KU
THE UNIVERSITY OF KANSAS
Chemical & Petroleum Engineering

Graduate Program Manual

Welcome to the KU School of Engineering!

Table of Content

[Last Updated on August 18, 2021 by MK]

Welcome to the

Chemical and Petroleum Engineering

Graduate Program

The Chemical & Petroleum Engineering (CPE) Graduate Program at The University of Kansas provides an in-depth, academic understanding of chemical and petroleum engineering for students who plan to have careers in academia, research and development, or in their related professional industries. Our department offers a Master of Science Degree (MS) in either Chemical Engineering or Petroleum Engineering and a Doctor of Philosophy (Ph.D.) in Chemical and Petroleum Engineering.

In the Master of Science programs, the primary emphasis is on formal course work in engineering and related subjects. Students take a sequence of core courses in heat, mass and momentum transport, thermodynamics, reaction kinetics, applied mathematics, reservoir engineering, and petroleum recovery.

In the Doctoral program, the focus is on an independent research project in a significant engineering area. Specific Ph.D. course work will revolve around the student's chosen area of specialization which will reflect the combined research interests of the student and their faculty research advisor. In addition to specialized courses in the department, advanced courses in mathematics and computer science, life sciences, physical sciences, and other branches of engineering may be used to prepare the Ph.D. student for their research project.

You will be matched to a research advisor either before you arrive on campus or during the advisor matching process (see the Graduate Director or Program Assistant for more information about advisor matching). Based on either your advisor or your employment status, you will be assigned a grad office which will be your personal space for study, writing, and/or holding office hours. The department administrator will check out any required keys to your office space - they are located in 4132 Learned Hall. The graduate mailboxes are located in 4160 Learned Hall. If you receive anything in the mail (other than packages) they can be found there. When packages are delivered, they come to the main office in 4132 Learned Hall and somebody will email you to notify you to pick them up.

Most students experience some adjustment when they live in a new city and are attending a new university. One great place to look if you have questions about the transition is http://new2ku.ku.edu/ (it is geared more toward undergraduates but has useful information for all students). For more information about Lawrence, KS, here are two great links: http://unmistakablylawrence.com and http://www.lawrence.com/. We have some additional resources for homesickness and culture shock at http://cpe.ku.edu/resources-non-academic-needs. We may commonly use programs or software you are new to. For tutorials, visit: https://howto.ku.edu

On campus, there are dozens of student organizations. A couple to highlight are The Graduate Engineering Association and your industry related groups such as AIChE, SPE, or BMES. See THIS link for more engineering related student organizations. Many graduate students say that they found a sense of belonging and community through becoming involved with a student organization.

This manual is filled with both academic and student life information.
We hope you find it useful as you begin your exciting new graduate career here at KU!

Prerequisite Courses (for students with a non-engineering background)

For the Chemical Engineering Degree:	For the Petroleum Engineering Degree:
C&PE 511: Momentum Transfer	C&PE 511: Momentum Transfer
C&PE 512: Chemical Engineering Thermodynamics	C&PE 525: Heat & Mass Transfer
C&PE 524: Kinetics and Reactor Design	C&PE 527: Reservoir Engineering II
C&PE 525: Heat & Mass Transport	C&PE 618: Waterflooding

Regular Graduate Courses

(Note: Not all classes are offered each semester/year)

C&PE 701*** Methods of Chemical and Petroleum Calculations (3) {Fall Only}
C&PE 715 {Topics in C&PE: this class changes each semester and has multiple sections/topics}
C&PE 721* Chemical Engineering Thermodynamics (3) {Fall Only}
C&PE 722* Kinetics and Catalysis (3) {Spring Only}
C&PE 725 Molecular Cell Biology
C&PE 731* Convective Heat and Momentum Transfer (3) {Spring Only}
C&PE 732* Advanced Transport Phenomena II (3) {Fall Only}
C&PE 751 Basic Rheology (3)
C&PE 752 Tissue Engineering (3)
C&PE 755 Semiconductor Processing (3) {Spring Only}
C&PE 765 Corrosion Engineering (3)
C&PE 771** Advanced Reservoir Engineering (3) {Spring Only}
C&PE 778 Applied Optimization Methods (3)
C&PE 790** Introduction to Flow in Porous Media (3) {Spring Only}
C&PE 795** Enhanced Petroleum Recovery (3) {Fall Only}
C&PE 798 Phase equilibrium
C&PE 800 Seminar (.5-1)
C&PE 802 CEBC Colloquium (.5-1)
C&PE 803 MS Research (.5-1)
C&PE 804 Petroleum Management Seminar (1)
C&PE 825 Graduate Problems
C&PE 902 Preparation for Ph.D. Comprehensive Exam (3)
C&PE 904 Ph.D. Research (.5-1)
C&PE 910 Industrial Development of Catalytic Processes (3) {Every other Spring}

* Chemical Engineering Core Course
**Petroleum Engineering Core Course
***Both ChemE and PetroE Core Course

GENERAL GRADUATE PROGRAM OVERVIEW			
MS: Items 1–3 & 8-10; **Ph.D.:** All Items 1-10			
	Item	**When**	**Who**
1	**Advisor Selection**	During first or second semester	Student and Graduate Director
	Attend faculty presentations, meet with faculty, and submit selections requests		
2	**Plan of Study**	End of second semester	Student and Research Advisor
	Meet with Advisor to plan degree path and select elective courses		
3	**Selection of Committee Members**	End of second or third semester	Student and Research Advisor
	MS: 3 members, no special requirements **Ph.D.**: 5 members, at least 1 must be from another department		
4	**Preliminary Research Exam**	End of first calendar year	Research Advisor
	For all students who want to be a Ph.D. aspirant		
5	**Residency Requirement for Ph.D.**	Before completing the comprehensive exam	Student
	At least two semesters as full time students at KU		
6	**Responsible Scholarship and Research Skills Requirement**	After the relevant courses are completed and as a requirement for taking the comprehensive exam	Research Advisor
	Responsible Scholarship: Must complete a minimum of 3 credit hours of CPE 800 Research Skills: A letter to be sent to Graduate Studies from your Advisor explaining a coherent research theme		
7	**Comprehensive Examination**	After all course work and at least 15 credit hours research are completed	Thesis Committee
	(a) Written Part: Research problem presented in a proposal form (b) Oral Part: Only after Written Part is approved. {Note: The Research Advisor will prepare the problem and the Exam must be completed at least 5 months before graduation.}		
8	**Final Defense of Ph.D. Dissertation or Master's Thesis**	When the advisor and student decide it is ready {for Ph.D. all post-comp hours must be met}	Thesis Committee
9	**Submit Dissertation or Thesis**	When all corrections are made	Student
10	**Graduate!!**	When all above items are complete	Student

Master of Science Path

The following guidelines incorporate departmental and university requirements for the Master of Science degree program. The purpose is to assist each student, their research advisor, and their advisory committee in preparing a Plan of Study: your individualized, detailed path to a graduate degree.

The MS degree program requires a minimum of 30 credit hours including: Graduate Core, electives, research hours, and the submission and successful oral defense of a research thesis. Students in this program may be considered for research assistantships, teaching assistantships, and fellowships. A 3.0 grade-point average at the end of each semester of residence is required to maintain regular student status and for graduation. Only the first 6 hours of enrollment in C&PE 803 meet degree requirements.

The following are summaries of the degree requirements for a Master of Science in the CPE department. Only in rare occasions are exceptions from the C&PE course work allowed. It is recommended that part of the elective hours (3 – 6 credit hours, depending on an advisor's recommendations) be from other departments. For petroleum engineering, if a student has not completed an advanced-level, reservoir-related course in geology as an undergraduate, such a course must be taken as one of the electives: GEOL 535 Petroleum and Subsurface Geology is recommended.

MS in Chemical Engineering	**Credit Hours**
ChE Graduate Core Courses (15 hours)	
C&PE 701 Methods of Chemical and Petroleum Calculations	3
C&PE 721 Chemical Engineering Thermodynamics	3
C&PE 722 Kinetics and Catalysis	3
C&PE 731 Convective Heat and Momentum Transfer	3
C&PE 732 Advanced Transport Phenomena II	3
Electives (6 hours)	6
Research (9 hours)	
C&PE 800 Seminar	3
C&PE 803 Research	6
Thesis	
Oral Examination (presentation of the thesis to your committee)	

MS in Petroleum Engineering	
PE Graduate Core Courses (12 hours)	
C&PE 701 Methods of Chemical and Petroleum Calculations	3
C&PE 771 Advanced Reservoir Engineering	3
C&PE 790 Introduction to Flow in Porous Media	3
C&PE 795 Enhanced Petroleum Recovery	3
Electives (9 hours)	9
Research (9 hours)	
C&PE 800 Seminar	3
C&PE 803 Research	6
Thesis	
Oral Examination (presentation of the thesis to your committee)	

Basic Four Term Enrollment Plan for Chem E MS:

Fall Term 1:	C&PE 701, 721, and seminar (C&PE 800) (elective course optional)
Spring Term 1:	C&PE 722, 732, and seminar (C&PE 800) (elective course optional)
Summer Term 1:	C&PE 803 Research (with your advisor) (1-3 credits)
Fall Term 2:	C&PE 732, elective course(s), and seminar (C&PE 800)
Spring Term 2:	Final Research as needed (C&PE 803)

Basic Four Term Enrollment Plan for Pet E MS:

Fall Term 1:	C&PE 701, 795, and seminar (C&PE 800) (elective course optional)
Spring Term 1:	C&PE 771, 790, and seminar (C&PE 800) (elective course optional)
Summer Term 1:	C&PE 803 Research (with your advisor) (1-3 credits)
Fall Term 2:	Elective course(s), and seminar (C&PE 800)
Spring Term 2:	Final Research as needed (C&PE 803)

Enrollment: 9 credit hours per semester is considered full time enrollment for a graduate student. Students working as a GTA or a GRA will be considered full time with enrollment in 6 credit hours. This is one of the notable differences between graduate and undergraduate education. Taking more than 12 credit hours per semester is not recommended as courses of level 700 and above are significantly more challenging and demanding of your time than courses level 600 and lower. GTA or GRA students in their final semester may request to have this enrollment requirement reduced even further with the successful filing of a Petition for Reduced Enrollment (see Program Coordinator for details). International students must also have a reduced course load approved through ISS: https://iss.ku.edu/f1-reduced-course-load

Master of Science in Chemical Engineering- Non-thesis Option

We do offer a non-thesis option but only to those who apply and are admitted directly into this option from the start. Students on the non-thesis track will take additional courses making the total number of credit hours needed for graduation 33. In the final semester, a project will be assigned under the guidance of a Master's Advisory Committee. The student will plan to present the completed project in front of their full committee who must unanimously agree that the project has been completed to their satisfaction.

Plan of Study

Before the end of the second semester, each student on the MS track, with the help of their advisor, should create and submit a Plan of Study to the School of Engineering via their website: https://gradplan.engr.ku.edu/ The Plan of Study is a tool which is used to help keep you on track throughout the degree program. When you create your plan, you will decide your estimated term of graduation and it will help you pace your class choices. Depending on a student's academic background and proposed Plan of Study, additional undergraduate prerequisite courses may be required. Up to 3 credit hours of the undergraduate prerequisite courses (numbers 500 or above) may be counted toward the MS degree as elective hours.

Course Completion

Finish all required core courses and electives. If there is ever any question as to which courses to take, there are many people available to assist, such as: your advisor, the department's Graduate Advisor, the Graduate Program Assistant, or the Graduate Director.

Thesis Writing

Once the core courses have been completed and research is fully underway, it will be time to start writing a thesis about your research. The title and topic will be decided by the student with the help of their advisor and committee. All Master's degree seeking students will form a committee of no less than three faculty members; their research advisor normally serves as chair of this committee. For more information about writing a thesis, ask other students, read previously published thesis, check-in with the Writing Center, and/or attend a thesis writing workshop through Graduate Studies.

Thesis Defense

While your committee is reading through the final draft of your thesis, it will be time to plan your defense. Ideally, the Thesis Defense should be scheduled one month before your target graduation deadline. You'll decide on a day and time when you and your entire committee are available to meet for at least 2 hours, then reserve a conference room through the Graduate Program Assistant or through the C&PE administrator. When you inform the Graduate Program Assistant about the time of your defense, also include an abstract of your thesis and the title; that information will be used to create your defense announcement flyer and for the paperwork required to make this important milestone official through the Progress to Degree system. The defense itself will usually take 30-45 minutes during which time you will present your research findings to an audience of your committee and peers. After your presentation, your committee chair will open the floor to questions from the audience which will take another 10 – 20 minutes. Once the Q&A is complete, the audience will leave and your committee will discuss your performance and outcome with you in private. Attending other students' final defenses can also help you prepare to go through the process yourself. Keep your eye on the Graduate Posting Board outside of 4132 Learned Hall for flyers about final defenses, seminar speakers, and much more. Defenses are also listed on the Engineering Events Calendar: https://kugradengr.blog/.

Graduation

During your final semester, while finishing your thesis and planning your defense, it will be time to plan for graduation as well. It's a good idea to be familiar with the graduation deadlines so you can plan accordingly. Every item on the graduation checklist must be complete before the graduation deadline, including edits to your thesis after your defense. Your thesis must be uploaded: see THIS link. You must have "Applied for Graduation" via Enroll and Pay. If you plan to graduate in the summer or fall, but want to be included in the large spring graduation recognition ceremony, you must apply for graduation by March 1st before the applicable commencement ceremony. You can then rescind your application for graduation after the recognition ceremony and then must reapply during the semester you are actually ready to finish. The School of Engineering has several checklists and information available to help students prepare for graduation, detailed information about applying for graduation, and information about the graduation ceremony itself.

Doctor of Philosophy Path

Admissions and summary of milestones

Students admitted with a completed MS degree are automatically considered Ph.D. students. If the MS was completed at KU, they will start as Ph.D. Aspirants. If the MS was done elsewhere, then the student will complete the Preliminary Exam of Defense before becoming a Ph.D. Aspirant. Students admitted to the Ph.D. path with only a BS degree will be considered MS/PhD until the Preliminary Exam of Defense is complete. To qualify to take the exam, the student must a) achieve a grade point average (GPA) of 3.2 or higher in the Graduate Core (or 3.25 GPA or higher for Petroleum), and b) earn no more than one 'C' grade in the Graduate Core. Students who start on the MS/Ph.D. track and successfully change to a 'Ph.D. Aspirant' without earning a Master's degree along the way are called 'Direct Ph.D." students. Students joining the graduate program who do not meet the Direct Ph.D. criteria will need to complete the MS degree before continuing on, with the support of their research advisor, for the Ph.D. For all Ph.D. Aspirants, completion of the Comprehensive Exam advances the student to Doctoral Candidate status.

Enrollment

Students are expected to complete the full Graduate Core courses. If a student joins the PhD program after completing a MS degree, then course waiver petitions can be requests on a as-needed basis. Course and elective waiver petitions are evaluated and approved by the Graduate Standards Committee (GSC). Each petition must include a syllabus for each equivalent course in addition to a copy of the MS degree transcript (can be taken from original application by request to Grad Coordinator). If approved, the student will receive a waiver for the correlating core course(s), but this is not a credit transfer. No outside credit hours can be counted toward the total credit hour requirements for the PhD. Instead, the student will take alternative courses or research hours as decided by the students and their research advisor or receive a course load reduction. The total course load for the PhD can be reduced to as few as 45 credit hours for students who join the program with a completed MS degree in either chemical or petroleum engineering respectively.

Fulltime Enrollment: 9 credit hours per semester is considered full time enrollment for a graduate student. Students working as a GTA or a GRA will be considered full time with enrollment in 6 credit hours. This is one of the notable differences between graduate and undergraduate education. Taking more than 12 credit hours per semester is not recommended as courses of 700 and above are significantly more challenging and time consuming than courses level 600 and lower. GTA or GRA students in their final semester can request to have this enrollment requirement reduced even further with the successful filing of a Petition for Reduced Enrollment (see THIS link).

Credit hours for the Ph.D. degree normally consist of 15 credit hours of courses beyond the Graduate Core and 30-34 credit hours of research work totaling at least 60 credit hours. The average Ph.D. student will complete about 63 credit hours with an average per semester enrollment of 7 credit hours (approximate minimum of 9 total full-time semesters) as specified in the following table:

Ph.D. in Chemical & Petroleum Engineering

Courses: 30 credit hours as follows:

- C&PE Core Courses (5 courses/15 hrs for Chem E focus or 4 courses/12 hrs for Petro E focus)
- C&PE Inside Electives (3 courses/9 hrs for ChemE focus or 4 courses/12 hrs for Petro E focus)

- Outside Electives (700+ level/ 2 courses = 6 hrs)

Research: 30+ total cumulative credit hours fulfilled by a combination of the following:
- C&PE 800 Graduate Seminar (and/or C&PE 802 CEBC Colloquium)
- C&PE 902 Preparation for the Ph.D. Comprehensive Examination (optional)
- C&PE 904 Research (MS research C&PE 803 hours will count toward Ph.D. research hours)

Note: there are additional courses which may count toward the total number of research hours

Enrollment Requirements and Guidelines

The following regulations apply to all Ph.D. students in the selection of course work:

1. Enrollment in the C&PE Graduate Seminar (C&PE 800) every semester in residence usually for 1.0 credit. Students who are required to attend another seminar to satisfy a fellowship or research program requirement may enroll in both seminars for 0.5 credit hour each (Example: CEBC Colloquium C&PE 802 at .5 plus C&PE 800 at .5 = 1.0 total credits). Any schedule conflicts should be discussed with both seminar coordinators. (Exception: in a student's final semester, if all research hours and post comp hours have been achieved, a student may request not to enroll in seminar with the permission of that semester's seminar faculty member or the graduate director.)
2. Each semester, students should enroll in a minimum of three graduate-level courses either in the C&PE department or in an advisor-approved outside course(s)/elective(s), or a total of nine credit hours including research (CPE 904 for Ph.D. Aspirants). Note: Students on a GTA or GRA contract will have a lower enrollment requirement of a minimum of six credit hours per semester
3. All courses in the C&PE department that count toward the Ph.D. degree must be numbered 700 or above although one (1) 500 level course taken as a prerequisite can count as an elective.

*Note: Adherence to these regulations is essential when preparing the plan of study. In rare cases there may be exceptions arising from the student's academic background; in such cases, the student's plan of study must have the written approval of the C&PE Graduate Standards Committee (GSC).

Detailed Explanations of each major step

Plan of Study

Before the end of the second semester, each student on the Ph.D. track, with the help of their advisor, should create and submit a ***Plan of Study*** to the School of Engineering office via the website: https://gradplan.engr.ku.edu/ The Plan of Study is a tool which is used to help keep students on track throughout their degree program. When a student creates their plan, they will decide their estimated term of graduation and it will help pace their class choices. Students will work with their research advisor to select elective course which will most benefit their research.

Ph.D. Advisory Committee

An advisory committee of five faculty members with dissertation status will be formed for each student once the student has been designated a Ph.D. aspirant. The committee works with the aspirant to develop an appropriate overall path toward graduation and monitors the research progress of the student throughout the remainder of the Ph.D. program.

On the Committee are:

1- The Chair- usually the student's research advisor (co-chair options are available)

2- The Graduate Studies Representative- cannot be from the CPE department and should NOT have a vested interest in the student's research (aka. No Conflict of Interest)

3, 4, & 5 - The other 3 members of the committee are typically faculty members in the department or researchers working in their respective labs

{For information, see the policy on Graduate Faculty appointments.}

The Preliminary Examination of Research

This exam is an important milestone for each graduate student on their way to becoming a Doctoral Candidate in the Chemical & Petroleum Engineering department. Other departments call this the Qualifier or Qualifying exam. The CPE Prelim is given to determine the student's aptitudes for; 1) Independent, original critical thinking; 2) Planning and organizing a research program; 3) Use of previous work and background literature to demonstrate; a) Understanding of the planned research within the scope of the larger project and b) Ability to conduct that research; 4) Application of fundamental theory (e.g. equations) to the proposed work; 5) Effective communication of technical work

Students taking this exam will have a) completed the five Chemical Engineering core classes or four in the Petroleum Engineering concentration with a 3.2 GPA or higher (or 3.25 GPA or higher for Petroleum) without having earned more than one 'C' or lower grade or b) have met the same criteria for equivalent courses during their Master's degree program at another accredited university and maintained a KU cumulative GPA above 3.25.

The two main components of this exam are the Written Report and the Oral Presentation. The topic for the exam will be a proposal of the research the student plans on performing for their final dissertation. The written portion should utilize standard formatting: 12pt font, 3-5 pages double spaced, 1 inch margins, a title, and name and date on top-left corner. Once the written portion has been submitted to the research advisor, it will be time to schedule the oral presentation. Students will work with their advisor, the graduate director, and the graduate program assistant to schedule the presentation to ensure all department procedures and policies are correctly followed. The Oral presentation should take no more than 15 minutes. This exam in general is an excellent opportunity to make sure your full committee is arranged and for them to give you initial feedback as your dissertation writing begins in earnest. Read more in Addendum I.

Successful completion of the preliminary exam of research admits the student into the Ph.D. program and earns the student 'Ph.D. Aspirant' status.

Comprehensive Examination

The PhD aspirant will take the comprehensive examination after completion of all course work. Before this exam can be taken, there are three additional requirements set by the School of Engineering:

1. **Residency Requirements:** Must have been enrolled full time for at least 2 semesters.
2. **Research Skills**: Per a letter from the student's advisor clearly explaining how they've been met.
3. **Responsible Scholarship:** All students must complete at least 3 credit hours of CPE 800 before scheduling the comprehensive exam.

The examination itself consists of two parts: a written proposal for research and an oral examination based on, but not limited to, the research proposal.

For the research proposal, the student is assigned a topic of current interest to the chemical and/or petroleum engineering profession. This assignment is made by an examining committee consisting of at least five persons, including the advisory committee and at least one person outside the department. The aspirant identifies a research problem within the assigned topic area and prepares a written proposal for research on this problem. Normally, the written proposal must be prepared over a specified time period of 30 consecutive days. Except in unusual circumstances, the problem must be distinctly different from the dissertation problem. For formatting, the student can choose between NSF or NIH formats.

The examining committee evaluates the research proposal upon completion. If the committee judges it satisfactory, the oral examination part of the comprehensive examination is held. The oral examination is based on the research proposal but also may cover areas peripheral to the proposal.

A student must pass both parts of the examination. Failure of either part constitutes an unsatisfactory grade on the entire examination. An aspirant who receives a grade of Unsatisfactory may repeat the examination upon the recommendation of the examining committee, but under no circumstances may it be taken more than twice. The examination may not be repeated until at least 90 days have elapsed since the unsuccessful attempt. To prepare the aspirant for the comprehensive examination, the advisory committee may require enrollment in C&PE 902 **(**Preparation for the Ph.D. Comprehensive Examination**)** during the first year of the Ph.D. program. On receipt of a grade of Honors or Satisfactory on the comprehensive examination, the aspirant is admitted to candidacy for the degree of Doctor of Philosophy. {For more about the School of Engineering comprehensive exam requirements and full university policy wording: click HERE. Read more in Addendum II.

Successful completion of the Comprehensive Exam earns the student Doctoral Candidate Status.

Dissertation Writing

Once the core courses have been completed and research is fully underway, it will be time to start writing a Doctoral Dissertation about your research. The title and topic will be decided by the student with the help of their advisor and committee. For more information about writing a dissertation, ask other students, check-in with the Writing Center, and/or attend a thesis/dissertation writing workshop through Graduate Studies. Attending other students' final defenses can also help you prepare to go through the process yourself. Keep your eye on the Graduate Posting Board outside of 4132 Learned Hall for flyers about final defenses, seminar speakers, and much more. For formatting guidelines, see HERE.

Final Dissertation Defense

While your committee is reading through the draft of your dissertation, it will be time to plan your defense. Ideally, the Dissertation Defense should be scheduled one month before your target graduation deadline. You'll decide on a day and time when you and your entire committee are available to meet for at least 2 hours, then reserve a conference room through the Graduate Program Assistant or through the C&PE administrator. When you inform the Graduate Program Assistant about the time of your defense, also include an abstract of your dissertation title; that information will be used to create your defense announcement flyer and for the paperwork required to make this important milestone official through the

Progress to Degree system. The defense itself will usually take 30-45 minutes during which time you will present your research findings to an audience of your committee and peers. After your presentation, your committee chair will open the floor to questions from the audience which will take another 10 – 20 minutes. Once the Q&A is complete, the audience will leave and your committee will discuss your performance and outcome with you in private.

Graduation

During your final semester, while finishing your thesis and planning your defense, it will be time to plan for graduation as well. It's a good idea to be familiar with the graduation deadlines so you can plan accordingly. Every item on the graduation checklist must be complete before the graduation deadline, including edits to your thesis after your defense. Your thesis must be uploaded: see THIS link. You must have "Applied for Graduation" via Enroll and Pay. If you plan to graduate in the summer or fall, but want to be included in the large spring graduation recognition ceremony, you must apply for graduation by March 1st before the applicable commencement ceremony. You can then rescind your application for graduation after the recognition ceremony and then must reapply during the semester you are actually ready to finish. The School of Engineering has several checklists and information available to help students prepare for graduation, detailed information about applying for graduation, and information about the graduation ceremony itself.

When the timeline is broken

Sometime life gets in the way of completing your degree under the typical timeline. When this happens, it's time to consider a **Leave of Absence**. If you think you might need to take a leave of absence, the first step is to speak to your advisor, the Graduate Program Assistant, or the Director of Graduate Program. For more information about the Leave of Absence policy, see https://policy.ku.edu/graduate-studies/leave-of-absence

Additional Information for students on a GRA/GTA/GA Appointment:

These are sometimes referred to as 3G appointments. These appointments are the most common way that graduate students are funded. Appointment percentages vary. A full appointment is 50% FTE. Any student with an appointment over 40% will be considered an employee of the university and will qualify for in-state tuition rates. The appointments of 40%+ will also qualify for 100% tuition coverage via a third party sponsorship; for GTAs this means the university will waive the tuition and the first 3 credit hours worth of fees. For GRAs this means that the grant/funding you are working under will cover 100% of your tuition and up to all of your campus fees (as determined by your research advisor). Students on a 3G appointment will still have some fees each semester such as medical insurance and international student fees (if applicable).

Students must be enrolled correctly and maintain good academic standing to continue employment via a 3G appointment. Full time enrollment for 3G students consists of 6 credit hours during spring and fall and 3 hours during the summer. GTA appointments are rarely offered during the summer, and summer enrollment is not required for any non-GRA funded student. There are many policies governing the 3G appointments, especially for the GTA appointments. For example, all GTAs must attend the annual training conference before beginning their contract and non-native English speakers must provide additional English Proficiency beyond what is required for admissions.

Some useful links for 3G appointments are:
http://policy.ku.edu/graduate-studies/benefits-for-GRAs-GTAs-GAs
http://graduate.ku.edu/gta-and-gra
http://graduate.ku.edu/resources-graduate-teaching-assistants
http://aec.ku.edu/speak-test

Useful Links and Other Information

Related Websites:

CPE Main Website: http://cpe.ku.edu/

CPE Faculty: http://cpe.engr.ku.edu/faculty

CPE Research Labs: https://cpe.drupal.ku.edu/research

School of Engineering Main Site: http://engr.ku.edu/

Graduate Studies Main Site: http://graduate.ku.edu/

Engineering Grad Events Calendar: https://kugradengr.blog

Engineering Career Center: http://ecc.ku.edu/

Engineering Graduate Ambassadors: http://engr.ku.edu/engineering-graduate-ambassadors

Graduate Student Organizations: http://engr.ku.edu/student-organizations

Rock Chalk Central: https://rockchalkcentral.ku.edu/

Student Involvement: https://cpe.drupal.ku.edu/student-involvement

Information for GTAs and GRAs: http://graduate.ku.edu/gta-and-gra

Optional Funding Information: http://graduate.ku.edu/funding
http://engr.ku.edu/graduate-funding
http://engr.ku.edu/funding-opportunities

GEA's Travel Award Application (LINK) (for travel to conferences)

Deadlines and award dates change from semester to semester based on the availability of funds

Campus Maps: Parking Map (pdf) http://places.ku.edu/map

Bus System, SafeRide and SafeBus:

- http://lawrencetransit.org/trip-planner (the MyBusLawrence app is very helpful)
- https://safebus.ku.edu/safebus-map
- https://saferide.ku.edu/ or call 785-864-7233 (SafeRide operates 10:30 p.m. - 2:30 a.m., 7 days a week, except during class breaks and holidays.)

Campus Resources

Libraries

There are several libraries available to you on campus. Here in the Engineering Complex we have the Spahr Engineering Library where you can find resource materials, computers, scanners, printers, and study/meeting spaces available for your personal and academic use. If the study spaces are not being used or reserved, then feel free to take a room. To reserve a room for a meeting, click HERE. The Libraries website is for more than just finding a library book. It contains links to thousands of articles and hundreds of journals and e-journal databases. https://lib.ku.edu/find-resources is their useful search tool. Any journal article you should ever need can be found through InterLibrary loans (ILL): https://lib.ku.edu/services/request/interlibrary

Computer Labs - The Fishbowl & 3108 Learned

In Eaton Hall, there is a large computer lab specifically for engineering students. There are dozens of computers available at all hours of the day with printing resources. There is also our giant Google Earth Station, so if you're missing home or just want to visit a location via 180 degree 5 screen Google Earth awesomeness, go check it out! For a full list of computer labs, click HERE. A second department computer lab is 3108 Learned Hall. Commonly used engineering software is preloaded onto these computers, and the back room, 3108A, can be used to hold classes if you are a GTA looking for about 20 computers for you discussion/study session. (Door code = 1234#)

Printing

Posters: If you have a large poster that needs to be printed for a presentation, go to http://engr.ku.edu/printing-request. If there is not a specific course number related to the print job, just use your C&PE 803 or 904 research hour class as the course number. There is a cost related to having these posters printed, so check with your research advisor first to see if they will cover it.

Other Printing resources: if you are a GTA and need to print off homework or class materials, you should not have to pay for that. Come to the main office (4132 Learned Hall) and we will help you get those items printed. Also, if you're running low on your student printing account and just need a few items printed, we can usually help with that too! 270 Slawson has a network printer. There is a small local printer in G414 LEEP2. Other small printers may be available.

Facilities

If you are having issues with your office or any of the buildings (cleanliness, trash, broken items, heating/cooling not working, etc.) contact facilities at 785-864-4770. Their website is: http://facilities.ku.edu/, plus they have a really helpful employee's page with many useful links: http://facilities.ku.edu/employee-links

Legal Services for Students

This office can help with many legal issues and provide either assistance or advice on most legal matters depending on the situation. For International Students they can provide help setting up your Glacier account and figuring out your tax rate. For all students, they can help you prepare your annual tax forms, represent you in landlord-tenant disputes, provide Notary Public services, and many more. The vast majority of services provided through the Legal Services for Students office are no charge. They also offer several workshops. Contacting Legal Services: 785-864-5665 | 212 Green Hall | legals@ku.edu

Student Account Services

This office deals with a variety of student issues such as paying tuition, tuition refunds, 1098-T forms, account holds, setting up direct deposit, and more. Contact Information: 785-864-3322 | Strong Hall Rooms 21 & 23 | stu.accounting@ku.edu

Counseling and Psychological Services (Nickname: Caps)

CAPS can help students with issues related to adjusting to college and other psychological, interpersonal, and family problems. Individual, couple, and group sessions are available.

Contacting CAPS: 785-864-2277 | Watkins Memorial Health Center | 1200 Schwegler Dr., Room 2100 | caps.ku.edu

Student Involvement & Leadership Center (nickname Silc – sounds like Silk)
Prepares students to become contributing members of society by providing meaningful co-curricular experiences. SILC is responsible for coordinating registered university organizations and providing leadership education experiences for students in addition to providing programs and services to specific target populations including fraternity/sorority members, non-traditional students, and students of all gender identities, gender expressions and sexual orientations. A Student Affairs department, SILC has six full-time professionals and a number of graduate/undergraduate student employees.

Academic Achievement and Access Center *(Nickname: Triple A C)*
The AAAC offers many services and programs to assist students in their academic success and to enhance their collegiate experience at KU. Choose from learning strategy consultations, group workshops or general or course-specific academic assistance, by appointment or on a walk-in basis. Feel free to talk with us and ask for information or direction about academic and personal issues.
[AAAC helps with issues like special test accommodations, tutoring services, and injury related accommodations. They offer workshops and individual consultations.]
Contacting AAAC: 785-864-4064 | achieve@ku.edu | Strong Hall, Room 22 | achievement.ku.edu

The University Ombudsman Office- (Nickname: Ombuds)
The University Ombuds office is a safe place where members of the University of Kansas community can seek informal, independent, confidential and impartial assistance in addressing conflicts, disputes, or complaints on an informal basis without fear of retaliation or judgment. The University Ombuds office adheres to the International Ombudsman Association (IOA) Standards of Practice and Code of Ethics.
Contacting Ombuds: 785-864-7261 | Carruth O'Leary Hall Room 36 | ombuds@ku.edu

Institutional Opportunity and Access (Nickname: IOA)
As a premier international research university, the University of Kansas is committed to an open, diverse and inclusive learning and working environment that nurtures growth and development of all. KU holds steadfast in the belief that an array of values, interests, experiences, and intellectual and cultural viewpoints enrich learning and our workplace. The promotion of and support for a diverse and inclusive community of mutual respect requires the engagement of the entire University. The office of IOA has an institutional responsibility to enhance and strengthen diversity and inclusion at the University of Kansas.
Contacting IOA: 785-864-641 | Carruth O'Leary Room 153A | ioa@ku.edu

Office of Multicultural Affairs (nickname OMA)
The Office of Multicultural Affairs provides direction and services for current and prospective students from underrepresented populations. In addition, through collaborative partnerships we offer diversity education programs that foster inclusive learning environments for all students. Our programs and services enhance the retention of successful matriculation of students, while supporting their academic and personal development.
Contacting OMA: 785-864-4350 | 1299 Oread Ave (connected to the main Union) | oma@ku.edu

Lawrence Community Resources

Center for Community Outreach - search for local volunteer opportunities and more.

Explore Lawrence - lists many fun things to do around the Lawrence Area, shopping, and restaurants.

Lawrence.com - a great place to find out about local events, nightlife, and live music.

Bert Nash Community Mental Health Center – (785-843-9192) an off-campus resource for any and all mental health concerns. No referrals needed, they have emergency walk-in hours, and somebody is there 24 hours/day.

Useful People for Graduate Students

In the Chemical & Petroleum Engineering Department

Prof. Susan Williams, Department Chair
4142 Learned Hall | smwilliams@ku.edu | Profile Link | 785-864-2919

Prof. Prajna Dhar, Graduate Director
(For issues relating to recruiting, matching research advisors, pre-arrival issues, progress toward degree)
4132D Learned Hall | prajnadhar@ku.edu | Profile Link | 785-864-4969

Martha Kehr, Graduate Program Coordinator
(Manages policies, desk/office assignments, records, deadlines, posts exam notices and milestone achievements, employment assignments, and more)
4141C Learned Hall | mkehr@ku.edu | Profile Link | 785-864-2900

In the School of Engineering

Mario Medina, Dean of Academic Affairs
1C Eaton Hall | mmedina@ku.edu | 785-864-3604

Desirée Neyens, School of Engineering Graduate Academic Services
(Helps with graduation preparation, plan of study, workshops, and so much more)
1H Eaton Hall | dneyens@ku.edu

Shaine Marsden, Program Coordinator, Graduate Recruiting and Research
(Grad recruiter, gives great advice on finding funding and attending conferences)
1G Eaton Hall | shaine.marsden@ku.edu

Graduate Engineering Association
Website: https://rockchalkcentral.ku.edu/organization/gea
Contact: https://ku.campuslabs.com/engage/organization/gea/contact
List of Ambassadors: http://engr.ku.edu/engineering-graduate-ambassadors

At the University Level

Vice-Provost Jennifer Roberts
(also Chair of the Geology Department)
254C Ritchie Hall | jaroberts@ku.edu | Profile Link | 785-864-1960

(The following sections are still Under Construction in fall 2021)

Addendum I

Preliminary Exam Procedures

When a Doctoral student is ready for the preliminary exam, as outlined earlier in this manual,

Evaluation:
Evidence of each aptitude will be measured by the composite performance on the written, oral and question portions of the exam. Each aptitude will be graded on a scale of 1 to 3, with definitions of each level similar to ABET evaluation of skills. Specifically, a grade of

1 = Does not demonstrate the aptitude
2 = Shows demonstrable evidence of acquiring the aptitude
3 = Shows ability to utilize aptitude to further research goals

To pass the prelim, the student must achieve a score of 2.0 or higher on all five aptitudes. The committee assessment is the average of the individual committee member scores on each criterion, and will be rounded to the nearest 0.05. Thus an average score of 1.974 would be rounded to 1.95 (failing), and a score of 1.976 would be rounded to 2.00 (passing). The evaluation will be recorded on the single sheet Prelim Evaluation Form [sample on page following this document] and signed by the advisor. All prelim evaluation forms will be submitted to the GSC and the external prelim committee member. Following approval and signature by that group, copies are made for the advisor and the student within two weeks of exam completion. The original form is retained in the student's academic file. Any required remedial action will be taken within the same semester.

Outcomes:
PASS, PASS with Restriction [PWR] (specific deficiency -- one aptitude score is below 2.0); FAIL (two or more scores below 2.0). The PWR status must be corrected by actions set and documented by the examining committee within the same academic semester. Remedial action taken for PWR status will be documented on the second page of the Prelim Evaluation Form, and signed/dated by the research advisor. If the deficiency is not corrected and documented, a grade of FAIL is assigned. FAIL status requires the student to retake the prelim within four months of the initial exam. This examination can be repeated once. A second failure automatically transfers the student to the MS degree program.

C&PE Preliminary Exam of Graduate Research
Committee Evaluation Document

Student Name: **Date:** **Time:**

Grading Scale: 1 = Does not demonstrate the aptitude
2 = Shows demonstrable evidence of acquiring the aptitude
3 = Shows ability to utilize aptitude to further research goals

Overall Grade: _____ **PASS / PWR / FAIL**

Evaluators: Enter average committee grade and supporting observations from written report, oral presentation and/or responses to questions.

Aptitude 1 -- Independent, original critical thinking
Committee Member Grade _____
Comments:

Aptitude 2 -- Planning and organizing a research project
Committee Member Grade _____
Comments:

Aptitude 3 -- Use of previous work and background literature to show
Committee Member Grade _____

a) Understanding of the planned research within scope of project
Comments:

b) Ability to conduct that research
Comments:

Aptitude 4 -- Application of fundamental theory (e.g. equations) to the proposed work
Committee Member Grade _____
Comments:

Aptitude 5 -- Effective communication of technical work
Committee Member Grade _____
Comments:

Evaluators Name: _____ Signature: _____

Addendum II

Comprehensive Exam Procedures

The comprehensive exam is a major milestone in a Doctoral student's academic career. Before completing this exam, students are considered PhD Aspirants, afterwards they are Doctoral Candidates. When the student has completed the bulk of their coursework and electives, it is time to begin preparing for this milestone. The basic chain of events will be:

Written Portion

1) Advisor and student notify the dissertation committee about the student's readiness to begin the comprehensive exam
2) Advisor and dissertation committee design an exam problem which will challenge the student but not be directly related to their main research
3) The exam problem is sent to the student via email with all committee members, the graduate program director, and the graduate program coordinator copied for record keeping purposes. *This will begin the 30-day countdown*
4) The student will have 30 days to write a research proposal on the assigned exam problem. The format for this proposal must be from one of the following major funding agencies: National Science Foundation (NSF), National Institute of Health (NIH), ADD OTHERS. See addendum III for links to templates and examples.
5) At the end of the 30 days, the student will submit their written comprehensive exam to their full committee via email while copying the grad director and grad coordinator for official record keeping purposes.
6) The committee will then review the written exam, offer comments, and inform the student if they are ready to move forward with the oral defense.

Oral Exam

When the committee has approved moving forward with the oral exam, the student will schedule the presentation.

1) Propose a date to all committee members that is 2-3 weeks in the future. This can be done with the help of the grad coordinator, via online survey, or through proposing multiple dates via email and asking for replies.
2) As soon as a date and time are arranged, the student should reserve a presentation location such as the department conference room, lab conference room, or classroom.
3) Once all the arrangements are made, the student must notify the graduate director and graduate coordinator by sending the following information:
    a. The exam title (*optional* a copy of the written exam),
    b. The date, time, and location of the exam,
    c. Confirm names of full committee (can be done via an accurate Plan of Study)
4) The graduate program coordinator will then submit the official pre-approval paperwork to the university, create an oral defense announcement flyer, and post the flyer on the appropriate announcement boards. Per university policy, all doctoral oral defenses must be open to the public. The student will be asked to approve the flyer and give feedback before it is posted.
5) While the student is preparing for the oral defense, a Research Skills Letter must be composed, signed by the student's advisor, and submitted to the graduate program assistant. The purpose of this letter is to explain in 2-4 sentences how each course the student took at KU helped prepare them to complete PhD level research. A sample template of this letter can be found online @ .

Day of the Defense

1)