

Advice for Fall 2018

This message has advice for how to make good progress through the ERE major. Read carefully all sections that pertain to your situation.

Group Advising Sessions

If you were able to pass all your classes last semester AND you do not need to meet privately with your advisor, you are welcome to come to group advising

- 300-400 level students - Thursday noon to 1pm, SD 17 April 5, 2018
- 100-200 level students - Thursday noon to 1pm, SD 17 April 12, 2018

Please note that the deadline for submitting requests for permission numbers for classes that require Instructor Approval - ENGR 492, 481, 440, 416, and 351 - is Midnight Wednesday April 11, 2018. Please submit your requests for permission numbers for these classes or you risk not getting a seat in the classes you need.

Your email request for a permission number must include:

- A PDF of your DARS
- An explanation of why you are requesting a permission number. Explain why you already do or do not have the prerequisites.
- An indication of the number of ERE required courses you have left to take after completing this Spring 2018 semester and the semester you plan to graduate

We have about 20 students graduating this Fall. We want to make sure all graduating seniors are able to take the courses they need to graduate. Please see specific comments below.

What if a class fills up?

If you try to register for a course, and it seems to be full, then ask to be put on the waitlist and *request a permission number from the instructor using the instructions at the top of this page.*

If you were planning on taking ENGR 115 Introduction to Environmental Engineering in Spring 2018, but it did not fit in your schedule....

You MUST take ENGR 115 in the fall. You will have priority registration before all the new incoming students. If you need to take a course that has ENGR 115 as a prerequisite, then you should email the instructor for a permission number. Be sure to follow the instructions provided above. Be sure to explain that you had planned on taking ENGR 115 in the spring, but you were unable to do so.

CHEM 328 - Last chance for science elective

This course (Brief Organic Chemistry) will be offered at HSU Summer School 2018. This course (CHEM 328) will count as an ERE Science Elective. However, in the fall, this course will change its number to CHEM 228, and no longer be an ERE Science Elective.

ENGR 477 Solar Thermal will become “The Grid”

This semester (Spring 2018) we offered ENGR 481 Renewable Electricity Systems (aka “The Grid”) instead of Solar Thermal (ENGR 477). The material from Solar Thermal will be combined into an updated version of ENGR 475 Renewable Energy Power Systems. When you are making your future DAR Plans, please use ENGR 477 as a placeholder for “The Grid” class. In two years, the HSU catalog will have a description and a new number for “The Grid” class.

ENGR 330

You **no longer** need a permission number for this course as the dean approved opening a second section.

ENGR 351

You will need a permission number for this course. Students closest to graduation will have priority for this course. *Use the instructions provided at the top of this page to get on the permission number list and contact Beth Eschenbach*

ENGR 416

You will need a permission number for this course. Students closest to graduation will have priority for this course. *Use the instructions provided at the top of this page to get on the permission number list and contact Beth Eschenbach*

ENGR 440

You will need a permission number for this course. Students closest to graduation will have priority for this course, as only one lab will be offered. *Use the instructions provided at the top of this page to get on the permission number list and contact Eileen Cashman.*

ENGR 492 Capstone

Capstone will only be offered to students that are graduating in Fall 2018 and to a few students who are graduating in Spring 2019. *Use the instructions provided at the top of this page to get on the permission number list and contact Eileen Cashman.*

ENGR Design Electives

According to the DARS Plan data, there should be plenty of seats for the three design electives that will be offered this fall.

- ENGR 443 Groundwater
- ENGR 471 Thermo II
- ENGR 481 Water and Environmental Chemistry for Engineers taught by [Professor Joe Ryan](#) from Univ. Colorado Boulder

ENGR 481

ENGR 416 is a co-requisite of this course. To sign up for ENGR 481, *use the instructions provided at the top of this page to get on the permission number list and contact Beth Eschenbach.*

ENGR 443 and ENGR 471

If you have the prerequisites for these courses, you should be able to sign up for them until the course has 18 filled seats. Once the course fills to 18 seats, please follow the directions at the top of the page and contact the course instructor to get on the permission number list.

FAQ – Can I take a 4th design elective?

Some ERE seniors are interested in taking a 4th design elective. Please do NOT sign up for a 4th design elective until the week before the fall semester. We want to be sure that all ERE students get a chance to sign up for classes they need to graduate.

Challenging Four Year Graduation Plan

The ERE faculty has put together a suggested schedule for completing the ERE program in 4 years. [This 4-year plan](#)* assumes you are ready to enroll in MATH 109 - Calculus I. Please note that many students take longer than 4 years, as they are not able to successfully complete the suggested number of units each semester. Many students must work outside of school, have family responsibilities, or for some other reason must take a lower unit load.

*All subject specific courses in the 4-year plan at the link above are described in the HSU Office of Registrar's Course Descriptions section for each respective subject [here](#).

Advice for Students with 0-30 Engineering Units

- The ERE Curriculum meets the following General Education (GE) requirements:
 - Lower Division Area A Communications - So ERE students are not required to take COMM 100.
 - Lower Division Area A Critical Thinking - So ERE students are not required to take Logic, Critical Thinking, Critical Writing, etc.

- Three Lower Division Area D elective - So ERE students need only take the Institutions courses.
- Area E GE Human Integration - So ERE students are not required to an Area E GE (400) course.
- Additional GE Considerations:
 - Engineering majors need only one Area C Upper Division GE course and one Area D Upper Division GE course of the Upper Division GE Component.
 - You can plan your GE courses to simultaneously fulfill your Diversity and Common Ground (DCG) requirements by choosing lower division Area C or upper division Area C or D courses that are also Diversity and Common Ground courses. For example: Women, Culture, History (WS 107) fulfills 3 units of the Area C Lower Division requirements, while also counting for 3 units of the Diversity and Common Ground (Domestic) requirements. And Global Awareness (GEOG 300) fulfills 3 units of the Area D Upper Division requirements, while also counting for 3 units of the Diversity and Common Ground (Non-Domestic) requirements. For complete and current information on Area C and D courses that may double count for DCG requirements, see the HSU catalog
- **Take a math class every semester** ("Every semester you don't take math is a semester you'll be here longer." ---- Professor Elizabeth Eschenbach).
- **Start the engineering science series as soon as you can** if you want to avoid hold-ups in your progress through the curriculum. Start ENGR 210 Statics as soon as you have completed the math prerequisite, then plan on taking ENGR 211, then ENGR 331 and then ENGR 333 in subsequent semesters.
- Consider a minor in another area. Environmental Resources Engineering graduates have earned minors or certificates in areas including Mathematics, Chemistry, Geographic Information Systems, Language, Appropriate Technology and Environmental Ethics.
- Work with your faculty advisor to develop your individual DAR graduation plan.
- Consider summer school. Most community colleges offer the equivalent of the following courses: MATH 109,110,210; CHEM 109,110; BIO 105; PHYX 110. Some offer the equivalent of ENGR 210, 211 and 215. Check assist.org to see if a certain California Community College course will automatically articulate to HSU ERE. If you cannot find your course on this list, be sure to check with the ERE department chair to see if a given summer school course will count toward your ERE degree.

Advice for Students with 30-60 Engineering Units

- **Start the computational methods series** (Computational Methods I, II, and III - ENGR 225, ENGR 325, ENGR 326) **after you have completed Statics** (ENGR 210). You should take Dynamics (ENGR 211) and Comp Methods I (ENGR 225) at the same time, Thermo (ENGR 331) and Comp Methods II (ENGR 331) at the same time and Fluids (ENGR 333) and Comp Methods III (ENGR 326) at the same time if you want to avoid being slowed down in your progress through the program. In ENGR 326 you will design your own project, and you need to have enough engineering background (e.g., ENGR

331-Thermodynamics completed, and enrolled in ENGR 333-Fluid Mechanics) to have an excellent project.

- **Complete Fluid Mechanics (ENGR 333) and the Computational Methods III (ENGR 326) as early as possible.** Most of the 400-level courses require the skills and knowledge learned in these classes or their prerequisites. People have put these courses off and then have been stuck without any other ENGR courses that they can take.
- If you are interested in energy, plan to take General Physics II (was PHYX 110 and is now PHYX 211) early and to take Electronics & Electronic Instrumentation (PHYX 315) as your Science Elective. PHYX 315 is a required prerequisite for Renewable Energy Power Systems (ENGR 475), and is strongly recommended for the other energy design courses. However, if you do not plan on taking energy design courses and you need some flexibility in your schedule, you can take PHYX 211 later in your program - but, if you wait too long, you will have a hard time scheduling your ENGR 400 level courses around PHYX 211, so do not wait too long or take this course in the summer.
- It is important to always keep an up-to-date résumé. Services and workshops are available through the Academic and [Career Advising Center](#), and ask a professor to review your resume. A completed résumé is one less obstacle when looking for an internship or job.

Advice for Students with 60 or more Engineering Units

Planning for graduation

You should check that you have fulfilled all the requirements to graduate. To graduate you need to make sure that you have fulfilled three requirements:

- **DAR requirements:** Once you meet all requirements on your DAR, you will graduate!
- [Application for Graduation](#), a simple form available online or in the Registrar's Office.
- **Graduation Writing and Proficiency Exam (GWPE).** In order to graduate you must pass the Graduation Writing and Proficiency Exam ([GWPE](#)). The exam is given twice in the Fall semester and twice in the Spring semester. Students are eligible as soon as they have completed English 103 or English 104 and reached Junior status.

[Keep your graduation date correct to avoid extra fees.](#)

Sometimes students take a semester or two longer to graduate than they stated in their original application to graduate. If you wait too long to update your graduation date, the university will charge you to change your graduation date. This link will take you to the (no cost) [online form](#) for changing your graduation date.

Fundamentals of Engineering (FE) Exam

Engineering registration (also known as engineer licensing) in the United States is an examination process by which a state's board of engineering licensing determines and certifies that you have achieved a minimum level of competence. The first exam in this process is the Fundamentals of Engineering (FE) Exam (also known as the Engineer-in-Training (EIT) Exam).

The FE exam covers basic subjects from mathematics, physics, chemistry and engineering. The exam has recently transitioned to a computer-based exam, and information is available from the National Council of Examiners for Engineering and Surveying ([NCEES](#)). Students passing the exam receive their EIT license, the first step in obtaining a Professional Engineering license.

Keep the following in mind as you prepare for the exam:

- Having an EIT license can help you get your first job and completing the series of professional engineering licensing exams often results in a pay raise.
- You should take the test 6 months before or after graduating.
- FE Exam study manuals and study assistance are often available at the [National Council of Examiners for Engineering and Surveying](#) website.
- The ERE faculty are happy to assist students reviewing for the FE Exam. Students self organize or the department offers an FE Review Seminar.

Advice for students considering graduate school

You should know why you want to attend graduate school. A masters degree increases your career opportunities, provides you with additional credentials and can allow you to specialize in a field of interest. A doctorate will allow you to further specialize. With a doctorate you can consider a career in research or in academia, where you will teach and do research.

Often you can “be paid” to go to graduate school. If you are a competitive applicant, you might be offered a small stipend and your tuition will be covered by the university. This type of support is most common when seeking a PhD, but can be offered for those seeking a masters degree.

There are two types of Masters Programs: Research Based and Project Based

- A research based masters develops your research skills and prepares you for pursuing a doctorate. It is a good way to test if you like doing research. A disadvantage of a research based masters is that the research may have an indefinite time line. Therefore, it might take you longer than you expect to finish.
- A project based masters will have a well defined project and a more definite timeline, but will not provide you with research experience.

Most firms do not prefer a research based masters versus a project based masters, but some doctorate programs may prefer a research based masters degree.

The degrees associated with the research and project based programs vary. The names mean different things at different universities. Some of the potential degrees are:

- Master of Engineering
- Master of Science
- Doctor of Philosophy
- Doctor of Engineering
- Doctor of Science

If you are considering graduate school keep the following in mind.

- Keep your GPA high, especially in your 400-level courses.

- Consider reading a book on preparing for graduate school. Many people find the graduate school experience quite different than the undergraduate experience. However, ERE graduates say they are well prepared for graduate school.
- If you think you may be interested in participating in research, try to get involved with an ERE faculty research project or a summer undergraduate research program, such as an REU via the National Science Foundation.
- If you intend to get a Ph.D. in Engineering, take more mathematics and chemistry as an undergraduate. These courses will only help you.

Graduate School Planning and Scheduling

Once you decide you want to go to graduate school do a literature search, pick an area of study, and then ask faculty to help you find programs and people in that area. Identify people with whom you would like to work. Are they doing research that interests you? Visit the Academic and [Career Advising Center](#), for further information on searching for graduate schools.

Applications for graduate schools are generally due from December 15 through March 1.

Applications require a series of steps.

- Take the [GRE exam](#). Many schools require both the General and the Engineering Subject Exam. The General Exam is very similar to the SAT. Be sure to study for the GRE; you can improve your score significantly.
- You will need Letters of Recommendation. Be sure to give your references plenty of time to complete these for you. Remind them a few days before they are due.
- Your application process will likely require a "Statement of Interest". Get help from faculty to create a concise and well formed statement.

Once accepted to a graduate school, visit prospective schools, if possible, to meet with faculty AND graduate students. Acceptance letters and coordinated visits usually occur in March and April.