



# 2020-2021 GRADUATE STUDENT HANDBOOK

## Department of Civil and Environmental Engineering

The Civil and Environmental Engineering department offers advanced degree programs with emphasis on a variety of specialization areas leading up to the following degrees: Master of Civil and Environmental Engineering, Master of Science and Doctor of Philosophy. This handbook summarizes the Civil and Environmental Engineering policies and procedures and is updated annually.

In addition to being in agreement with the regulations stated in this departmental handbook, students must also be in agreement with the [General Announcements](#) and the [Code of Conduct](#).

[http://ga.rice.edu/GR\\_policies/](http://ga.rice.edu/GR_policies/)

Graduate Program Committee:

Qilin Li, Professor (Chair)

Satish Nagarajaiah, Professor (Chair)

Jamie Padgett, Professor

Lauren Stadler, Assistant Professor

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### Civil and Environmental Engineering Graduate Student Association (CEVE-GSA)

The main purpose of the club is to:

- 1) Foster better professional and personal relationships among student and between students and faculty members.
- 2) Provide a forum for concerns, both professional and personal, about graduate student life.
- 3) Foster professional growth through mentoring, recruitment, and affiliate/internship relationships.

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## DOCTOR OF PHILOSOPHY DEGREE PROGRAM REQUIREMENTS

The Ph.D. degree in Civil and Environmental Engineering has two sub-tracks: Civil Engineering (CE) and Environmental Engineering and Sciences (EES). In both cases, to earn a Ph.D. degree, students must meet the following requirements:

- Complete 90 credit hours of approved courses at the 500-level and above past BS (60 credit hours past MS degree) with high standing, including core course requirements stipulated below.
- Pass a preliminary examination.
- Pass a qualifying examination on course work, proposed research, and related topics.
- Complete dissertation indicating an ability to do original and scholarly research.
- Pass a formal public oral examination on the thesis and related topics.

As part of the advanced degree training, we may also require students to assist the faculty in courses and laboratory instruction.

Course requirements are stipulated to prepare and train students for rigorous and high quality education, research, and practice. These courses, usually completed within the first two years of graduate school, are designed to train and test the student's aptitude for higher level thinking, problem solving, and independent research. Core courses also contribute breadth beyond minimum competency as civil and environmental engineers. The students are expected to strive for breadth and depth in core course selection, by working with their advisor and preliminary examination committee, and ensure that minimum core competency expectations are met. For students focusing on civil, structural engineering, and mechanics, coursework must include one course in each of the following areas: structural mechanics and FEM, structural dynamic systems, earthquake engineering, probabilistic mechanics and applied mathematics. Comparable course work completed previously may be substituted for these core courses. A minimum grade of B- must be achieved for each of these core courses, as well as a minimum average GPA of 3.0.

**For the CE sub-track, all PhD students should take at least 6 of the following 14 courses:**

CEVE 500 (S) Advanced Mechanics of Materials  
CEVE 503 (F) Nonlinear Finite Element Analysis \*  
CEVE 519 (F) Elasticity, plasticity and damage mechanics \*  
CEVE 524 (F) Time Dependent System Reliability Methods and Applications \*  
CEVE 527 (F) Computational Structural Mechanics and FEM \*  
CEVE 531 (F) Reinforced Concrete Buildings  
CEVE 541 (S) Structural Steel Buildings \*  
CEVE 560 (F) Bridge Engineering & Extreme Events \*  
CEVE 576 (S) Structural Dynamic Systems \*  
CEVE 578 (F) Earthquake Engineering \*  
CEVE 592 (F) Modeling and Analysis of Networked Systems \*  
CEVE 596 (S) System Identification of Dynamic Systems with Machine Learning\*  
CEVE 678 (F) Applied Stochastic Mechanics \*  
CEVE 679 (F) Applied Monte Carlo Analysis \*

*\*Offered every two years*

**For the EES sub-track, all Ph.D. students should take at least 6 of the following 10 courses:**

CEVE 501 (F) Environmental Chemistry  
CEVE 504 (S) Atmospheric Particulate Matter  
CEVE 509 (S) Hydrology and Water Resources Engineering  
CEVE 511 (F) Atmospheric Chem & Climate  
CEVE 518 (S) Environmental Hydrogeology  
CEVE 534 (F) Fate and Transport of Contaminants in the Environment  
CEVE 535 (S) Physical Chemical Processes for Water Quality Control  
CEVE 536 (S) Environmental Biotechnology and Bioremediation  
CEVE 544 (F) Environmental Microbiology and Microbial Ecology  
CEVE 550 (S) Environmental Organic Chemistry

Substitutions will be considered when a core course is not offered, or under special circumstances related to the professional goals of the student. Substitutions will be considered on a case-by-case basis, and will require approval by the faculty. Potential substitute courses include:

CEVE 520 (F) Environmental Remediation Restoration  
CEVE 592 (F) Modeling and Analysis of Complex Urban Infrastructure Systems \*  
\* *Offered every two years*

### **Course Registration.**

Continuing graduate students must register three times per year to remain active. Registration is on-line through ESTHER. Registration periods are mid-November for the spring semester, in early March for the summer, and in early April for the following fall. Consult the semester specific [academic calendar](#) for exact dates. Late registration is permitted but incurs a fee that must be paid by the student. It is the students' responsibility to keep track of the registration dates and register by the deadline for each semester.

First year students register for fall classes during orientation week after consulting with their thesis advisor to determine which course subjects they should take. Students are strongly encouraged to meet with their advisor to discuss their courses for the upcoming semester.

Students whose advisor holds a primary appointment outside of the CEE department must follow all CEE program requirements.

The number of research credit hours students register should be in agreement with the amount of time spent on thesis research. Students should speak with their advisors prior to registering for more than 3 credit hours of research.

Students should review the syllabus of independent study offered by individual faculty members for expectations of the course.

Semester course load for full-time students is nine hours or more for the fall, spring, and summer semesters. Graduate programs at Rice generally require full-time study.

All Students are required to enroll in Seminar, CEVE 601 (fall) and CEVE 602 (spring) each semester while at Rice.

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### **Transfer Credit Guidelines.**

Courses taken at another accredited college or university are not automatically approved for transfer credit. Transfer credit is only granted with the approval of the graduate committee chair. Transfer credits are subject to the following restrictions:

- Courses must be from a regionally accredited U.S. institution or an international institution officially recognized by that country's Ministry of Education or equivalent.
- The course must be recorded on an official transcript sent directly from the original institution to Rice or hand-delivered by the student in an official sealed envelope.
- The minimum grade for transferred credits is a B or equivalent.

Students seeking transfer credit must obtain course descriptions or syllabi for the transfer classes, look at Rice's Course Catalog and match up the transfer classes to Rice classes, complete the [Graduate Request for Transfer Credit form](#), available online or in the Office of the Registrar, meet with the graduate committee chair and obtain his/her approval signature on the Graduate Request for Transfer Credit PDF form, send a copy to graduate coordinator, then submit the completed form to the Office of the Registrar.

### **Inter-Institutional Graduate Program.**

Is a collaborative agreement between Rice University, the University of Texas System, Baylor College of Medicine, and the University of Houston. The program allows a full-time graduate student to enroll in a course at one of the participating schools when the course is not offered at the student's own school. The course is then transferred to the student's home university.

Rice graduate students should follow the procedure outlined below to receive transfer credit through this program:

- Complete the [Inter-Institutional Graduate Program form](#) PDF online, or at the Office of the Registrar (116 Allen Center). Obtain approval signatures from the instructor teaching the course at the external school, your academic advisor at Rice, the Chair of the department, the Registrar of the external school, and the Rice Registrar.
- Once you complete the course, you must have an official transcript sent to the Office of the Registrar at this address:

Rice University  
Office of the Registrar -MS 57  
6100 Main Street  
Houston, TX 77005

If an Inter-Institutional Graduate Program form is filed with the registrar, transfer credit will be applied to your record as TRAN 500 credit when the official transcript is received. To receive Rice equivalent credit, students need to submit a completed Graduate Request for Transfer Credit PDF form.

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## PRELIMINARY EXAMINATION FOR DOCTORAL STUDENTS

The goal of the Preliminary Exam is to evaluate students' readiness for creative, rigorous and independent research at the PhD level. The exam tests the general technical background of the students in civil engineering, environmental sciences and engineering, as well as their critical thinking, synthesis, and communication skills (oral and written). This exam will be in the form of writing and presenting a research proposal. The preliminary exam committee comprised by the student's primary advisor and a committee formed as follows.

First-year CEE Ph.D. students will each be invited to write a short proposal that demonstrates creativity and critical thinking skills, on a topic within the student's research domain but not directly related to their ongoing research or anticipated Ph.D. dissertation. This topic will be selected by the examination committee in consultation with the student's advisor. The student will have two weeks to prepare this proposal and aim to present it during the week prior to commencements. A 20-min presentation will be followed by questions from the examination committee, consisting of three faculty members including their advisor. The questions may extend beyond the proposal theme to ensure core competency skills and advise students of potential areas that require strengthening (e.g., through future course work). The exam will be documenting using the PhD prelim evaluation sheet [CIVI](#) or [ENVI](#).

Brevity is appreciated (e.g., 10-page limit including figures but not references, 11-point font, 1-inch margins, 1.5 spacing). The proposals should consider the following evaluation criteria:

1. Intellectual merit and originality of overall proposal.
2. Evidence of broad understanding of topic or problem they aim to solve (i.e., the **Need** for proposed research), and critical knowledge gaps and barriers.
3. **Approach** (including hypothesis and scientific basis)
4. Feasibility and expected **Benefits** (including broader impacts).
5. Consideration of **Competition** and alternatives, with proposed benchmarking as appropriate (see NABC to define a value proposition, next page).

The following proposal format is suggested:

A. Introduction (Include problem statement and motivation).

B. Objective, Hypothesis and Significance.

C. Literature Review (Should be a brief but critical review that shows you can discern critical gaps directly relevant to your proposal).

D. Approach and Technical Research Plan, including expected results (Should be credible and feasible. You may include original graphics and tables of experimental design with controls as appropriate).

E. Expected Benefits and Deliverables.

F. References.

## NABC -- the four fundamentals that define a project's value proposition:

- **Need:** What are our stakeholders or societal needs? A need should relate to an important and specific societal challenge or opportunity that could be addressed by science and technology. With the Defense Advanced research Projects Agency (DARPA), for example, we are required to state a critical Department of Defense (DoD) need. The need should be significant enough to merit the necessary investment and development time.
- **Approach:** What is our compelling solution (or hypothesis) to address the specific need? Draw it, simulate it or make a mockup to help convey your vision. As the approach develops through iterations, it becomes a full proposal, which can include deliverables and a timetable. DARPA usually demands paradigm-shifting approaches that address a specific DoD need (e.g., a 10-times improvement).
- **Benefits:** What are the client (or stakeholder) benefits of your approach? What are the broader impacts? Each approach to a client need results in unique benefits, such as low cost, high performance or quick response. At DARPA, the benefit might be an airplane that turns faster, goes higher, costs less or is safer. Success requires that the benefits be qualitatively and substantially better - not just different. Why must we win?
- **Competition/alternatives:** Why are your benefits significantly better than the competition? Everyone has alternatives. We must be able to tell our client or partner why our solution represents the best value. To do this, we must clearly understand our competition and our client alternatives, and sometimes do direct comparisons with appropriate metrics (i.e., “benchmarking”). For a commercial customer, access to important IP is often a persuasive reason to work with us. At DARPA, our competition is usually other research laboratories and universities across the United States. But, whether to a commercial or government client, you must be able to clearly state why your approach is substantially better than that of the competition. Your answer should be short and memorable.

The exam can last anywhere between 60-90 minutes, unless the committee decides to exceed this time to help with its deliberation. The committee will provide immediate feedback to the student at the end of his/her exam period. Students are requested to submit a copy of their critical review and any prepared slides to the Graduate Studies Program Administrator for record keeping.

Students who fail the preliminary exam either fully or partially can petition for retaking the exam. Petitions will be considered on a case-by-case basis by the graduate committee and the department chair. All pass/fail decisions will be approved by the preliminary exam committee, the graduate committee and department chair. Students who fail the preliminary exam twice will not be allowed to continue in the Ph.D. program.

A student who passes the written and oral part of the preliminary exam becomes eligible for taking the qualifying exam.

*Evaluation criteria for [CIVI](#) or [ENVI](#).*



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## **THESIS COMMITTEE**

After successful passing of the preliminary exam students should then form a doctoral committee. A thesis committee is composed of at least three members. Two, including the committee chair, must be members of the CEE faculty; in doctoral thesis committees one member must have his or her primary appointment in another department within the university. At least three members of the committee must meet one of the following requirements:

- Tenured or tenure-track members of the Rice faculty
- Research faculty holding the rank of faculty fellow, senior faculty fellow, or distinguished faculty fellow
- Faculty who have been certified as thesis committee members by the dean of graduate and postdoctoral studies

The committee chair need not be the thesis director. The chair, however, must be either a tenured or a tenured-track member of the CEE department. Additional members of the committee, who may or may not meet the above criteria, may be selected with the approval of the department chair, these would be in addition to the three required members.

In cases where the student and the major advisor disagree on the selection of thesis committee members, the student may file a petition to the department's Graduate Academic Affairs committee. Based on its independent evaluation, the Graduate Academic Affairs committee will approve the thesis committee before the candidacy form may be submitted to the Office of Graduate and Postdoc Studies.

Regular Thesis Committee Meetings should be held each semester thereafter forming a thesis committee, students should consult with the chair and members of their thesis committee about the nature and progress of research as the work evolves.

## PH.D. QUALIFYING EXAMINATION (Thesis Proposal)

The qualifying exam must be completed before petitioning for approval of candidacy. PhD students must be approved for candidacy before the beginning of the ninth semester of their residency at Rice. The qualifying examination will be administered by the doctoral thesis committee. The committee will evaluate the student's preparation for the proposed research and identifies any areas requiring additional course work or study. Students who fail the qualifying examination will not be granted Ph.D. candidacy. Petition to re-take the exam will be considered on a case-by-case basis by the department chair, who will consider the advice of both the Thesis Committee and the Graduate Studies committee.

To complete the qualifying exam, students must:

- Form a thesis committee. PHD students are required to form a doctoral thesis committee as soon as the preliminary exam is passed.
- Prepare a thesis proposal. The thesis proposal should contain reasonably detailed preliminary work and proposed research approach
- Defend thesis proposal during a meeting with the thesis committee. The qualifying exam/ thesis proposal defense must be scheduled at least six months before the final defense.

The thesis proposal defense will be documented using the **Evaluation of PhD Proposal form**. This will be used to determine the student's ability to demonstrate the acquired advanced knowledge of the principles of civil and environmental engineering and apply them to advanced technical problems, ability to conduct independent research, and ability to demonstrate professional written and oral communication skills. Evaluation forms should be requested by emailing [atorres@rice.edu](mailto:atorres@rice.edu), when requesting the form you should send a copy of the proposal for inclusion in your student record. After the proposal defense, the completed evaluation of PhD proposal rubrics form should be submitted to the graduate program coordinator Andrea Torres.

Content and length of the Ph.D. thesis proposal must be finalized in agreement with the advisor. Students actively writing a thesis proposal/thesis are strongly encouraged to register for ENGI 600 Written and Oral Communication Seminar for Engineering Graduate Students (offered spring and fall). This highly interactive seminar emphasizes on how to explain work clearly to a wide range of audiences, both technical and those outside the area of expertise; all writing and speaking assignments are based on students own research and will receive extensive feedback.

## APPROVAL OF CANDIDACY

Immediately following successful completion of the thesis proposal, students must submit a petition for [Approval of Candidacy for a Doctoral Degree](#) through the graduate program coordinator. In thesis programs, the attainment of candidacy marks the completion of all requirements for the degree other than those related to research leading to the writing, submission, and defense of the thesis. Requirements include (a) completed required course work, (b) pass preliminary exam, which demonstrates your solid foundation in civil and environmental engineering at the graduate level (c) pass qualifying exam, which demonstrates the ability for effective oral and written communication, and shown the ability to carry on scholarly work in his/her subject area.

- Ph.D. students must be approved for candidacy before the beginning of the ninth semester of their residency at Rice.
- Each student's individualized time boundaries are available in Esther. Students who are approaching or who have passed their deadline to candidacy, and who have not met all requirements for candidacy must submit an extension of candidacy request. Extensions are approved on a case-by-case basis by the Office of Graduate and Postdoctoral Studies.
- The Office of Graduate & Postdoctoral Studies will impose a \$125 reinstatement fee on students who are allowed to continue but have exceeded their time boundaries without prior approval.

All PhD students must submit a petition for approval of candidacy. Candidacy forms can be found on the Graduate and Postdoctoral website: <http://graduate.rice.edu/forms>. Petitions should be submitted to [atorres@rice.edu](mailto:atorres@rice.edu). Once candidacy has been approved by the Dean of Graduate and Postdoctoral Studies, the student can then schedule, in coordination with his or her research advisor, a public thesis defense.

### **Request for extension of time to candidacy.**

Each student's individualized time boundaries are available in Esther. Students who are approaching or who have passed their deadline to candidacy, and who have not met all requirements for candidacy must submit a [Petition to Extend Time Boundary for Approval of Candidacy](#) request. Extensions are approved on a case-by-case basis by the Office of Graduate and Postdoctoral Studies. Request for extension of time to candidacy can be found on the Graduate and Postdoctoral website <http://graduate.rice.edu/forms>. Petitions should be filled out in consultation with your advisor and submitted to [atorres@rice.edu](mailto:atorres@rice.edu) for processing.

## PH.D DEFENSE

Candidates who pass the qualifying exam are required to write a detailed Ph.D. thesis and schedule the Ph.D. defense under the guidance of their advisor and doctoral committee. Content and length of the Ph.D. thesis dissertation must be finalized in agreement with the advisor. The Ph.D. thesis must be submitted to the doctoral committee and the department at least two weeks prior to the defense.

The Ph.D. defense must be scheduled according to the Rice University graduate school requirements (at least fourteen days prior to the date of the defense). Defense announcements should be submitted to the Office of Graduate and Postdoctoral Studies by filling out an online form at <http://events.rice.edu/rgs/>. Please refer to the Office of Graduate and Postdoctoral Studies website <http://graduate.rice.edu/thesis/> for specific information.

The candidate will make an oral presentation for approximately an hour; the presentation will be open to the public. Followed by a question and answer session by the general audience and a closed door question and answer session by the doctoral committee. The candidates who successfully defend their Ph.D. will be awarded the degree of Doctor of Philosophy.

The thesis defense should be documented using the “Evaluation of PhD Defense form”. This will be used to determine the student’s ability to demonstrate the acquired advanced knowledge of the principles of civil and environmental engineering and apply them to advanced technical problems, ability to conduct independent research, and ability to demonstrate professional written and oral communication skills. Forms should be requested by emailing [atorres@rice.edu](mailto:atorres@rice.edu), when requesting the form send a copy of your thesis for inclusion in your student record. After the defense, the completed evaluation of PhD defense rubrics form should be submitted to the graduate program coordinator Andrea Torres.

### **Acceptance of Thesis.**

The completed thesis must be submitted in either final or advanced draft form to the members of the thesis committee at least two weeks before the oral examination. A copy of the completed thesis must also be submitted to the department at least two weeks before the oral examination. This copy should be submitted electronically. In the course of the examination, the thesis committee members may recommend revisions or additions, which must be incorporated in the final thesis. The final thesis must be signed by all committee members. No later than six months from the date of the examination, candidates who successfully passed the oral examination in defense of their thesis must submit their thesis to the Office of Graduate and Postdoctoral Studies. (Refer to the Graduate and Postdoctoral Studies website <http://graduate.rice.edu/thesis/> for specific instructions on how to submit the thesis.)

If the thesis is not ready for final signatures by the end of the six-month period, the “pass” may be revoked and an additional oral defense will need to be scheduled. Application for an extension without reexamination must be made by the candidate with the unanimous support of the thesis committee, endorsed by the school dean, and approved by the Office of Graduate and Postdoctoral Studies. Extensions of this six-month period for completion without reexamination will be granted only in rare circumstances.

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## **Graduation.**

All degree candidates are required to apply for their degree with the Office of the Registrar during the semester in which they wish to graduate. Consult the semester specific [academic calendar](#) for degree application deadlines.

Students should follow the guidelines below to file an application for degree:

- Login to ESTHER
- Go to Student Services and Account Information >Graduation
- Click on “Application for Degree – Graduate Students
- Print and fill out the Application for Degree form
- Review and make any necessary corrections on the form
- Sign, date, and return the form to the Office of the Registrar

Degrees are conferred three times a year (August, December, and May). August and December degree candidates are invited to participate in May commencement activities.

Suggested Time Lines for Ph.D. Students (those admitted after B.S. may follow the M.S. student's guidelines initially and then switch to the following after completion of the M.S.):

- First year: Course work, begin research under direction of advisor as deemed appropriate
- End of first year: Take the preliminary exam
- First semester, second year: Form committee and consult with committee
- Each semester thereafter (at a minimum) consult with committee; meet if necessary (at the discretion of the committee chair)
- Ensure that you submit the fall/spring semester progress reports to the department graduate committee with the approval of your advisor
- Third or fourth year: Write and defend proposal in Ph.D. qualifying examination (this should be at least six months before the final defense) followed by petitioning for candidacy
- Final semester: Defense and submit the dissertation

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## Semi Annual Performance Review

An annual performance review will be conducted on all graduate students by the Graduate Studies Committee. The purpose of the review is to ensure that students make adequate academic progress and that the faculty provides timely feedback to the students' academic development.

The review will be a comprehensive evaluation of the student's academic performance including course work, research, professional development, and other relevant activities. It will be conducted at the end of every fall and spring semester. Additional reviews may be done upon request of the faculty. Students will be reviewed based on the following:

- Course work grades. Transcripts including the spring semester grades will be reviewed. For students who are not doing research (e.g., MCEE students), this will be the only document that will be reviewed.
- An annual report submitted by the graduate student to the advisor by May 15. The report will include 1) a summary of academic activities. This includes but is not limited to manuscripts published, submitted or in preparation, conference presentations, awards, professional organization membership, and other research related activities; 2) a one page description of research progress and plans for the coming year. It is very important for the students to set clear and realistic research objectives for the coming year based on consultation with the research advisor and thesis committee. These objectives will be used to judge the student's research progress in the next review.
- An evaluation letter from the research advisor. The letter must be submitted to the Graduate Studies Committee by May 31 in the year when the review is conducted.
- Other materials deemed necessary by the Graduate Studies Committee.

A written assessment of the student's academic progress resulting from the review will be sent to the student before the beginning of the fall semester. Students whose academic progress is judged inadequate by the annual review will receive a warning, and be placed on probationary status. Note that an "Unsatisfactory" grade on Ph.D. or M.S. thesis research will most likely result in an unfavorable review. The student will be given a specific time frame within which improvement must be made to the satisfaction of the research advisor and the Graduate Studies Committee. Failure in demonstrating satisfactory improvement will result in dismissal.

It is strongly recommended that students meet with their advisors at least once per semester to define and adjust research objectives and milestones so that the expectations for research and the criteria for adequate progress are clear.

## MASTER OF SCIENCE (M.S.) REQUIREMENTS

The Master of Science degree is offered in civil and environmental engineering. For general university requirements, see [Graduate Degrees](#) in the General Announcement. To earn a MS degree, students must:

- Complete a minimum of 30 credit hours at the graduate-level or above to satisfy degree requirements
- Complete a minimum of 24 credit hours from approved graduate level courses while maintaining a minimum average GPA of 3.0 [and at least a minimum grade of B].
- Complete a minimum of 6 credit hours of thesis research.
- Select a thesis committee according to department requirements and conduct original research in consultation with the committee.
- Present and defend in oral examination an approved research thesis. Students take the oral exam only after the committee determines the thesis to be in a written format acceptable for public defense. Normally, students take two academic years and the intervening summer to complete the degree.

Students must submit the fall/spring semester progress reports to the department graduate committee with the approval of their advisor.

Those that intend to extend their studies into the Ph.D. degree program should note that the department does not grant an M.S. degree to candidates who have not written a master's thesis. In addition, up to two credits of seminar may count toward the total 24 credit hours from approved graduate level courses.

Core courses contribute to breadth, depth, and minimum competency as civil and environmental engineers. For students focusing on environmental engineering, coursework must include one course in each of the following areas and environmental chemistry, water treatment, hydrology, and air quality.

For students focusing on civil, structural engineering and mechanics, coursework must include one course in each of the following areas: structural mechanics and FEM, structural dynamic systems, earthquake engineering, probabilistic mechanics and applied mathematics. Comparable course work completed previously may be substituted for these core courses. A minimum grade of B- must be achieved for each of these core courses, as well as a minimum average GPA of 3.0.

### **Course Registration.**

Continuing graduate students must register three times per year to remain active. Registration is on-line through ESTHER. Registration periods are mid-November for the spring semester, in early March for the summer, and in early April for the following fall. Consult the semester specific [academic calendar](#) for exact dates. Late registration is permitted but incurs a fee that must be paid by the student. It is the students' responsibility to keep track of the registration dates and register by the deadline for each semester.

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The number of research credit hours students register should be in agreement with the amount of time spent on thesis research. Students should speak with their advisors prior to registering for more than 3 credit hours of research.

Students should review the syllabus of independent study offered by individual faculty members for expectations of the course.

Semester course load for full-time students is nine hours or more for the fall, spring, and summer semesters. Graduate programs at Rice generally require full-time study.

All Students are required to enroll in Seminar, CEVE 601 (fall) and CEVE 602 (spring) each semester while at Rice.

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The department will consider counting courses taken by a student while an undergraduate at Rice as credit toward a master's degree. Students must submit a Request to [Apply Undergraduate Coursework to Graduate Program form](#) to the graduate committee chair (sending a copy to the graduate coordinator) and the following guidelines must be followed:

- The courses must be chosen from those that normally satisfy advanced degree requirements
- No course can be used simultaneously to satisfy both an undergraduate and a graduate requirement
- Coursework taken as an undergraduate will not be converted to indicate a graduate level in the student's academic history until after the bachelor's degree is awarded.
- Coursework taken as an undergraduate does not indicate the student's matriculation term for the graduate program - the matriculation term will be the term the student officially enters the program as a graduate student after completing all undergraduate requirements
- Regardless of the number of graduate courses taken at the undergraduate level, a student must spend at least one semester (fall or spring) in full-time study at Rice as a graduate student



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### **Inter-Institutional Graduate Program.**

Is a collaborative agreement between Rice University, the University of Texas System, Baylor College of Medicine, and the University of Houston. The program allows a full-time graduate student to enroll in a course at one of the participating schools when the course is not offered at the student's own school. The course is then transferred to the student's home university.

Rice graduate students should follow the procedure outlined below to receive transfer credit through this program:

- Complete the [Inter-Institutional Graduate Program form](#) PDF online, or at the Office of the Registrar (116 Allen Center). Obtain approval signatures from the instructor teaching the course at the external school, your academic advisor at Rice, the Chair of the department, the Registrar of the external school, and the Rice Registrar.
- Once you complete the course, you must have an official transcript sent to the Office of the Registrar at this address:

Rice University  
Office of the Registrar -MS 57  
6100 Main Street  
Houston, TX 77005

If an Inter-Institutional Graduate Program form is filed with the registrar, transfer credit will be applied to your record as TRAN 500 credit when the official transcript is received. To receive Rice equivalent credit, students need to submit a completed Graduate Request for Transfer Credit PDF form.

## MS APPROVAL OF CANDIDACY

Master's students must be approved for candidacy before the beginning of the fifth semester of their residency at Rice, only then will students defend their dissertation. Students should fill the [Petition for Approval of Candidacy for Masters Degree](#) through the graduate coordinator. Student's individualized time boundaries are available in Esther. Students must complete (a) required coursework (b) ability to demonstrate effective oral and written communication, and shown the ability to carry on scholarly work in his/her subject area.

A MS thesis committee should be formed during the first semester of the second year. A MS thesis committee is composed of at least three members. Two members, including the committee chair, must be members of the CEE faculty with their primary appointment in the CEE department; you may have all three members within the CEE faculty for MS committees ONLY. At least three members of the committee must meet one of the following requirements:

- Tenured or tenure-track members of the Rice faculty
- Research faculty holding the rank of faculty fellow, senior faculty fellow, or distinguished faculty fellow
- Faculty who have been certified as thesis committee members by the dean of graduate and postdoctoral studies

The committee chair need not be the thesis director. The chair, however, must be either a tenured or a tenured-track member of the CEE department. Additional members of the committee, who may or may not meet the above criteria, may be selected with the approval of the department chair. These would be in addition to the three required members.

In cases where the student and the major advisor disagree on the selection of thesis committee members, the student may file a petition to the department's Graduate Academic Affairs committee. Based on its independent evaluation, the Graduate Academic Affairs committee will approve the thesis committee before the candidacy form may be submitted to the Office of Graduate and Postdoc Studies.

Regular Thesis Committee Meetings should be held each semester thereafter forming a thesis committee, students should consult with the chair and members of their thesis committee about the nature and progress of research as the work evolves. Content and length of the M.S. thesis must be finalized in agreement with the advisor. Students actively writing a thesis are strongly encouraged to register for ENGI 600 Written and Oral Communication Seminar for Engineering Graduate Students (offered spring and fall). This highly interactive seminar emphasizes on how to explain work clearly to a wide range of audiences, both technical and those outside the area of expertise; all writing and speaking assignments are based on students own research and will receive extensive feedback.

### **Request for extension of time to candidacy.**

Each student's individualized time boundaries are available in Esther. Students who are approaching or who have passed their deadline to candidacy, and who have not met all requirements for candidacy must submit a [Petition to Extend Time Boundary for Approval of Candidacy](#) request. Extensions are approved on a case-by-case basis by the Office of Graduate and Postdoctoral Studies, a \$125 reinstatement fee will be imposed on students who are allowed to continue but who have exceeded their time boundaries without prior approval. Petitions should be filled out in consultation with your advisor and submitted to [atorres@rice.edu](mailto:atorres@rice.edu) for processing.

## MS DEFENSE

Master's students must defend their theses before the end of the eighth semester of their residency at Rice. Candidates are required to write a detailed M.S. thesis and schedule the M.S. defense under the guidance of their advisor and masters committee. Content and length of the M.S. thesis dissertation must be finalized in agreement with the advisor. The M.S. thesis must be submitted to the masters committee and the department at least one week prior to the defense.

The MS defense must be scheduled and announced to the public according to the Rice University graduate school requirements (at least one week prior to the date of the defense). Defense announcements should be submitted to the Office of Graduate and Postdoctoral Studies by filling out the following form: <http://events.rice.edu/rgs/>. Please refer to the Office of Graduate and Postdoctoral Studies website <http://graduate.rice.edu/thesis/> for specific information.

The thesis defense should be documented using the “Evaluation of MS Defense form”. This will be used to determine the student’s ability to demonstrate the acquired advanced knowledge of the principles of civil and environmental engineering and apply them to advanced technical problems, ability to conduct independent research, and ability to demonstrate professional written and oral communication skills. Forms should be requested by emailing [atorres@rice.edu](mailto:atorres@rice.edu), when requesting the form send a copy of your thesis for inclusion in your student record. After the defense, the completed evaluation of M.S. defense rubrics form should be submitted to the graduate program coordinator Andrea Torres.

### **Acceptance of Thesis.**

The completed thesis must be submitted in either final or advanced draft form to the members of the thesis committee at least two weeks before the oral examination. A copy of the completed thesis must also be submitted to the department at least two weeks before the oral examination. The department copy may be submitted electronically to [atorres@rice.edu](mailto:atorres@rice.edu).

In the course of the examination, the thesis committee members may recommend revisions or additions, which must be incorporated in the final thesis. The final thesis must be signed by all committee members.

No later than six months from the date of the examination, candidates who successfully passed the oral examination in defense of their thesis must submit their thesis to the Office of Graduate and Postdoctoral Studies. Please refer to the Graduate and Postdoctoral Studies website <http://graduate.rice.edu/thesis/> for specific instructions regarding how to submit the thesis. If the thesis is not ready for final signatures by the end of the six-month period, the “pass” may be revoked and an additional oral defense will need to be scheduled. Application for an extension without reexamination must be made by the candidate with the unanimous support of the thesis committee, endorsed by the school dean, and approved by the Office of Graduate and Postdoctoral Studies. Extensions of this six-month period for completion without reexamination will be granted only in rare circumstances.

### **Graduation.**

All degree candidates are required to apply for their degree with the Office of the Registrar during the semester in which they wish to graduate. Consult the semester specific [academic calendar](#) for degree application deadlines.

Students should follow the guidelines below to file an application for degree:

- Login to ESTHER
- Go to Student Services and Account Information >Graduation
- Click on “Application for Degree – Graduate Students

- Print and fill out the Application for Degree form
- Review and make any necessary corrections on the form
- Sign, date, and return the form to the Office of the Registrar

Degrees are conferred three times a year (August, December, and May), however, commencement happens once a year. August and December degree candidates are invited to participate in May commencement activities.

#### SUGGESTED TIME-LINE FOR MS STUDENTS

- First year: Course work, begin research under direction of advisor as deemed appropriate
- End of first year (for Civil Eng. Students after 1.5 years): Take the preliminary exam if intending to continue for a Ph.D. in the ENVE program.
- First semester, second year: Form committee and consult with committee; meet if necessary (at the discretion of the committee chair) followed by petition for candidacy
- Second year, second semester: Write and defend thesis

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## Semi Annual Performance Review

An annual performance review will be conducted on all graduate students by the Graduate Studies Committee. The purpose of the review is to ensure that students make adequate academic progress and that the faculty provides timely feedback to the students' academic development.

The review will be a comprehensive evaluation of the student's academic performance including course work, research, professional development, and other relevant activities. It will be conducted at the end of every fall and spring semester. Additional reviews may be done upon request of the faculty. Students will be reviewed based on the following:

- Course work grades. Transcripts including the spring semester grades will be reviewed. For students who are not doing research (e.g., MCEE students), this will be the only document that will be reviewed.
- An annual report submitted by the graduate student to the advisor by May 15. The report will include 1) a summary of academic activities. This includes but is not limited to manuscripts published, submitted or in preparation, conference presentations, awards, professional organization membership, and other research related activities; 2) a one page description of research progress and plans for the coming year. It is very important for the students to set clear and realistic research objectives for the coming year based on consultation with the research advisor and thesis committee. These objectives will be used to judge the student's research progress in the next review.
- An evaluation letter from the research advisor. The letter must be submitted to the Graduate Studies Committee by May 31 in the year when the review is conducted.
- Other materials deemed necessary by the Graduate Studies Committee.

A written assessment of the student's academic progress resulting from the review will be sent to the student before the beginning of the fall semester. Students whose academic progress is judged inadequate by the annual review will receive a warning, and be placed on probationary status. Note that an "Unsatisfactory" grade on Ph.D. or M.S. thesis research will most likely result in an unfavorable review. The student will be given a specific time frame within which improvement must be made to the satisfaction of the research advisor and the Graduate Studies Committee. Failure in demonstrating satisfactory improvement will result in dismissal.

It is strongly recommended that students meet with their advisors at least once per semester to define and adjust research objectives and milestones so that the expectations for research and the criteria for adequate progress are clear.

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## **MASTER OF CIVIL AND ENVIRONMENTAL ENGINEERING (MCEE) REQUIREMENT**

The Master of Civil and Environmental Engineering (MCEE) is a professional non-thesis degree requiring 30 semester hours of approved course work. Students who have a BS or BA degree in any field of engineering or related study may apply. They will complete 30 hours of graduate level courses (24 semester hours must be at Rice University) in our Civil Engineering or Environmental Engineering sub-tracks including the required core courses and a final project.

For the final project, students must choose an advisor to work with in the first semester, and register for CEVE 590 with the advisor's approval to conduct the project in the second semester. In the second semester or semester which the final project will be completed, students are required to meet with their advisor to discuss final project details and timeline by the end of the first week of class.

Graduate courses from other departments might count towards the MCEE degree, but need prior approval by CEE Graduate Committee Chairs. Depending on their background, some students may need to fulfill pre-requisites or take remedial engineering courses in addition to the required 30 semester hours to earn the MCEE degree. Students can transfer up to 6 credits of graduate-level courses equivalent to the required courses. For more information on how to transfer credits please email [atorres@rice.edu](mailto:atorres@rice.edu). All professional masters' students must maintain a minimum average GPA of 3.0.

**For the Civil Engineering track, all students must complete 10 courses (30 credit hours) as listed below to satisfy the area of specialization in Civil Engineering.**

Core Requirements: Students must complete 7 courses, including seminar (19 credit hours) from the following:

CEVE 500 (S) Advanced Mechanics of Materials [3 credit hours]  
CEVE 503 (F) Nonlinear Finite Element Analysis \* [3 credit hours]  
CEVE 519 (F) Elasticity, Plasticity and Damage Mechanics \* [3 credit hours]  
CEVE 524 (F) Time Dependent System Reliability Methods [3 credit hours]  
CEVE 527 (F) Computational Structural Mechanics and FEM\* [3 credit hours]  
CEVE 531 (F) Reinforced Concrete Buildings \* [3 credit hours]  
CEVE 541 (S) Structural Steel Buildings \* [3 credit hours]  
CEVE 554 (F) Computational Fluid Mechanics [3 credit hours]  
CEVE 560 (F) Bridge Engineering and Extreme Events \* [3 credit hours]  
CEVE 571 (F) Soil Mechanics and Foundations [3 credit hours]  
CEVE 576 (S) Structural Dynamic Systems \* [3 credit hours]  
CEVE 578 (F) Earthquake Engineering \* [3 credit hours]  
CEVE 592 (F) Modeling and Analysis of Networked Systems \* [3 credit hours]  
CEVE 596 (S) System Identification of Dynamic Systems with Machine Learning \* [3 credit hours]  
CEVE 601 (F) Seminar [1 credit hour] or CEVE 602 (S) [1 credit hour]  
CEVE 678 (F) Applied Stochastic Mechanics \* [3 credit hours]  
CEVE 679 (F) Applied Monte Carlo Analysis \* [3 credit hours]

Electives - To fulfill the remaining requirements for the area of specialization in Civil Engineering, students must complete 3 courses (9 credit hours) as listed below.

Directed Civil Engineering Electives - Students must complete a total of 2 courses (6 credit hours) from the Core Requirements or from the following:

CAAM 550 (F) Numerical Analysis \* [3 credit hours]  
MECH 502 (S) Vibrations \* [3 credit hours]  
MECH 517 (S) Finite Element Methods [3 credit hours]  
MECH 554 (F) Computational Fluid Mechanics [3 credit hours]

Professional Development Electives - Students must complete 1 course (3 credit hours) from the following:

ANTH 532 (S) The Social Life of Clean Energy \* [3 credit hours]  
CEVE 507 (S) Energy and the Environment \* [3 credit hours]  
CEVE 528 (S/F) Engineering Economics \* [3 credit hours]  
ECON 601 (F) Energy Economics (pre-req. ECON 301 OR ECON 370) \* [4 credit hours]  
ENGI 529 (F) Engineering Leadership and Ethics \* [3 credit hours]  
NSCI 511 (F) Science Policy and Ethics \* [3 credit hours]  
NSCI 610 (F) Management for Science/Engineering \* [3 credit hours]  
\* Offered every two years

**For the Sustainable Environmental Engineering and Design track, all students must complete a total of 10 courses (30 credit hours) as listed below to satisfy the area of specialization in Sustainable and Environmental and Design.**

Core Requirements† - Students must complete the following 7 courses (19 credit hours):

CEVE 502 (F) Sustainable Engineering Design [3 credit hours]  
CEVE 509 (S) Hydrology and Water Resources Engineering [3 credit hours]  
CEVE 511 (F) Atmospheric Chem & Climate [3 credit hours]  
CEVE 534 (F) Fate and Transport of Contaminants in the Environment [3 credit hours]  
CEVE 536 (S) Environmental Biotechnology [3 credit hours]  
CEVE 550 (S) Environmental Organic Chemistry [3 credit hours]  
CEVE 601 (F) or CEVE 602 (S) Professional Seminar [1 credit hours]

Electives - To fulfill the remaining Sustainable and Environmental Engineering and Design requirements, students must complete 3 additional courses (9 credit hours) from the following:

A. Engineering Science and Technology, choose up to 2 (6 credit hours) from the following:

CEVE 501 (F) Environmental Chemistry (w/o lab) [3 credit hours]  
CEVE 504 (S) Atmospheric Particulate Matter\* [3 credit hours]  
CEVE 508 (S) Introduction to Air Pollution Control\* [3 credit hours]  
CEVE 510 (F) Principles of Environmental Engineering [3 credit hours]  
CEVE 518 (S) Contaminant Hydrogeology \* [3 credit hours]  
CEVE 520 (F) Environmental Remediation Restoration \* [3 credit hours]  
CEVE 535 (S) Physical Chemical Processes for Water Quality Control [3 credit hours]  
CEVE 544 (F) Environmental Microbiology and Microbial Ecology [3 credit hours]  
STAT 685 (S) Quantitative Environmental Decision making [3 credit hours]

CEVE 592 (F) Modeling and Analysis of Complex Urban Infrastructure Systems \* [3 credit hours]

B. Sustainable Resource Management, choose up to 1 (3 credit hours):

ANTH 532 The Social Life of Clean Energy \* [3 credit hours]

CEVE 506 Intro to Environmental Law [3 credit hours]

CEVE 507 (S) Energy and the Environment \* [3 credit hours]

CEVE 528 (S/F) Engineering Economics \* [3 credit hours]

CEVE 529 (F) Engineering Leadership and Ethics \* [3 credit hours]

EBIO 580 (F) Sustainability Development [3 credit hours]

ECON 601 (F) Energy Economics (pre-requisites ECON 301 OR ECON 370) \* [3 credit hours]

NSCI 511 (S) Science Policy and Ethics \* [3 credit hours]

NSCI 610 (F) Management for Science/Engineering \* [3 credit hours]

\* Offered every two years

† If a required course or equivalent has been taken, it can be replaced with an Engineering Science and Technology elective.

### **MCEE Final Project.**

All MCEE students must complete a 2-credit final project with a faculty member in the CEE department. Through the final project, MCEE students must demonstrate professional written and oral communication skills:

- A. Students write-well organized, coherent papers with few grammatical errors
- B. Students demonstrate ability to describe scientific issues and techniques in writing and in presentation
- C. Students deliver a professional presentation on par with a solid conference presentation
- D. Student responses to questions demonstrate a facility with the issues and techniques immediately relevant to the topic.

Note: MCEE students are required to undergo training with CENTER FOR ACADEMIC AND PROFESSIONAL COMMUNICATION (CAPC) on writing and presentation of the final project. Fall and spring final project submission requirements: student should set-up initial meeting with CAPC by week 10; students should submit first draft to CAPC by week 13; students should submit final draft to CAPC by week 14; students should set up last meeting by week 15. The oral presentation and submission of the final MCEE report should be completed by the last day of classes. Consult with Andrea Torres for further details.

The final project presentation should be documented using the “MCEE Evaluation of Presentation form”. This will be used to determine the student’s ability to demonstrate a solid foundation in civil and environmental engineering at the graduate level and ability to demonstrate professional written and oral communication skills. Forms should be requested by emailing [atorres@rice.edu](mailto:atorres@rice.edu), when requesting the form send a copy of your report/slides for inclusion in your student record. After the presentation is complete, the completed MCEE evaluation of presentation rubrics form should be submitted to the graduate program coordinator Andrea Torres.

### **Course Registration.**

Continuing graduate students must register two times per year to remain active. Registration is on-line through ESTHER. Registration periods are mid-November for the spring semester and early April for the following fall. Exact dates can be found at the registrar’s web site <https://registrar.rice.edu/calendars>. Late registration is permitted but incurs a fee that must be paid by the student. It is the students’ responsibility to keep track of the registration dates and register by the deadline for each semester.

First year students register for fall classes during orientation week after consulting with advisors to determine which course subjects you should register. An advising session will be conducted by the graduate committee chairs



during the Engineering Professional Master's Program orientation, held on the Friday prior to the first week of fall class. Students are also encouraged to contact the MCEE coordinator before the semester begins to discuss study plans and any specific needs.

Semester course load for full-time students is nine hours or more for the fall, spring, and summer semesters. All MCEE students must adhere to the minimum residency requirement of one fall or spring semester in full-time or part-time graduate study.

All Students are required to complete one semester of Seminar CEVE 601 (fall) OR CEVE 602 (spring) while at Rice.

### **Transfer Credit Guidelines.**

Courses taken at another accredited college or university are not automatically approved for transfer credit. Transfer credit is only granted with the approval of the graduate committee chair. Transfer credits are subject to the following restrictions:

- Courses must be from a regionally accredited U.S. institution or an international institution officially recognized by that country's Ministry of Education or equivalent.
- The course must be recorded on an official transcript sent directly from the original institution to Rice or hand-delivered by the student in an official sealed envelope.
- The minimum grade for transferred credits is a B or equivalent.

Students seeking transfer credit must obtain course descriptions or syllabi for the transfer classes, look at Rice's Course Catalog and match up the transfer classes to Rice classes, complete the Graduate Request for Transfer Credit form, available online or in the Office of the Registrar, meet with the graduate committee chair and obtain his/her approval signature on the [Graduate Request for Transfer Credit](#) form, send a copy to graduate coordinator, then submit the completed form to the Office of the Registrar.

The department will consider counting courses taken by a student while an undergraduate at Rice as credit toward a master's degree. Students must submit a Request to [Apply Undergraduate Coursework to Graduate Program form](#) to the graduate committee chair (sending a copy to the graduate coordinator) and the following guidelines must be followed:

- The courses must be chosen from those that normally satisfy advanced degree requirements
- No course can be used simultaneously to satisfy both an undergraduate and a graduate requirement
- Coursework taken as an undergraduate will not be converted to indicate a graduate level in the student's academic history until after the bachelor's degree is awarded.
- Coursework taken as an undergraduate does not indicate the student's matriculation term for the graduate program - the matriculation term will be the term the student officially enters the program as a graduate student after completing all undergraduate requirements
- Regardless of the number of graduate courses taken at the undergraduate level, a student must spend at least one semester (fall or spring) in full-time study at Rice as a graduate student

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## **Graduation.**

All degree candidates are required to apply for their degree with the Office of the Registrar during the semester in which they wish to graduate. Consult the semester specific [academic calendar](#) for degree application deadlines.

Students should follow the guidelines below to file an application for degree:

- Login to ESTHER
- Go to Student Services and Account Information >Graduation
- Click on “Application for Degree – Graduate Students
- Print and fill out the Application for Degree form
- Review and make any necessary corrections on the form
- Sign, date, and return the form to the Office of the Registrar

Degrees are conferred three times a year (August, December, and May), however, commencement happens once a year. August and December degree candidates are invited to participate in May commencement activities.

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### **Teaching Service.**

Every graduate student in the Department of Civil and Environmental Engineering is required to perform a modest amount of service as a part of the degree program. Typically, this consists of being an assistant to a professor in an undergraduate/graduate course, and involves grading and /or some tutorial work. It is also meant to provide some exposure to teaching as a part of graduate program.

Teaching Assistance (TA) Guidelines and responsibilities.

1. TAs need to spend a maximum of 20 hours per week (half time) on teaching related tasks including preparing and performing tests for a laboratory course, interacting with students during office hours or tutorial sessions, and grading
2. TAs (in any capacity) or those who will be TAs in the near future must undergo mandatory training offered by George R. Brown School of Engineering or Center for Teaching Excellence (CTE). CTE offers training at the beginning of the fall semester and only held once a year, it cover topics such as: Institutional Policies (ADA, FERPA, etc.), Grading and Rubrics, Mentoring, Office Hours, and Other Kinds of One-on-One Teaching, and Teaching Tips.

### **Student requests to switch advisors.**

Ph.D. students can change advisor/research group only after documenting the need and purpose. Such a change has to be approved by both former as well as new advisor and the chairman of the department.

Procedure:

1. The student should first discuss issues with the current advisor and attempt to resolve any concerns or problems.
2. If the student feels that issues are insoluble, he or she is encouraged to request guidance from the graduate committee chairs or the department chair.
3. If the student still wishes to switch advisors, the student should speak with a faculty member whose research interests are in line with his or her interests, who is willing to serve as the student's advisor, and who has funding to support the student.
4. If the student finds another faculty member willing to serve as his or her advisor, the student should submit a petition to the department chair for approval of the change. This petition must have the endorsement of the new advisor.
5. If the department chair approves the switch, the CEE graduate program coordinator will process the paperwork required to change advisors.

### **Change in Degree Programs, MS to MCEE.**

Admission into a professional program is granted separately from admission into a research or thesis program. Students who wish to change from a thesis program to a professional degree program must petition the department in writing. If approved, students who received tuition waivers while enrolled in the thesis program will be expected to repay the tuition before their professional degrees are awarded.

Professional degree programs terminate when the degree is awarded. Students who wish to continue graduate study after completing a professional program must apply for admission into a research program.

Procedure:

1. The student should request the degree change in writing addressing the memo to the graduate committee chair.
2. If the graduate committee approves the switch, the CEE graduate program coordinator will process the paperwork required to change degrees.

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**Vacation Policy.**

Arrangements for holidays and other time off, except for medical and family emergencies, must be made in advance in consultation with the advisor and must be in compliance with any guidelines from funding agencies.

**Resources for Students.**

The Office of Graduate and Postdoctoral Studies offers a list of resources supporting quality of life. Please visit the student life section of the Office of Graduate and Postdoctoral Studies website:

<http://graduate.rice.edu/studentlife>

**Professional Development.**

Rice University offers several professional development resources to all graduate students. For a complete list of resources please visit [http://gpsdocs.rice.edu/professional\\_development/Rice\\_Grad\\_Resources.pdf](http://gpsdocs.rice.edu/professional_development/Rice_Grad_Resources.pdf).

**CEVE GSA program for 1st year students.**

Students are strongly encouraged to get familiar with the CEE Graduate Student Association (GSA). This is an organization comprised of graduate students whose goal is to make the department and the graduate student experiences an unforgettable one. The CEE GSA is an important mechanism for formal and informal communications between CEE student body and the department. It organizes social events for graduate students, participates in important departmental decisions related to students, and is involved in many departmental and university activities.

**Regular opportunities to present research.**

Students are strongly encouraged to participate in the Graduate Student Colloquium held monthly during the academic semester. This is a completely student-run activity and will give students the opportunity to discuss their research among an audience.

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### **Guidelines for Dismissals, Petitions, Appeals, Grievances, and Problem Resolution.**

Dismissal. Dismissal from the program can result from 1) failure in meeting any university or departmental requirements, 2) a disciplinary violation resulting in a University sanction, and 3) inadequate academic progress.

A student who is failing to meet departmental or university requirements, such as failing to meet grade requirements, failing to pass required examinations by the required time, or failing to advance to candidacy or defend her/his thesis within the required time, is subject to dismissal without further warning.

When a student is judged not to be making adequate academic progress -particularly research - based on the annual performance review or additional reviews conducted by the research advisor, he or she will be warned in writing of the possibility of dismissal and be placed on probationary status. Specific requirements for improvement within a specified time period will be made. If the student does not meet the stated requirement within the time frame specified, he or she will be dismissed by the graduate program. A written notice of dismissal will be sent to the student 15 days before the date of dismissal.

Reduction and termination of financial support. Active participation in required research activities is a basic condition for continued financial support. When a graduate student is placed on probationary status due to inadequate academic progress, the research advisor may decide to reduce or suspend the financial support to the student. Student who are absent from required research activities for continuous two weeks without permission and without mitigating circumstances may be subject to termination of financial support. In addition, they will be judged to be not making adequate academic progress. Thus, if absences have to occur, they must be pre-arranged with the student's advisor, except for medical and family emergencies, in which cases timely notification is required.

Petitions and Appeals. Graduate students may petition for exceptions to academic requirements, regulations, and judgments. A petition regarding University requirements, regulations and judgments must be submitted to the Office of Graduate and Postdoctoral Studies; such a petition must be accompanied by a recommendation from the Department. When the Department's recommendation is negative, or when the petition requests a major exception, the Office of Graduate and Postdoctoral Studies may also obtain the recommendation of the School of Engineering (when relevant) and the Graduate Council.

A petition regarding departmental requirements, regulations, or judgments must be submitted to the Department Chair. Students petitioning must provide documents that support or justify the petition. The petition will be handled by the departmental Petitions, Appeals, and Grievances Committee, which consists of at least three faculty members independent of the cause for the petition. After investigation, the committee will submit a written report to the department chair, describing the circumstances, the decision, and the rationale for the decision. The department chair will convey the final decision to the student.

Petitions regarding academic decisions must be submitted in writing within 15 days from the time that the student knew or should reasonably have known of the decision being petitioned, or within 15 days after an informal effort to resolve the situation has not been successful. Petitions seeking exceptions to academic requirements or regulations should be submitted in writing at least 30 days before the requirement or regulation takes effect. Late petitions may be dismissed, except for unusual situations when a delay is found justifiable by the unit receiving the petition. Petitions will be acknowledged in writing (including emails) immediately upon their receipt.

A student (or other parties affected by the decision) is allowed only one level of appeal from a decision regarding a petition. In general, the appeal process will be resolved at the lowest level possible. An appeal must be submitted within 15 days from receipt of the decision that is being appealed. Late appeals will be dismissed, except for unusual situations when a delay is justified. Appeals will be acknowledged in writing (including emails) immediately upon their receipt.

A petition/appeal should indicate the requirement, regulation, or judgment that is the subject of the petition/appeal, the specific exception requested, and the grounds for the request. An appeal must indicate why the decision involving the earlier petition was incorrectly decided. Grounds for a petition/appeal could be procedural errors by academic or administrative personnel or special circumstances found to be mitigating by the unit receiving the petition/appeal. Disagreement over evaluation of academic quality will not be considered as an appropriate basis for petitions/appeals unless the evaluation is found to be patently unreasonable by the unit receiving the petition/appeal. Petitions involving a violation of University policy or improper conduct by University personnel will be handled as grievances (see Grievances).

Petitions and appeals will usually be resolved within 30 days of their submission. When such resolution cannot be achieved within 30 days, students will be informed of the delay before the 30 days are over. A resolution of the petition or appeal must be achieved within 60 days.

All time frames in this procedure refer to academic calendar days, and exclude mid-term, inter-term and summer recesses. (This exclusion does not apply to a student who is enrolled during the summer.) All petitions and appeals, as well as responses to petitions and appeals, must be in writing. Email communication is considered to be “in writing”.

**Grievances.** A grievance is a complaint regarding inappropriate conduct by other students, faculty members, or staff. Inappropriate conduct encompasses both inappropriate personal conduct, such as sexual harassment, as well as inappropriate official conduct, such as violation of University policies. Specific policies exist to address grievances based on discrimination or sexual harassment and these policies must be followed in situations involving these issues. Grievances against another student may be raised with the assistant dean of student judicial programs and addressed under the Code of Student Conduct. In other cases, a student may present a grievance in writing at the lowest appropriate level, typically the department or school. If a satisfactory resolution is not obtained at that level, the student may appeal the outcome of the grievance by presenting the problem at the next administrative level, such as the school, Office of Graduate and Postdoctoral Studies, Provost, or President. Grievances against non-faculty staff members may also be brought to the Employee Relations Director in Rice’s Human Resources office.

The procedures for handling grievances are analogous to those for handling petitions and appeals. Students submitting grievances must so indicate in their submissions.

**Problem Resolution.** During the course of graduate studies, problems that do not fall under the category of grievances, described above, may arise in the relationship between a graduate student and his/her program or his/her advisor. Students should attempt to resolve such problems by informing the appropriate faculty members and working together to resolve the problem. When attempts to resolve the problem informally are unsuccessful, the following problem-resolution procedure will be used:

1. The student will submit the problem in writing to the department chair, who will then attempt to resolve it.

2. If the student remains unsatisfied, the problem will be presented to the department Graduate Studies Committee for resolution. Both the student and the program chair will submit a written record of their views to this committee.
3. If the student remains unsatisfied, the problem will be referred to a standing subcommittee of the Graduate Council and composed of three faculty members (representing diverse disciplines within the university) and a graduate student, with the Dean of Graduate and Postdoctoral Studies as an ex-officio member. A written report of proceedings at stage 2 will be presented to the Chair of Graduate Council for forwarding to the subcommittee, along with all other written materials generated during the investigation. The decision of this subcommittee is considered final.

The time frame for handling problem resolution is similar to that for handling petitions, appeals, and grievances. Students may seek guidance on any of these procedures through discussions with the Office

**Title IX:**

Rice encourages any student who has experienced an incident of sexual, relationship, or other interpersonal violence, harassment or gender discrimination to seek support. There are many options available both on and off campus for all graduate students, regardless of whether the perpetrator was a fellow student, a staff or faculty member, or someone not affiliated with the university.

Students should be aware when seeking support on campus that most employees are required by Title IX to disclose all incidents of non-consensual interpersonal behaviors to Title IX professionals on campus who can act to support that student and meet their needs. The therapists at the Rice Counseling Center and the doctors at Student Health Services are confidential, meaning that Rice will not be informed about the incident if a student discloses to one of these Rice staff members. Rice prioritizes student privacy and safety, and only shares disclosed information on a need-to-know basis.

If you are in need of assistance or simply would like to talk to someone, please call Rice Wellbeing and Counseling Center, which includes Title IX Support: **3311/(713) 348-3311**

Policies, including Sexual Misconduct Policy and Student Code of Conduct, and more information regarding Title IX can be found at [safe.rice.edu](http://safe.rice.edu)

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**Academic Regulations and Good Standing.**

Graduate students must meet the following minimums, deadlines, and course or grade requirements to remain in good standing and to graduate from the university. Please also refer to the general announcements [http://ga.rice.edu/GR\\_regulations/Residency](http://ga.rice.edu/GR_regulations/Residency) - PhD students must complete at least four fall and/or spring semesters in full-time study at Rice University. Minimum residency for master's programs is one fall or spring semester of full-time graduate study, with the exceptions of professional master's program in the school of engineering. For this program, minimum residency is one fall or spring semester in full-time or part-time study.

**Full-Time Study.**

Semester course load for full-time students is nine hours or more for the fall, spring, and summer semesters. Graduate programs at Rice generally require full-time study.

**Time to Degree.**

PhD students are required to complete their program, including thesis defense, within 10 years of initial enrollment in the degree program. All master's students are required to complete their program, including thesis defense, within five years of initial enrollment. In both cases, students have a limit of six additional months from the date of defense to submit their theses to the Office of Graduate and Postdoctoral Studies. These time boundaries include any period in which the student was not enrolled or enrolled part time, for whatever reason. Failure to meet any university time to degree deadline may result in the student not being able to continue in their degree program.

**Time to Candidacy.**

PhD students must be approved for candidacy before the beginning of the ninth semester of their enrollment at Rice. All master's students must be approved for candidacy before the beginning of the fifth semester of their enrollment at Rice.

**Time to Defense.**

PhD students must defend their theses before the end of the 16th semester of their enrollment at Rice. Master's students must defend their theses before the end of the 8th semester of their enrollment at Rice.

**Time to Thesis Submission.**

Candidates who successfully pass the oral examination in defense of the thesis must submit the thesis to the Office of Graduate and Postdoctoral Studies no later than six months from the date of the examination.

**Standard of Conduct.**

Students are expected to live up to the high standards Rice sets for its community members, as described in the Code of Student Conduct. Graduate students should be in compliance with the Code of Student Conduct at all times and not have holds from Student Judicial Programs or other offices.

**Continuous Enrollment.**

Students must maintain continuous program involvement and enrollment during fall and spring semesters unless granted an official leave of absence.



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**Drop/Add.**

During the first two weeks of classes, students may change their registration, add, or drop courses without penalty. After the second week, the following conditions apply for add and drops. Graduate students:

- May not add courses after the second week of classes, except in extenuating circumstances and with the approval of the Office of Graduate and Postdoctoral Studies (a \$75 penalty fee per course will be assessed). The student's request to add a course first must be supported and approved by the student's advisor along with the course instructor and then forwarded to the Dean of Graduate and Postdoctoral Studies for consideration.
- May drop courses through the seventh week without penalty.
- May not drop courses after the end of the seventh week of classes, except in extenuating circumstances and with the final approval of the Office of Graduate and Postdoctoral Studies (a \$75 penalty fee per course will be assessed). The student's request to drop a course first must be supported and approved by the student's advisor, the course instructor, the appropriate department chair, and the school dean. Afterward, it should be forwarded to the Dean of Graduate and Postdoctoral Studies for consideration. Students who receive approval to drop a course after the designated drop deadline will receive a grade of "W" (late drop with approval) for that course.

**An NABC comprises the four fundamentals that define a project's value proposition:**

- **Need:** What are our stakeholders or societal needs? A need should relate to an important and specific societal challenge or opportunity that could be addressed by science and technology. With the Defense Advanced research Projects Agency (DARPA), for example, we are required to state a critical Department of Defense (DoD) need. The need should be significant enough to merit the necessary investment and development time.
- **Approach:** What is our compelling solution (or hypothesis) to address the specific need? Draw it, simulate it or make a mockup to help convey your vision. As the approach develops through iterations, it becomes a full proposal, which can include deliverables and a timetable. DARPA usually demands paradigm-shifting approaches that address a specific DoD need (e.g., a 10-times improvement).
- **Benefits:** What are the client (or stakeholder) benefits of your approach? What are the broader impacts? Each approach to a client need results in unique benefits, such as low cost, high performance or quick response. At DARPA, the benefit might be an airplane that turns faster, goes higher, costs less or is safer. Success requires that the benefits be qualitatively and substantially better - not just different. Why must we win?
- **Competition/alternatives:** Why are your benefits significantly better than the competition? Everyone has alternatives. We must be able to tell our client or partner why our solution represents the best value. To do this, we must clearly understand our competition and our client alternatives, and sometimes do direct comparisons with appropriate metrics (i.e., “benchmarking”). For a commercial customer, access to important IP is often a persuasive reason to work with us. At DARPA, our competition is usually other research laboratories and universities across the United States. But, whether to a commercial or government client, you must be able to clearly state why your approach is substantially better than that of the competition. Your answer should be short and memorable.

See <https://youtu.be/iHiLAJGDGt4>

Suggestion: Please check out the Engineering directorate webpage for guidance and suggestions:  
<https://www.nsf.gov/dir/index.jsp?org=ENG>

It would be appropriate to consult the websites of other funding agencies as well.

