regulations, codes, and specifications applicable to the planning, analysis, measuring, mapping or design of the built infrastructure; and be able to specify where current versions can be obtained.
4. Solve problems in engineering analysis and design through the use of mathematical analysis, differential equations, finite elements, finite differences, least square errors, or other numerical methods.
5. Use modern computer software for analysis and design or measuring and mapping of the built infrastructure.
6. Exhibit excellence in written and graphical communication, including technical documents, research reports, proposals, and presentations.
7. Exhibit excellence in oral communication, including public presentations to technical and non-technical audiences.

# Professional/ Ethical Behavior of Graduate Students

Graduate students of the MSCE Program are expected to behave in a professional and ethical manner congruent with the Code of Ethics of the American Society of Civil Engineers ( ASCE ) as follows:

**Fundamental Principles**

Engineers uphold and advance the integrity, honor, and dignity of the engineering profession by:

1. Using their knowledge and skill for the enhancement of human welfare
2. Being honest and impartial and serving with fidelity the public, their employers and clients;
3. Striving to increase the competence and prestige of the engineering profession; and
4. Supporting the professional and technical societies of their disciplines.

**Fundamental Canons**

1. Engineers shall hold paramount the safety, health and welfare of the public in the performance of their professional duties.
2. Engineers shall perform services only in areas of their competence.
3. Engineers shall issue public statements only in an objective and truthful manner.
4. Engineers shall act in professional matters for each agent as faithful agents or trustees, and shall avoid conflicts of interest.
5. Engineers shall build their professional reputation on the merit of their services and shall not compete unfairly with others.
6. Engineers shall act in such a manner as to uphold and enhance the honor, integrity, and dignity of the engineering profession.
7. Engineers hall continue their professional development throughout their careers and shall provide opportunities for the professional development of those engineers under their supervision.

Graduate students of the MSCE Program are also expected to behave in accordance with the University Policies regarding Cheating, Plagiarism, and Classroom Behavior described in the CSUF Schedule of Courses.

# Areas of Concentration within the M.S.C.E.

Students in the MSCE program can:

1. concentrate their coursework in any of the four technical concentration areas listed below, or
2. construct a plan of study that incorporates multiple subject areas.

Technical areas of concentration within the MSCE curriculum (listed alphabetically):

* Environmental & Water Resources Engineering\*
* Geomatics Engineering
* Geotechnical (Soils) Engineering
* Structural Engineering
* Transportation Engineering

In addition, up to 6 units of coursework outside of civil engineering may be incorporated into the plan of study if approved by the graduate faculty adviser and program coordinator.

## \* Option in Water Resources & Environmental Engineering

Students can enroll in the “Water Resources & Environmental Engineering” (WREE) option. Completion of the requirements will result in the WREE title being added to their degree. Existing students in the MSCE Program can enroll in the WREE by completing and submitting the following:

1. Change in Major Objective form
2. Advancement to Candidacy form (for the WREE option)

# Degree Requirements Overview

1. Completion of 30-units of approved coursework with a minimum 3.0 program GPA. *Students must consult with their graduate program adviser when developing their plan of study.*
2. Successful completion of a culminating experience (Thesis, Project, or Comprehensive Exam). *Discussed further below.*
3. Submission and approval of a completed Graduate Degree Application form and a Graduate Degree Clearance form. *Discussed further below.*

**Plan A (Thesis)**

a. 200-series CE courses (see note 1) ( 12-24 units)

b. 100-series CE or GME technical area courses (see note 2) (0-6 units)

c. Courses outside the department (see note 3)     (0-6 units)

d. Thesis (6 units)

**Plan B (Project)**

a. 200-series CE courses (see note 1) (15-27 units)

b. 100-series CE or GME  technical area courses (see note 2) (0-6 units)

c. Courses outside the department (see note 3)     ( 0-6 units)

d. Project (3 units)

**Plan C (Comprehensive Exam)**

a. 200-series CE courses (see note 1) (18-30 units)

b. 100-series CE or GME  technical area courses (see note 2)    ( 0-6 units)

c. Courses outside the department (see note 3)     ( 0-6 units)

**Advising Notes**

1. Graduate courses in civil engineering — select from CE 205, 206, 210, 220, 223, 225, 230, 232, 233, 235, 236, 237, 239, 240, 241, 242, 245, 246A, 246B, 247, 251, 261, 271, 276, 280, 283, 285, 286, 290, and 291T.
2. 100-series technical area courses in civil and geomatics engineering — select from CE 125, 131, 134, 136, 137, 141, 144, 146, 151, 153, 191T; GME 125, 126, 135, 145, 152, 153, 161, 174, 175, 191T; and ME 144. A minimum grade of B is required. Similar courses previously taken and counted towards another degree are excluded.
3. 100-series and 200-series courses outside civil and geomatics engineering are in disciplines best suited to the student’s graduate program as approved by the program adviser. This includes mathematics, statistics, management, business, geology, physics, chemistry, health science, and biology. A minimum grade of B is required. Similar courses previously taken and counted towards another degree are excluded.

Additional details can be found in the Graduation Requirements and Timeline Summary section of this handbook, and in the General Catalog.

# Selection of Faculty Adviser

The department graduate program coordinator will appoint an interim graduate adviser for each student when that student is accepted into the graduate program. The coordinator will take into account student and faculty interests when making this appointment. A graduate student may change his/ her graduate adviser, but such change should be

1. requested before completing 12 units of graduate study and advancing to candidacy,
2. approved by the department's Graduate Committee.

In most cases the process of selecting an interim graduate adviser is initiated during the MSCE Program new-student orientation (held each year in August). If the student enters the program in the Spring semester or is unable to attend the student orientation he/ she should seek an appointment with the program coordinator prior to the start of his/her first semester of coursework to request an interim adviser.

# Student Responsibilities

Students admitted into the MSCE program are responsible for meeting all University and MSCE Program requirements. Student responsibilities include, but are not limited to, the following:

1. Becoming familiar with all relevant University and MSCE Program rules and requirements**,** including reading this entire Handbook.
2. Tracking their progress towards meeting University and MSCE Program requirements, including identifying critical milestones and completing and submitting required documents by the agreed upon or published deadline. Students must plan ahead and provide sufficient time for obtaining required approvals and signatures (e.g., from your faculty adviser, grad. program coordinator, dept. chair, and other campus personnel).
3. Seeking advice from graduate faculty and University personnel on important decisions related to continuance in the program and progress towards meeting degree requirements.

# Program Admission Status

Students may be admitted in to the MSCE with classified standing or they may be admitted as conditionally classified. ***Students must achieve classified graduate standing by the semester in which they complete 10 units of coursework that they want to be counted*** towards the 30 units required for the graduate degree.

## Classified Standing

Classified graduate students are those who have been fully admitted to their program. To be admitted into the MSCE Program with classified standing, students must comply with the University Graduate Admission requirements and with the following department requirements ([www.fresnostate.edu/catalog/#master's](http://www.fresnostate.edu/catalog/#master's) ):

1. Completion of a baccalaureate in science (BS) degree in Civil Engineering, or in a related engineering discipline, accredited by the ABET.
2. Grade point average of at least 3.0 in the last 60 units of undergraduate engineering coursework (4.0 being an A)
3. Have taken the GRE and obtained a minimum score of 550 (146 on the Revised Test) in the quantitative portion of the exam.

## Conditional Classified Standing

The following categories of students may be admitted on a conditional basis if the student meets the general University requirements for all graduate students and is approved by the MSCE Graduate Program coordinator:

Category 1: Students who have a BS degree in Civil or Geomatics Engr. from an ABET-accredited program, but who do not meet min. GPA or GRE scores.

Category 2: Students who do not have a B.S. degree in Civil or Geomatics Engineering, or have one from a non-ABET-accredited program.

The applicant granted conditionally classified graduate standing must complete a set of requirements before he/ she can attain classified standing and advance in the program. The requirements include:

1. Attain a minimum GRE quantitative score of 146 (Revised Test Scale), and,
2. For students in Category 1 above (have ABET-accredited CE or GME degrees):

Meet any additional requirements as determined by the MSCE graduate coordinator in consultation with the MSCE graduate faculty. One example of a requirement that may be assigned is as follows: “Earn a grade of "B" or greater in each of the first 3 courses that will be counted towards the MSCE degree.”

For students in Category 2 above:

Successfully complete with an average grade of B or better a set of prerequisite courses recommended by the Graduate Committee of the MSCE Program. The prerequisite courses are determined on a case-by case basis depending on the student's background (academic preparation) and the nature of the courses that the student would like to take in our program. An example set of Category 2 prerequisite courses\* is provided below (Adopted 2/1/2012).

a) **Core courses:** *(choose based on CE or GME area of emphasis as applicable)*

Civil Engineering Emphasis (structures, geotechnical, or water/ environmental)**:**

CE 20, CE 121,CE 121 L,CE123, CE123L, CE128, CE129, CE130, CE 132, CE142, CE150, and one 100-level technical elective design course in the area of study that the student will emphasize in the graduate program (i.e., structures, geotechnical, or water/ environmental engineering)\*.

Geomatics Eng. Emphasis: GME 108; GME 123; GME 135; GME 143; & 151.

b) **Prerequisites to core courses listed above:** Prerequisites to core courses include the first three semesters of calculus (MATH 75, 76, & 77), the first semester of calculus-based physics (PHYS 4A), and other courses that will vary according to the student’s academic background and the area of study to be pursued in the graduate program.

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\* Additional prerequisite coursework is required for students who wish to design a cross-disciplinary study plan; the specific courses will depend on the nature of the coursework proposed. Please speak to the graduate program coordinator for additional information. In cases where the senior faculty member responsible for the area of curriculum deems that the student has sufficient preparation, prerequisite coursework requirements can modified (courses waived).

**Classified Standing Application Procedures** *(for conditional classified students):*

1. Contact your graduate advisor to review the conditions that are to be satisfied before you can apply for Classified Standing, and develop a plan of study that will satisfy the requirements as early as possible; you can view these conditions at your my.fresnostate web site.
2. Satisfy the plan of study and noted conditions;
3. Have our department submit verification that you have met all conditions to the Division of Research and Graduate Studies for approval. Verification is done using the Classified Graduate Standing Request form.

# New Student Orientations, MSCE Graduate Student Handbook Reading (Required), and Graduate Net

New students are requested to attend the MSCE Program and University new-student orientations. Furthermore, students are required to read the student handbook, guidance manual and communications skills documents as follows:

1. MSCE Graduate Student Handbook
2. “A Guidance Manual on the Preparation of Technical Reports, Papers, and Presentations,” Revised 2nd Edition. G. Tchobanoglous and Harold Leverenz (2013).
3. “Professional Skill: Communication,” by Tony Akel

Electronic copies of these documents are available from the graduate program coordinator (wfwright@csufresno.edu).

**Orientations:** Both orientation events are typically scheduled on the same day each fall in the week prior to the start of instruction. These events provide a wealth of information that the student will need to know in order to successfully navigate through the program. In addition, these events provide opportunities to meet program faculty and other students.

**MSCE Graduate Student Handbook:** It is required that all students read this MSCE Graduate Student Handbook in its entirety and sign and submit the form located in the Forms section of this Handbook. The form states that the student has read the Handbook and agrees to follow all requirements stated within the Handbook, and those incorporated by reference. ***The signed and dated form is to be submitted to the department chair or graduate program coordinator by the end of the second week of the first semester of enrollment***. Failure to submit the form may result in the student not being permitted to attain Classified Standing or Advancement to Candidacy in the MSCE Program.

**Graduate Net:** The Graduate Net is a portal to every service available to master’s, students, both on campus and through the internet. From the admissions process, through financing graduate education, succeeding in your program and preparing for your chosen career. Staff at the Graduate Net Initiative collaborate with the Division of Research and Graduate Studies, the various graduate programs on campus, as well as with individual faculty and staff members to bring you expanded research and funding opportunities and a series of new and improved support services meant to help you succeed in graduate school. You can sign up to receive their newsletter, twice each semester, to keep informed about new resources and opportunities as well as remind you of existing ones. The newsletter will also be a source of information about important academic and funding deadlines, campus and community events, and opportunities to get involved and be recognized. You are strongly encouraged to visit their Web site: <http://www.fresnostate.edu/academics/graduatenet/index.html> .

# CE 210 Research Methods

Each student in the MSCE program should enroll in CE 210 Research Methods as soon as possible, but only after substantial completion of any required prerequisite course. Students in CE 210 develop research skills, explore and refine ideas for research topics, and work to comply with the Graduate Writing Requirement and the Department Qualifying Examination (details provided further below).

# Catalog Year

Graduate degree requirements are based on the published requirements of the catalog in effect at the time of the student's advancement to candidacy. In certain circumstances, catalog requirements published in the year when the individual student was fully admitted to the program may apply. The most complete version of each catalog can be found at the following web site: [www.csufresno.edu/catalog/](http://www.csufresno.edu/catalog/)

Valuable information on degree requirements, workshops and other subjects of interest to graduate students can be found at the Division of Research and Graduate Studies “New & Current Students” web page:

[www.fresnostate.edu/academics/gradstudies/requirements/](http://www.fresnostate.edu/academics/gradstudies/requirements/)

# Definition of Full-Time Student Status

For the purpose of reporting enrollment for graduate students, including international students with F-1 or J-1 visas, regardless of status:

* Part-time: Less than 9 units
* Full-time: 9 or more units

For the purpose of financial aid (loans, etc.):

* Part-time: 3/4 time: 9 to 11 1/2 equivalent units

1/2 time: 6 to 8 1/2 equivalent units

* Full-time: 8 units of 200-level courses; or

12 equivalent units\* from combined 200 and 100 level

*\* “Equivalent units:” 1.5 units for each 200-level unit, and face value for each 100-level unit.*

Students enrolled in zero units (GS Continuation, GS 299C, CE 298C, or CE 299C) may need to verify their possible qualification for full- or part- time status.

* The paperwork is available at the DRGS Office.
* See “Student Status of Zero Units Verification Request” at the DRGS web site. <http://www.fresnostate.edu/academics/gradstudies/requirements/enrollment.html>

## Requirement for Full-Time Enrollment International Students

International students on non-immigrant F-1 and J-1 visas must pursue full-time study in a specific program. Full-time study includes 12 weighted academic units of approved prerequisite, corequisite, or graduate program courses. (Note: 200-series courses have weighting factor of 1.5 per course unit.)

# Time Limitation on Graduating/ Course Expiration

The University expects that students will work towards completing their degree requirements in a timely fashion, and have established a limit of five years for this process, exclusive of prerequisite coursework. Some circumstances beyond a student’s control, e.g., military service, warrant extensions to the time limit..

**Course Expiration.** A time limit of five years from the oldest course listed on the student’s approved “Petition of Advancement to Candidacy” form is allowed for completion of the master’s degree. A limited number of outdated courses (older than five years) may be validated. In rare circumstances only, extensions beyond the five-year limit (no more than two additional years) may be granted.

# Continuous Enrollment & Planned Educational Leave

All graduate degree students must maintain continuous enrollment from their initial point of enrollment in their graduate program. This includes:

* while completing a grade of “RP” or “I” in any course, most commonly the master’s thesis or project,
* while preparing to take a comprehensive examination, and
* during the semester in which they file an application for the degree.

**Project and Thesis Students:** Initial enrollment for Project 298 and Thesis 299 occurs in the departmental office. After initial enrollment in 298 or 299 units, project and thesis students must maintain enrollment as follows:

**Project Students**: Enroll in CE 298C (zero units) through regular enrollment each semester until the awarding of the degree. Students may enroll twice in CE 298C with department approval. Additional registrations are not encouraged, and must be approved by the Dean of Graduate Studies. Permission and class numbers for CE 298C must be obtained from the department.

**Thesis Students**: Enroll in CE 299C (zero units) through regular enrollment each semester until the awarding of the degree. Students may enroll twice in CE 299C with department approval. Additional registrations are not encouraged, and must be approved by the Dean of Graduate Studies. Permission and class numbers for CE 299C must be obtained from the department.

**Comprehensive Examination Students:** Comprehensive examination students who have completed all courses toward the degree, must maintain continuous enrollment by enrolling in GS Continuation (zero units through Continuing and Global Education). After one semester of enrollment in GS Continuation, students must maintain enrollment thereafter by enrolling in GS 299C (zero units through regular enrollment) each semester until the awarding of the degree. Authorization for enrollment in both GS Continuation and GS 299C must be approved by the Division of Research and Graduate Studies. Permission and class numbers for GS Continuation and GS299C must be obtained from the Division of Research and Graduate Studies Office.

**Those who fail to maintain continuous enrollment may be disqualified from their graduate program.**

**Planned Educational Leave:** Students wishing to temporarily suspend their formal studies in order to pursue other activities that will help clarify and contribute to their educational goals may request a planned leave. Planned educational leaves of absence do not change the existing five-year time limit for completion of the degree.

# Advancement to Candidacy

Advancement to candidacy gives a student permission to proceed toward qualifying for the degree and provides the student with a program of study that has been officially reviewed and approved by both the student's faculty and by the graduate dean. This important step confers on the student the status of candidate for the degree and represents a commitment both on the part of the student and the degree program to complete the degree within a specified time limit according to requirements published in a specific university catalog year.

Advancement to candidacy is essential to the student in planning for registration in courses. The student should, therefore, meet with his/her graduate program coordinator/ director soon after attaining classified graduate standing to discuss advancement to candidacy.

**A student must be advanced to candidacy no later than the semester preceding the semester in which the student:**

1. applies for the graduate degree to be granted, and/ or
2. begins the culminating experience.

**Students are encouraged to petition for advancement to candidacy as soon as they are eligible to do so.** For students in the M.S.C.E. Program to be advanced to candidacy they must have accomplished the following:

* attained classified standing,
* completed at least 9 units of course work of proposed program,
* have a program GPA of at least 3.0 in all course listed on the Petition of Advancement to Candidacy,
* selected and secured the consent of a graduate adviser.,
* fulfilled the Graduate Writing Requirement (typically done in CE 210)
* Pass the Department Qualifying Examination (see further below).

Petition procedure:

1. Meet with your faculty adviser and complete the “Petition of Advancement to Candidacy” form (***use the interactive digital version for your Catalog Year*** at: <http://www.fresnostate.edu/academics/gradstudies/forms/atc.html> ); Have the form reviewed and signed by your graduate program adviser, then the graduate coordinator.
2. Submit the advancement petition to the DRGS for final approval.

# Administrative Academic Probation (AAP)/ Disqualification

Students are required to maintain a minimum 3.0 post-baccalaureate cumulative GPA prior to advancement, and a minimum 3.0 program GPA after advancement.

Any semester for which the GPA falls below 3.0 shall result in the graduate student being placed on probation. A second semester for which the GPA is below 3.0 shall lead to disqualification. Additional information can be found in the Division of Research and Graduate Studies section of the General Catalog (see the subsection on Administrative Academic Probation –Academic Disqualification).

## Options for Remedying Low GPA:

See the Question and Answer section near the end of this handbook.

# Course Credit Limitations

Numerous limitations exist on coursework allowed for credit, and on grading. For example,

1. An average grade of “B” or higher is required for prerequisite courses;
2. A minimum grade of “B” is required in:
	1. CE 210
	2. Courses that are to be counted towards the MSCE that are:
		1. 100 series
		2. outside of the Civil Engineering program curriculum.
3. A minimum grade of "C" is required in all courses listed on the Advancement to Candidacy petition, however, the student must also maintain a minimum 3.0 program GPA, therefore, an equal number of "A" units would be required to balance out the "C" units.

Selected information on course credit limitations, excerpted from the 2015-16 General Catalog, is provided near the end of this manual for the purpose of providing an example of requirements that were in effect during that catalog year. Topics include the following:

Residence Credit CR/ NC Grading

Transfer Credit Prohibited Coursework

Double Counting of Coursework Outdated Courses/ Validation

Extension Credit Independent Study Courses

Postbaccalaureate/ Graduate Credit Graduate-Level Courses

Student Teaching Credit Substitutions

Credit by Examination

# Graduate Writing Requirements and Qualifying Exam

## Graduate Writing Requirement

To comply with the Graduate Writing Requirement, **each student in the MSCE program should enroll in CE 210 Research Methods** **as early in the program as possible after completion of prerequisite courses**. The instructor of the CE210 class will notify the graduate coordinator the final standing of all students enrolled in CE 210 at the end of the semester the course is offered. Any disputes will be resolved by the MSCE Graduate Committee.

In keeping with the State of California’s and university’s graduate-level writing requirements, all graduate students in the MSCE program must demonstrate competence in writing skills prior to being advanced to candidacy.

**Graduate students in the MSCE program should develop writing skills commensurate with society’s expectations of persons who hold advanced degrees.** They should also develop the ability to write in formats and styles appropriate to their corresponding Civil Engineering disciplines. The objectives of the MSCE writing requirements are that the students develop a level of writing proficiency demonstrated by:

1. comprehensibility;
2. clear organization and presentation of ideas;
3. an ability to arrange ideas logically so as to establish a sound scholarly argument;
4. thoroughness and competence in documentation;
5. an ability to express in writing a critical analysis of existing scholarly/ professional literature in the student’s area of interest; and
6. an ability to model the discipline’s overall style, as reflected in representative journals.

The student’s graduate writing skills will be evaluated in the CE 210 course based on progressive paper submissions and a final term paper. Partial grades are assigned on each of the submissions ( on a scale of 1 through 4; see the Graduate Writing Rubrics in a latter section of this handbook). Feedback on the partial submissions will be provided by the instructor with the attempt to improve the writing quality and with specific points that need improvement as necessary. Students are expected to seek advice from the MSCE faculty, the University Graduate Writing Studio (see below), and other means to improve the quality of their writing. A final arithmetic average will be calculated based on three partial submissions and the final term paper. The required GPA to comply with the Graduate Writing Requirement is 3.5 or better.

Graduate Writing Grading Distribution: Partial Written Submittals 65%

 Final Paper 35%

Students who pass the course but score less than 3.5 in the written submittals will have to make arrangements with the graduate coordinator and individual graduate adviser to resubmit the same final paper after improvements or to submit a different paper for final grading in an attempt to score 3.5 or better.

## Department Qualifying Exam

The Department Qualifying Examination (DQE) requirement is satisfied by passing CE 210 with a grade of “B” or better, except, if the student has been advanced to candidacy prior to the 2013-14 academic year, the DQE is automatically satisfied when the student passes the Graduate Writing Requirement.

## Graduate Writing Guidance Manual

Students are required to obtain and read “A Guidance Manual on the Preparation of Technical Reports, Papers, and Presentations,” Revised 2nd Edition. G. Tchobanoglous and Harold Leverenz (2013). A digital copy can be requested from the graduate program coordinator (wfwright@csufresno.edu).

## Graduate Writing Studio

The Graduate Writing Studio provides a variety of services that are designed to assist students in improving their writing skills. Students are strongly encouraged to make frequent use of this valuable resource.

Studio Location: Henry Madden Library, Room 2119

Hours of operation: Mon-Thurs 9 a.m.-7 p.m. & Friday 9 a.m.-4 p.m.

Phone Number: (559) 278-2450 *(For information or to schedule an appointment)*

# Independent Study (CE 290)

CE 290 Independent Study is a course option that is considered on a case-by-case basis to address special needs of a student and/ or graduate faculty member. Up to 6-units of CE 290’s can be used to count towards the master’s degree. CE 290’s are made available on a limited basis. CE 290 course proposals are generally approved if all of the following conditions are met:

1. The student and a willing graduate faculty member both agree on the nature and terms of the proposed study plan and submit a completed digital version of the CE 290/ 298 Proposed Study/ Project Form to the graduate coordinator by the end of the second week of the semester. Digital copies of this form can be obtained from the graduate coordinator (wfwright@csufresno.edu).

An example of what the form looks like can be found in the Forms section of this handbook. The Proposed Study/ Project form includes the following elements:

1. Title of the proposed work
2. Scope of the proposed work
3. Objectives (and hypothesis, if applicable)
4. Deliverables (provided by the student to the graduate faculty supervisor)
5. Timeline (for submission of the deliverables to the graduate faculty supervisor)
6. *A*greement to undertake the proposed work; signatures (student, faculty adviser, graduate coordinator).
7. The Proposed Study form has been approved by the graduate program coordinator.

# Culminating Experience

All MSCE students must successfully complete a Culminating Experience to be eligible to receive their MSCE degree. The Culminating Experience options are:

* **Thesis Option**  (CE 299 ) which counts 6 units towards the 30 units required for graduation,
* **Project Option** (CE 298) which counts for 3 units towards the 30 units required for graduation, or
* **Comprehensive Exam Option**, which counts 0 units towards the 30 units required for graduation.

As early as possible the student should identify a graduate adviser, select a project or thesis adviser ( may be the graduate adviser ), and obtain a written consent of his/her willingness to function as project/ thesis adviser. The written consent will be submitted to the graduate coordinator with the advancement to candidacy petition.

The finished thesis or project must show evidence of originality, organization, clarity of purpose, critical analysis, accuracy, completeness, and quality of writing consistent with the standards appropriate for publication in the scholarly journals of the field. Critical and independent thinking should characterize the thesis or project. The scope of the thesis or project should be consistent with the amount of effort typically required for a 6-unit graduate course (for a Thesis) or 3-unit course (for a Project).

**Important Limitation on Changing Culminating Experience:** Students:

1. may change their culminating experience option any time before formally engaging in it, however, approval of the graduate faculty adviser is required if the student has been advanced to candidacy.
2. **may not change their culminating experience option after enrolling in 298 or 299 units, or failing the comprehensive exam.** Rare exceptions might be possible under extraordinary circumstances (approval by the graduate program coordinator and the Dean of the Division of Research and Graduate Studies required).

**Details of each option are provided on subsequent pages.**

## Thesis Option

In coordination with the graduate adviser, the student will identify a thesis committee and obtain their approval to function as such. The committee will consist of a chair (who may be the graduate adviser) and at least two other members. A minimum of 2 committee members must be tenured or tenure-track faculty. The student will secure approval of his/her thesis plan from the department graduate committee and file an official thesis committee assignment with the Division of Research and Graduate Studies.

The work performed as part of the thesis should be original and should contribute to the advancement of engineering science or engineering practice. Preferably, research performed as part of the thesis, all or part of it, may be of a quality and novelty worth to be published in a professional technical journal. Additional insight on the nature of the thesis can be found in California’s Title 5 (Education Code) as follows:

A thesis is the written product of a systematic study of a significant problem. It:

1. identifies the problem
2. states the major assumptions
3. explains the significance of the undertaking
4. sets forth the sources for and methods of gathering information,
5. analyzes the data, and
6. offers a conclusion or recommendation.

The finished product evidences:

1. originality
2. critical and independent thinking
3. appropriate organization and format, and
4. thorough documentation.

Normally, an oral defense of the thesis is required.

The underlying assumption is that the working relationship between the thesisstudent and adviser is professional, courteous, respectful, and mutually enriching. Any discord or disagreement, should be resolved directly between student and adviser and as early as possible. Further differences may be consulted with the concurrence of the MSCE graduate coordinator and/or the department chair. Appeals and petitions are outlined in the University Catalog.

The thesis option is completed when approvals are obtained from thesis committee members and the Division of Research and Graduate Studies, and the student has successfully made an oral presentation summarizing the importance, approach, and findings of his/her research. It is required that this final oral presentation be made before all interested faculty and students and be appropriately announced by the student (e.g., via e-mail, flyers, or other effective advertisement) ahead of time.

More details regarding registration in CE 299 and progress through the thesis option can be found in the Division of Research and Graduate Studies Dissertation/ Thesis Office web page (<http://www.fresnostate.edu/academics/gradstudies/thesis/>) and in the University General Catalog.

## Project Option

Students who select the project option need to secure as early as possible, and before the Petition of Advancement to Candidacy, the approval of a project topic and outline by the graduate adviser. Similarly to the thesis, the work performed in this option should be reported in a Final Project Report and must show evidence of originality, organization, clarity of purpose, critical analysis, accuracy, completeness, and quality of writing consisting with the standards appropriate for publication in the scholarly journals of the field. Additional insight on the nature of the project can be found in California’s Title 5 (Education Code) as follows:

A project is a significant undertaking appropriate to the fine and applied arts or to professional fields.

It evidences:

1. originality and independent thinking
2. appropriate form and organization, and
3. a rationale.

It is described and summarized in a written abstract that includes the project's:

1. significance
2. objectives
3. methodology and
4. a conclusion or recommendation.

An oral defense of the project may be required.

Although the Final Project Report does not have to comply with the datelines and format requirements of the thesis option, it is highly recommended that the format and deadlines are followed as guidelines in the preparation and submittal of the Final Project Report. The following content and organization guidelines for projects have been approved by the University Graduate Committee (11/9/10; Modified):

1. Title Page 6. Literature Review

2. Signature Page 7. Data Collection/Analysis/Project Documents

3. Table of Contents 8. Conclusions/Recommendations

4. Abstract 9. References

5. Introductory Statement 10. Appendixes

The project option is completed when the graduate adviser submits the final grade for the projectand the student has successfully made an oral presentation summarizing the importance, approach, and findings of his/her research project. It is required that this final oral presentation be made before all interested faculty and students and be appropriately announced by the student (e.g., via e-mail, flyers, or other effective advertisement) ahead of time.

Details on how each project report and oral presentation is to be graded are provided in the Project Grading Rubric, which is provided in a latter section of this handbook.

## Comprehensive Exam Option 1

Students who want to pursue the comprehensive exam option should plan as soon as possible, and before submitting their petition of Advancement to Candidacy, to meet with the graduate adviser to plan the details, contents and possible dates of the comprehensive exam. The comprehensive exam will be administered at least four ( 4 ) weeks before the ending of the semester, and the student will be given at least two weeks of advanced notice for the exam date if the student notifies his/her faculty adviser and the graduate coordinator in writing of his/ her intent to pursue the comprehensive exam option by the first week of the semester.

California’s Title 5 (Education Code) describes the comprehensive exam as follows: A comprehensive examination is an assessment of the student's ability to:

1. integrate the knowledge of the area
2. show critical and independent thinking, and
3. demonstrate mastery of the subject matter.

The results of the examination evidences independent thinking, appropriate organization, critical analysis and accuracy of documentation. In addition, faculty of the Civil Engineering Graduate Program views the purpose of the comprehensive exam as follows:

*The purpose of the comprehensive exam is not to ascertain if the candidate learned the material of the courses in his/her plan of study, but rather to determine if the candidate is able to use the content of those courses in applications that are not explicitly presented in the classroom but are the immediate and natural application of the classroom subjects.*

The contents of the exam will be determined by the graduate adviser with the approval of the graduate coordinator. The graduate faculty adviser will:

1. request exam questions from each full-time faculty within the Department of Civil and Geomatics Engineering who taught courses listed on the Candidate’s approved Advancement to Candidacy petition, and

2. prepare a draft exam for review and comment by other graduate faculty and the graduate coordinator.

3. request from faculty the corresponding rubrics for grading after the exam content has been finalized (approved by the graduate coordinator).

*Continued*

1 Current version adopted in August 2011 by the Graduate Faculty of the Civil Engineering Program.

The graduate faculty will submit the results of the exam to the candidate’s graduate faculty adviser and the graduate coordinator at least two ( 2 ) weeks prior to the ending of the semester. The graduate coordinator will communicate the results to the student within one ( 1 ) week following receipt of the results.

Graded exams are kept confidential, are not to leave the office, and no copies or other form of reproduction will be permitted. The student may view his/ her graded exam under the direct and continuous supervision of his/ her graduate adviser. A record of the examination questions and responses will be maintained in accordance with the records retention policy of The California State University.

A minimum overall score of 75-percent on the entire exam is required to pass the exam. If the student does not earn a passing grade on the exam the student may:

1. request a meeting with the graduate faculty adviser and the graduate coordinator to dispute the results of the exam and seek resolution at the department level. In this case the student will be permitted to develop a written response to the grading of the exam. Such responses are to be submitted to the graduate coordinator within one ( 1 ) week of the Student receiving the exam results. The appeal should include well-supported arguments making a case for reconsideration of the grading of specified exam questions. A meeting of graduate faculty in the department will be called by the graduate coordinator to review the appeal, and deliberate on its merits, and develop a response. The graduate coordinator will communicate the results to the student.

A further appeal may be pursued by the student if he/she is not satisfied with the results of the department-level review as indicated in the University Catalog.

1. have the opportunity to take another comprehensive exam that covers similar subjects found in the parts of the original exam for which scores of less than 75-percent were earned. The student will have approximately the same length of time to complete the new exam as was given for the parts of the original exam that were not passed (e.g., if a student was allotted two hours for Part 1 of the original exam, and that was the only part of the exam that the student earned less than 75-percent, then the student would be allotted two hours to complete the new exam). The exam can be retaken only once and failure to pass the exam the second time will result in the student being disqualified and dismissed from the MSCE Program.

# Graduation Requirements and Timeline Summary

Basic steps that you must navigate in a timely manner to help ensure your own success are provided below. A brief description of the major requirements is provided in the Graduation Requirements Overview subsection and additional details are provided in the Timeline Overview subsection. Additional details can be found elsewhere in this handbook. The student is referred to the current General Catalog and the Division of Research and Graduate Studies web site for the most accurate and comprehensive description of program requirements.

1. Div. Grad. Studies (DRGS) website: [www.fresnostate.edu/academics/gradstudies/index.html](http://www.fresnostate.edu/academics/gradstudies/index.html)

Forms: <http://www.fresnostate.edu/academics/gradstudies/forms/>

1. General Catalog website: [www.fresnostate.edu/catalog/](http://www.fresnostate.edu/catalog/)

## Graduation Requirements Overview

1. Completion of 30-units of approved coursework (i.e., the courses listed on the student’s approved Advancement to Candidacy form) with a minimum 3.0 program GPA. *Students must consult with their graduate program adviser and the most current list of future course offerings when developing their plan of study. The list of future course offerings is tentative/ subject to change.*
2. Completion of a culminating experience (Thesis, Project, or Comp. Exam).
3. Submission and approval of a completed Graduate Degree Application form and a Graduate Degree Clearance form (submitted by the program coordinator).

## Timeline Overview

**1. Admission to Classified Graduate Standing.**

You must achieve classified graduate standing by the semester in which you complete 10 units to be used toward your graduate degree.

Additional information, including conditional classified standing and application procedures, is located in the “Classified Graduate Standing” section of this manual.

**2. Advancement to Candidacy.**

You must be advanced to candidacy no later than the semester preceding the semester in which the student applies for the graduate degree to be granted and/or begins the culminating experience. Students are encouraged to petition for advancement to candidacy as soon as they are eligible to do so.

Additional information, including eligibility criteria and application procedures, is located in the “Advancement to Candidacy” section of this manual.

*Continued on next page*

**3. Application for the Graduate Degree and Graduate Degree Clearance.**

A minimum GPA of 3.0 in program coursework and permission from the graduate coordinator are required to be eligible for graduation.

### Graduate Degree Application Process

You must file a “Graduate Degree Application” during the first two weeks of each semester or summer as a first step. **Application Procedure:**

1. Complete and file the application during the first two weeks of the semester (Check the DRGS Web site for the exact dates of each application filing period) the “Graduate Degree Application” (available, during the application period, in the Division of Research and Graduate Studies or on the DRGS website: <http://www.fresnostate.edu/academics/gradstudies/forms/>
2. Pay a non-refundable graduation application fee to the Cashier’s Window in the Joyal Admin. Building. This application must have your graduate coordinator’s signature.
3. Meet with your graduate adviser, then graduate coordinator, to determine how your final graduate degree requirements are to be met, and to arrange for the “Graduate Degree Clearance” form to be submitted to the Division of Research and Graduate Studies by the published deadline (the last day of the semester) on your behalf.

### Graduate Degree Clearance Process:

1. Obtain the Graduate Degree Clearance form: The form is available at the Division of Research and Graduate Studies web site (via the "Forms" link)
2. Complete the GDC form: The responsibility for completing the form is that of the graduate program.
3. Completed GDC form submittal: The responsibility for submitting the completed GDC form to the DRGS by the announced deadline is that of the graduate program.
4. Role of the student: Students are encouraged to help the process out because the deadline occurs during a busy time of the semester (for faculty and student alike) and things can fall through the cracks. The student can help by:

1. providing a copy of the GDC form to their adviser a week prior to the deadline;

2. monitoring the process and, if needed, facilitating the process by:

a ) providing friendly reminders to the faculty who's signature is needed next; the signature sequence is as follows: First the student's graduate faculty adviser, then the grad program coordinator, then the department chair; and

b ) ensuring that the completed form is submitted to DRGS (the completed form can be submitted to DRGS by any of the three faculty who are providing signatures).

**Graduate Degree Deadlines web site:**

[www.fresnostate.edu/academics/gradstudies/requirements/deadline.html](http://www.fresnostate.edu/academics/gradstudies/requirements/deadline.html)

# Faculty & Staff

The Graduate Faculty in Civil Engineering consists of all full-time faculty of the Civil and Geomatics Engineering Programs. The faculty and their area(s) of practice are listed below.

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# Graduate Writing Rubrics

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **Excellent (4)** | **Good (3)** | **Poor (2)** | **Unacceptable (1)** |
| **Content** | Balanced presentation of relevant information that shows a thoughtful, in-depth analysis of main topic | Information provides support for a central argument and displays evidence of a basic analysis of main topic | Information supports a central purpose at times. Analysis is basic. Reader gains few insights. | Central argument is not clear. Analysis is vague. Reader is confused or misinformed. |
| **Organization** | Ideas arranged logically to support main argument. Ideas flow from one to another and are clearly linked together. | Ideas arranged logically to support main argument. Ideas usually but not always, linked together.  | In general, writing is arranged logically, although occasionally ideas fail to make sense together. Some clarity of writers’ intend. | Writing is not logically organized. Frequently ideas fail to make sense together. Hard to identify a line of reasoning. |
| **Sentence Structure** | Sentences are well structured and varied in length. Sentences flow smoothly from one to another. | Sentences are well structured as there is some variety in length. Sentence flow is generally but not always present. | Some sentences are awkwardly constructed so that reader is occasionally distracted. | Mistakes in sentence structure and major distraction to the reader. |
| **Grammar** | Writing is free or almost free of errors. | Occasional errors. | Writing has many errors, and reader is distracted by them. | So many errors that meaning is obscured. Reader is confused and stops reading. |
| **References** | Primarily peer-reviewed professional journals. | Although most of the references are peer-reviewed, a few are questionable (e.g., popular magazines, trade books, etc. ) | Most of the references are from sources that are not peer-reviewed. | There are no professionally reliable sources. Reader seriously doubts the value of the material.  |

# CE 298 Project Grading Rubrics

**Rationale**

Similarly to the thesis, the work performed in the CE 298 Project option must show evidence of originality, organization, clarity of purpose, critical analysis, accuracy, completeness, and quality of writing consisting with the standards appropriate for publication in the scholarly journals of the field. Additional insight on the nature of the project can be found in California’s Title 5 (Education Code) as follows:

A project is a significant undertaking appropriate to the fine and applied arts or to professional fields.

It evidences:

1. originality and independent thinking
2. appropriate form and organization, and
3. a rationale.

It is described and summarized in a written abstract that includes the project's:

1. significance
2. objectives
3. methodology and
4. a conclusion or recommendation.

An oral defense of the project shall be required.

Although the Final Project Report does not have to comply with the datelines and format requirements of the thesis option, it is highly recommended that the format and deadlines are followed as guidelines in the preparation and submittal of the Final Project Report. The following content and organization guidelines for projects have been approved by the University Graduate Committee (11/9/10):

1. Title Page 6. Literature Review

2. Signature Page 7. Data Collection/Analysis/Project Documents

3. Table of Contents 8. Conclusions/Recommendations

4. Abstract 9. References

5. Introductory Statement 10. Appendixes

The project option is completed when the graduate advisor submits the final grade for the project and the student has successfully made an oral presentation summarizing the importance, approach, and findings of his/her research project. It is required that this final oral presentation be made before all interested faculty and students and be appropriately announced by the student (e.g., via e-mail, flyers, or other effective advertisement) ahead of time.

**Grading**

The grade in the CE 298 Project option is thus calculated based on the following two parts:

**Part I.-**Nature, merit, quality, completeness of the work performed and correctness, quality, clarity, and organization of the written report.

See attached Rubrics: **Points: 160**

**Part II.-**Clarity, correctness, completeness, and effectiveness of oral presentation.

See Oral Presentation Rubrics: **Points: 100**

**Total Points: 260**

**Grade Scale: A: > 240**

 **B: > 214 ≤ 240**

 **C: > 202 ≤ 214**

 **D: ≥ 170 ≤ 202**

 **F: < 170**

**Note**

The Project Grading Rubric is a set of guidelines, and not all of the items in the rubric will necessarily apply to all projects. See your graduate faculty adviser if you have specific questions.

#### **Part I Rubric ( Project Content and Written Report)**

#### Student’s name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Abstract **(10)**

* 1. project/problem statement \_\_\_\_\_ out of 3 points
	2. A brief statement of the merit of the study \_\_\_\_\_ out of 2 points
	3. A brief summary of results and conclusion \_\_\_\_\_ out of 3 points
	4. 3-5 Key Words \_\_\_\_\_ out of 2 points

Introduction **(30)**

* 1. format/grammar \_\_\_\_\_ out of 5 points
	2. Description of the importance of the project \_\_\_\_\_ out of 5 points
	3. Literature Review, including:
		1. pertinent background knowledge and technology \_\_\_\_\_ out of 5 points
		2. similar works done by others \_\_\_\_\_ out of 3 point
		3. reference citations \_\_\_\_\_ out of 2 points
	4. Project statement and objectives \_\_\_\_\_ out of 5 point
	5. Tasks and hypothesis \_\_\_\_\_ out of 5 points

Data Acquisition **(30)**

* 1. format/grammar \_\_\_\_\_ out of 5 points
	2. List of data types, names and meanings and sources \_\_\_\_\_ out of 5 points
	3. list of the names of equipment, software and parameters \_\_\_\_\_ out of 3 points
	4. data acquisition procedures \_\_\_\_\_ out of 6 points
	5. evaluation of the quality of each type of data \_\_\_\_\_ out of 6 points
	6. lists of any uncertain or unexpected factors \_\_\_\_\_ out of 5 points

Results and Discussion **(50)**

* 1. format/grammar \_\_\_\_\_ out of 5 points
	2. logic of content \_\_\_\_\_ out of 5 points
	3. proper tables and figures, including:
		1. proper figures and tables with captions \_\_\_\_\_ out of 10 points
		2. consistent format of the tables and figures \_\_\_\_\_ out of 5 points
	4. interpretation and inclusion of all data, tables and figures \_\_\_\_\_ out of 15 points
	5. discussion of the uncertainty and reliability of the data \_\_\_\_\_ out of 5 points
	6. final results \_\_\_\_\_ out of 5 points

Conclusion **(30)**

* 1. format/grammar \_\_\_\_\_ out of 5 points
	2. summary of project results and findings \_\_\_\_\_ out of 15 points
	3. the impact of results on the project’s objective \_\_\_\_\_ out of 5 points
	4. recommendation for future study \_\_\_\_\_ out of 5 points

References **(5)**

* 1. follows ASCE Journal Paper format \_\_\_\_\_ out of 5 points

Acknowledgement, Appendices, Electronic Documents **(5)**

* 1. acknowledgements (funding, contributors) \_\_\_\_\_ out of 2 points
	2. Appendix(es) and electronic attachments \_\_\_\_\_ out of 3 points

**Part I Score \_\_\_\_\_ out of 160 points or \_\_\_\_\_\_\_\_\_ %**

#### **Part II Rubric ( Project Oral Presentation )**

#### Student’s name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Delivery**

Was the presenter enthusiastic about the presentation

1 through 5 ( 5 = best ) [ ]

Was the voice clear, audible, and understandable

1 through 5 ( 5 = best ) [ ]

Did the presenter use proper terminology and grammar

1 through 5 ( 5 = best ) [ ]

Did the presenter introduced her/himself and the topic concisely [ ]

 1 through 5 ( 5 = best )

Was there an outline of the presentation given at the beginning [ ]

 1 through 5 ( 5 = best )

Did the presenter summarize the presentation at the end [ ]

 1 through 5 ( 5 = best )

Did the presenter allow for questions at the appropriate time [ ]

 1 through 5 ( 5 = best )

Was time allotted used appropriately [ ]

 1 through 5 ( 5 = best )

**Content**

Were the objectives of the research topics clearly presented?

 1 through 10 ( 10 = best ) [ ]

Was the State-of-the-Art presented factually, quantitatively, precisely?

 1 through 10 ( 10 = best ) [ ]

Were the Research Needs presented clearly as a natural continuation of the State-of-the-Art?

 1 through 10 ( 10 = best ) [ ]

Was the Methodology presented clearly and convincingly?

 1 through 10 ( 10 = best ) [ ]

Was the analysis presented clearly and quantitatively as appropriate

 1 through 10 ( 10 = best ) [ ]

Were the conclusion presented succinctly, and clearly supported by the data and analysis

 1 through 10 ( 10 = best ) [ ]

**Part II Score \_\_\_\_\_ out of 100 points or \_\_\_\_\_\_\_\_\_ %**

#  **Answers to** Common Questions

Answers to most questions can be found by using the links on the left side of the Graduate Studies Home web page: <http://www.fresnostate.edu/academics/gradstudies/index.html> . Another important resource is the General Catalog: <http://www.fresnostate.edu/catoffice/index.html> .

1. **Question:** What can I do to improve my GPA? Can I retake a course?

**Answer:** See below

**Options for Remedying Low GPA**:

A. General:

1) You can retake courses completed with low grades. However, the original grade will remain (cannot substitute the new grade for the old one). This approach potentially provides several benefits:

a) You learn the material better, which is likely to help you in your remaining courses and in your career.

b) Both grades – the original and the new (presumably better)—are used to calculate your cumulative GPA*. This is an advantage only if you get a better grade upon retaking the course.*

c) If this is a course that you want to count towards your degree (e.g., not a prerequisite), you can use the better grade in your Study Plan.

2) Take courses in which a good grade is a likely outcome.

B. Students who have Conditional Admission status with prerequisite course requirements: Ask your adviser (first) and graduate coordinator (second) if the courses listed as prerequisites for Classified Standing can be modified to replace courses that were completed with low grades with other courses.

C. Students who have applied for Advancement to Candidacy: - Ask your adviser if your Program of Study can be modified to eliminate courses that were completed with low grades, and replaced with other courses that are approved by the graduate faculty adviser and graduate coordinator.

2. **Question:** Do grades from courses taken before being admitted into a graduate program, but after the baccalaureate degree (BS or BA), count in the calculation of a post-baccalaureate cumulative GPA?

**Answer:** Yes, all post-baccalaureate coursework is used in the calculation.

3. **Question:** Can a student who has been disqualified from the university be readmitted?

**Answer:** Yes, there is a Petition for Readmission of Disqualified Graduate Student form that can be downloaded from a web site. The department must approve the request.

4. **Question:** Can a student with conditional classification status take graduate (200) level courses prior to finishing their prerequisite courses?

**Answer:** Yes, but you cannot take more than 10 units prior to attaining classified standing.

***(continued)***

5. **Question:** Can upper division 100-level courses in subjects outside of engineering be applied towards the MSCE degree?

**Answer:** Yes but there are limitations: Up to 6 units of courses outside of the Department of Civil and Geomatics Engineering -- 100-series upper-division and 200-series graduate courses in engineering, mathematics, statistics, management, business, geology, physics, chemistry, health sciences, biology, or other disciplines best suited to the student's graduate program as approved by the program adviser -- can be taken. However,

(a) you must earn at least a grade of B for the course to be used in your study plan, and

(b) they cannot be (1) writing courses (i.e., courses with a “W” following their number) or (2) General Education courses.

6. **Question:** Can the MSCE Advancement to Candidacy form be updated to (a) reflect current course offerings on the pull-down menus (page 2) and (b) provide more blank lines?

**Answer:** Yes, the program coordinator periodically works with staff at the Division of Research and Graduate Studies to update the list.

7. **Question (comment):** I have no clue when the semester begins.

**Answer (response):** Go to the Division of Research and Graduate Studies Home web page ( <http://www.fresnostate.edu/academics/gradstudies/index.html> ), click on the "Dates and Deadlines" link, then on the "Academic Calendar (Catalog)" link.

8. **Question:** What courses I should be enrolling in? When can I enroll?

**Answer:** You will be assigned an adviser at our orientation meeting in August. In the mean time you can find additional information at the following web site: [http://www.csufresno.edu/catoffice/current/engcivdgr.html](http://www.csufresno.edu/catoffice/current/engcivdgr.html%22%20%5Ct%20%22_blank) . There you can view general requirements for the MSCE, and you will find links to "three programs of study" and to "Civil Engineering Courses." Also, a tentative schedule of course offerings can be requested from the program coordinator.

Permission numbers are usually required prior to your registration time, and should not be required after that time, unless the class is full. To enroll you need to find a computer, go to the Fresno State home web page, click on the Quick Links menu, select My Fresno State (takes you to "my.csufresno.edu" web site), log in, then click on the Student Services link, then follow the instructions there. If you encounter any problems you can get help by calling the Student Services Desk at (559) 278-7000.

9. **Question:** How do I know if I have received financial aid?

**Answer:** The information can be found at your "myfresno state" web site.  A helpful video on this subject can be found at the following we site: <http://www.fresnostate.edu/studentaffairs/financialaid/tutorials/apply-finaid.html> . Additional information can be found at the Graduate Studies Home web page and click on the "Financial Aid" link, and see the subcategory links.

# Course Credit Limitations (AY 2015-16 General Catalog)

**Residence Credit.** At least 21 units of a 30-unit program must be residence credit (courses taken through regular enrollment at CSU Fresno). No more than 9 units of transfer and/ or CSU Fresno Extension credit may be included in the 30-unit program.

**Transfer Credit.** Transfer credit may be used toward a CSU Fresno graduate degree only if the institution offering the work is regionally accredited (A-rated) and would accept it for a comparable graduate degree program. The off-campus institution must also have listed the units as postbaccalaureate graduate units on the student's transcript. Credit at CSU Fresno will be granted if it is judged by appropriate university authorities to be particularly relevant to the individual student's program. The student must present appropriate documentation, including official transcripts of work completed and copies from the catalog of the institution where the transfer work was taken, as follows: the relevant course description(s); evidence that the course(s) may be used toward a graduate degree at that institution; the course numbering and grading systems; and information clarifying whether the institution used the semester or quarter system. If approved, a maximum of 9 transfer units (including California State University Fresno Extension and/or Open University) may be used toward a 30-unit program. …. A maximum of 9 transfer units of coursework from an institution outside of the United States may be used toward a graduate degree at CSU Fresno, provided that the credits were earned at an officially recognized degree-granting international institution. Approval of any international transfer credits toward a graduate degree program must be granted by International Student Services and Programs personnel and the student's graduate program coordinator.

**Prohibition against Double Counting of Coursework.** No units used to fulfill the requirements of one degree may be used to fulfill the requirements of another degree. For example, 100-series courses used toward a bachelor's degree may not be subsequently used toward a graduate degree.

**Repetition of Courses.** A postbaccalaureate student pursuing a graduate degree or certificate of advanced study may repeat a course for academic credit (subject to limitations in some degree curricula) regardless of what grade was originally earned in the course. However, such a student is not eligible to petition for grade substitution. All coursework taken is considered in the calculation of the student's postbaccalaureate cumulative grade point average.

**Extension Credit.** Courses taken through Continuing and Global Education (Extension and/or Open University) are not normally used to fulfill the requirements toward a graduate degree. Students intending to take a course through the Division of Continuing and Global Education must request special permission from their graduate program coordinator/director to use the course toward their graduate degree. If approved, a maximum of 9 transfer (including CSU Fresno Extension and/or Open University) units may be used toward a 30-unit program. Students may not enroll through Open University in order to bypass the university fee structure.

**Postbaccalaureate/ Graduate Credit.** With approval of the graduate program coordinator, postbaccalaureate/graduate credit allowed for work taken prior to the granting of the baccalaureate degree as a last-semester senior may be applied toward a graduate degree. However, the amount of postbaccalaureate credit used toward the graduate degree may not exceed one-third of the student's entire approved program. (See Postbaccalaureate Credit section under Degree Requirements.)

**Student Teaching Credit.** Student teaching credit is not ordinarily used on graduate degree programs. In unusual circumstances, if student teaching is demonstrably appropriate to a program, up to 3 units of such work may be approved by the University Graduate Committee.

**Credit by Examination.** Credit by examination for coursework may be used to fulfill prerequisites, but may not be applied toward the graduate degree program.

**CR/ NC Grading.** Graduate students may not elect to take a course for a CR grade to fulfill either prerequisite or major program requirements unless the course is only available for CR/NC grading. A maximum of 6 units of CR-graded coursework may be applied to a 30-unit graduate degree program and a maximum of 12 units of CR-graded coursework may be applied to a 60-unit program. Some programs allow no CR-graded courses to be counted toward fulfillment of their degree requirements.

**Prohibited Coursework.** Courses used to fulfill General Education curriculum (Capstone, Breadth, Integration or Multicultural/International), undergraduate writing "W" courses, lower-division courses, professional (300-level) courses, and courses used to fulfill the requirements for another degree may not be used in fulfillment of the program requirements for the graduate degree.

**Outdated Courses.** Courses older than five years may not be included on the Petition of Advancement to Candidacy and used to fulfill requirements toward the master's degree.

**Course Validation:** Exclusive of prerequisite coursework, a period of five years is allowed for the completion of all requirements for the graduate degree. This time limit is indicated for each student on the approved Petition of Advancement to Candidacy. A student whose program has been interrupted by military service should consult the Dean of Graduate Studies about provisions for military extensions. Outdated coursework will not be approved for inclusion on the Petition of Advancement to Candidacy at the time formal approval of the petition is granted. Once a student has been advanced to candidacy, courses completed more than five years before the date for completion of all requirements for the graduate degree cannot be used to meet total unit requirements except through validation as follows: Out-of-date coursework may be validated only if such work has been approved previously on the Petition of Advancement to Candidacy. A maximum of one-third of required degree units may be validated by such means as are recommended by the department and approved by the graduate dean. Coursework from other institutions may not be validated. Courses with grades lower than B may not be validated.

**Independent Study Courses.** A maximum of 6 (one-fifth of the total program units) independent study (190 or 290) units may be approved for use toward a 30-unit master's degree. (See Independent Study section under Academic Placement.)

**Graduate-Level Courses.** A minimum of 70 percent of the courses listed on the Petition of Advancement to Candidacy for use toward the graduate degree must be graduate-level courses numbered in the 200-series. Most programs require more than the minimum.

**Substitutions.** Substitutions for required program courses or for other departmental requirements must be approved by the student's graduate program coordinator/director and listed on the Petition of Advancement to Candidacy. Substitutions might require additional written justification.

# Resources, Contacts and Forms

Graduate students are encouraged to familiarize themselves with information and resources that are available to students by the Division of Research and Graduate Studies:

**Division of Research and Graduate Studies (DRGS):**

Location: Frank W. Thomas Building, 132.

Phone: (559) 278-2448

Web Site: <http://www.fresnostate.edu/academics/gradstudies/>

**The following helpful e-publications can be found at the DRGS web site:**

<http://www.fresnostate.edu/academics/gradstudies/epubs/index.html>

1. Graduate student guidebook (campus version)
2. [Financial Aid Sourcebook](http://www.csufresno.edu/gradstudies/epubs/FinancialAidSourcebook.pdf)
3. [The Mentoring Relationship](http://www.csufresno.edu/gradstudies/epubs/TheMentoringRelationship.pdf)

## Forms, Signatures, and Submission Procedures

Students are responsible for ensuring that all forms are completed and submitted on time. MSCE Program forms and a select sample of DRGS forms, required signatures, and submission information are summarized in a table on the next page for reference. The DRGS forms listed in the table are not a complete set and additional forms can be obtained from DRGS. Most of the forms can be downloaded from the following DRGS Forms web site: <http://www.fresnostate.edu/academics/gradstudies/forms/>

Some forms are available only in other areas of the DRGS site (e.g., most of the Thesis-related forms). Selected samples of forms that are commonly used can be found at the end of this handbook as samples. Please note that forms change over time and the student should verify that they are using a current version of the form by visiting the form web site cited above.

MSCE Program forms provided at the end of the handbook:

* CE 290/ 298 Proposed Study/ Project Form
* MSCE Graduate Student Handbook Agreement (tear off, complete, submit)

Additional MSCE Program form available from the Graduate Program Coordinator:

* Program Exit Survey (this form is in addition to the DRGS exit survey)

DRGS form samples provided near the end of this handbook:

* Classified Graduate Standing Request (Sample A)
* Petition of Advancement to Candidacy (Sample B)

Additional forms available from the DRGS web site:

* Thesis-related forms (there are several; see table and notes on next two pages)
* Program Adjustment Request
* Graduate Degree Application
* Graduate Degree Clearance

**Selected forms, required signatures, and submission instructions table.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Form** | **Obtain form from** | **Signatures required** | **Submission Procedure** |
| **Stud.** | **Grad. Fac. Adviser** | **Grad. Prog. Coord.** | **Dept. Chair** | **When** | **Where** | **By** |
| Grad. Handbook Agreement | Grad. Prog. Coord. | **√** |  |  |  | First week of first fall semester | Grad. Prog. Coord. | Student |
| Classified Graduate Standing Request | DRGS (Web) |  | **√** | **√** |  | When eligible1 | DRGS | Student or Dept. |
| Petition of Adv. to Candidacy | DRGS (Web)  | **√** | **√** | **√** |  | When eligible2 | DRGS | Student or Dept. |
| Prog. Adjustment Request | DRGS (Web) | **√** | **√** | **√** |  | When needed | DRGS | Student or Dept. |
| CE 290/ 298 Proposed Study/ Project Form | Grad. Prog. Coord. | **√** | **√** | **√** |  | First week of the semester3 | Grad. Prog. Coord. | Student |
| CE 298 Project (final report submission) | N/A | **√** | **√** |  |  | Per Fac. Adviser | Fac. Adviser | Student |
| CE 299 Thesis: 1) Commit. Assign. | DRGS (Web) | Committee members, Grad. Fac. Adviser, and Grad. Prog. Coord. |  After Advanced to Cand. | DRGS | Dept. |
| 2) Registration | Access online | N/A | 2 nd week of final semester | Online (Web) | Student |
| 3) Approval |  | See Notes 3 and 4 | DRGS | Student |
| 4) Final public. copy | N/A | **√** | **√** | **√** |  | Last day of semester | DRGS | Student |
| Graduate Degree Application | DRGS (Web)  | **√** | **√** | **√** |  | Within first two weeks of final semester3 | DRGS3 | Student |
| Graduate Degree Clearance | DRGS (Web) |  | **√** | **√** | **√** | 3 rd to last day of the semester5 | DRGS | Dept. |
| Program Exit Survey (anonymous) | Grad. Prog. Coord. | N/A | Last day of the semester | Dept. Admin. Assist. | Student |

**Notes: See next page.**

**Notes: Selected forms, required signatures, and submission instructions table**

**1** Applies to non-classified students only; Conditions are student-specific (see DRGS or Program Coordinator for details); Students must achieve classified graduate standing by the semester in which they complete 10 units of coursework that is to be counted towards the 30 units required for the graduate degree.

**2** Students must be advanced to candidacy no later than the semester preceding the semester in which the student applies for the graduate degree to be granted and/or begins the culminating experience. Students are encouraged to petition for advancement to candidacy as soon as they are eligible to do so.

**3** Check the DRGS Graduate Degree Deadlines web site for the deadline:

 [www.fresnostate.edu/academics/gradstudies/requirements/deadline.html](http://www.fresnostate.edu/academics/gradstudies/requirements/deadline.html)

**4** Students must email the link to the Final Submission Approval Instructions page to their chair and committee or direct them to these instructions on the Dissertation/Thesis Office Web site (www.fresnostate.edu/academics/gradstudies/thesis/approvalform.html). Plan ahead; this must be done in advance of the deadline posted at the DTO Web site (Note 3), and the student is responsible for ensuring their chair and committee members have sent approval. Completed copyright permission forms may be required for publication (obtain these from the Thesis Office forms web page). Thesis submission instructions are can be found at: <http://www.fresnostate.edu/academics/gradstudies/thesis/>

**5** Department must submit completed form to DRGS by no later than the last day of the semester.

## Financial Aid Resources

A limited amount of financial support is available to continuing students in our program in the form of:

1. On-campus teaching and research assistantships
2. Off-campus internships
3. Competitive (merit-based) grants

The student must first demonstrate a potential for superior scholarship based on work done here at Fresno State to be considered for this support. These opportunities can come from a variety of sources including the Civil & Geomatics Engineering Programs, the CGE Department, The Lyles College of Engineering (Dean’s office), the campus (various entities), and from off-campus entities (government/ public agencies and private sector firms and companies). Interested students are encouraged to periodically look out for these opportunities. Announcements may come from a faculty member or take the form of a posted flier, email announcement, announcements from student clubs to their members, and at various campus web sites.

One of the best places to look for campus-wide opportunities is the Division of Research and Graduate Studies “Financial Aid Resources” web site at:

[www.fresnostate.edu/academics/gradstudies/financial/](http://www.fresnostate.edu/academics/gradstudies/financial/)

A valuable guidebook, the **Financial Aid Sourcebook** can be found at ePUBS:

[www.fresnostate.edu/academics/gradstudies/epubs/](http://www.fresnostate.edu/academics/gradstudies/epubs/)

California State University, Fresno

August 2010

 Insert DRGS Form Samples A and B here on PDF Version

Delete this and the next 5 pages

 



 

**CE 290/ 298 Proposed Study/ Project Form**

Student Name *(Last, First)*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**CE 290 CE 298** *(circle one)*; **Units: 1 2 *3*** *(circle one);* **Semester:** **Fall Spr.** *(circle one)* **20\_\_\_**

A digital version of this form is to be used for the development and submission of proposed plans of Independent Study (CE 290) and proposed plans of Master of Science Projects (CE 298). Digital copies of this form can be obtained from:

1. The on-line version of this handbook at:

[www.csufresno.edu/engineering/civil\_geomatics/civil/programs.shtml](http://www.csufresno.edu/engineering/civil_geomatics/civil/programs.shtml)

1. The MSCE Program Coordinator at: wfwright@csufresno.edu
2. **Title of the proposed work**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Scope of the proposed work:**
2. **Objectives** (and hypothesis, if applicable):
3. **Approach** (the steps to be taken to achieve your objectives):
4. **Deliverables** (provided by the student to the graduate faculty supervisor):
5. **Timeline** (for submission of the deliverables to the graduate faculty supervisor):
6. **Signatures:**

I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *(Print name)* agree to conduct the work described above and adhere to the terms described above.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student signature Date

I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *(Print name) a*gree to undertake the supervision of the work described above with the student listed above.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Grad. Faculty Supervisor signature & date

“Graduate Program Coordinator’s Decision: \_\_\_ Approved \_\_\_\_ Not Approved;

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Grad. Program Coordinator signature & date

Copy to: Student

Student’s file (CGE Dept. office)

Faculty Adviser

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**Statement Attesting to the Reading of, and Agreement to Follow the Requirements in, the MSCE Graduate Student Handbook**

This form is to be removed from the handbook, signed and dated by the student and the Department Chair or Graduate Program Coordinator, photocopy made for the student to retain for their records, and original provided to the Department Chair or Graduate Program Coordinator by the end of the second week of the first semester of enrollment. Failure to submit the form will result in the student not being permitted to attain Classified Standing or Advancement to Candidacy in the MSCE Program.

I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *(Print name)* attest that I have read the

MSCE Graduate Student Handbook AY \_\_\_\_\_\_\_\_\_\_ in its entirety, have understood its contents, and agree to follow all requirements stated therein and incorporated by reference.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student signature Date