

# School of Engineering Graduate Program Timeline

## Doctoral Degree Program, Ph.D.

These are general timelines for degree completion, based on regular admission (no pre-requisites required), full-time enrollment and satisfactory progress. We expect our students to make every effort to complete their degree within six years (average for most programs). Enrollment in the summer is not required for master's students, but may reduce your time to degree. The following timeline summarizes the School of Engineering's expectations for student progress. Please note the academic year runs from fall (late August) through summer (end of July).

### Year 1

- Attend New Graduate Student Orientation and events throughout your first year
- Begin Coursework Requirements and submit a Plan of Study for approval online at: <https://gradplan.engr.ku.edu>: 6-12 credit hours of graduate level courses each fall and spring semester (summer enrollment is required if enrolled or working on research)
- Consult with faculty - Select a dissertation project in collaboration with your advisor and doctoral committee<sup>1</sup>
- Complete Residency, Research Skills & Responsible Scholarship Requirements<sup>2</sup>
- Complete Doctoral Qualifying Exam<sup>4</sup> – generally completed at the end of the first year or through strong performance in core courses
- Participate in academic & professional development activities to secure funding for upcoming year
- Utilize the summer break to start your research or seek internship opportunities (optional) – Enrollment in 1-3 research hours over summer (if employed – 3 hours recommended)
- Provide Annual Progress Report to your department or program office (Graduate Activity Report<sup>3</sup>)

### Year 2

- Continue Coursework & Research Requirements: 6-12 credit hours of graduate level courses (recommended)
- Begin research proposal in preparation for comprehensive oral exam<sup>5</sup> in year 3
- Update Plan of Study and PhD milestones – Enrollment in 3 research hours over summer (if employed)
- Participate in academic & professional development activities including conference abstracts and poster competitions
- Provide Annual Progress Report to your department or program office (Graduate Activity Report<sup>3</sup>)

### Year 3

- Continue Coursework & Research Requirements: 6-12 credit hours of graduate level courses (recommended)
- Complete Comprehensive Oral Exam<sup>5</sup> – fall of Year 3 (before the start of spring courses) – minimum of 5 months must pass between your comprehensive exam and final defense
- Update Plan of Study, PhD milestones and dissertation committee in preparation for final dissertation defense in year 4
- Conference Attendance & Journal Publications (encouraged)
- Participate in academic & professional development activities including presenting your research at competitions and conferences
- Provide Annual Progress Report to your department or program office (Graduate Activity Report<sup>3</sup>)

### Year 4

- Get actively involved in your field of study by attending conferences & journal publications (strongly encouraged)
- Summer enrollment required until competition of dissertation defense<sup>7</sup> & graduation requirements<sup>8</sup> met
- Finalize your dissertation and communicate progress to your committee regularly up to the date of your dissertation defense
- Participate in academic & professional development activities ensuring you reach your graduation and career goals for the year
- Complete Exit Interview Requirements & meet with Engineering Career Center to prepare for employment

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### Program Requirements & Milestones

1. The doctoral committee must consist of at least 5 members. At least 3 members must be tenure / tenure track faculty from within the department, including the advisor and include one person from outside the department at KU who will act as the outside member. Students may have co-chairs or members from outside KU, but all members must be approved as a regular or special member of the Graduate Faculty (see requirements at <http://policy.ku.edu/graduate-studies/oral-exam-committee-composition> & [https://documents.ku.edu/policies/Graduate\\_Studies/gradfacappnts.htm](https://documents.ku.edu/policies/Graduate_Studies/gradfacappnts.htm)).
2. Students should contact their department/program for more information on the responsible scholarship and research skills requirements, as they are specific to each program. Residency requirements are met with enrollment of two semesters, which may include one summer session, spent in resident study at KU. During this period, the student must be involved full time in academic or professional pursuits, which may include an appointment for teaching or research if it is directed specifically toward degree objectives. The student must be enrolled in a minimum of 6 credit hours per semester (see more details at <http://policy.ku.edu/graduate-studies/doctoral-program-time-constraints>).
3. Graduate Students must make satisfactory progress towards their degree to be considered in good standing and eligible for funding as a GTA or GRA. To ensure students are making progress towards their degree, you must submit an annual Graduate Student Activity Report (GAR) to your department prior to the fall semester each academic year. A list of master's degree requirements can be found at <http://policy.ku.edu/graduate-studies/ma-requirements> and within the [Academic Catalog](#).
4. Qualifying Exam (Optional per University / Program Specific) – Tests knowledge & Research Skills (some departments/programs have coursework or area requirements) see list of departmental requirements below.
5. Comprehensive Oral Exam (Required by University / Program Specific) – Completed after major portion of coursework, research skills, responsible scholarship, and residency completed, see list of departmental requirements below. Student must be in good academic standing with no incomplete grades and have a complete and approved Plan of Study on file (see more details at <http://policy.ku.edu/graduate-studies/doctoral-oral-exams>).
6. Doctoral Candidacy – After passing the Comprehensive Oral Exam, the candidate must be continuously enrolled, including summer sessions, until all requirements for the degree are completed, and each enrollment must reflect as accurately as possible the candidate's demands on faculty time and university facilities. During this time, until all requirements for the degree are completed (including filing of the dissertation) **OR** until 18 post-comprehensive hours have been completed (whichever comes first), the candidate must enroll for a minimum of 6 hours a semester and 3 hours a summer session (see more details at <http://policy.ku.edu/graduate-studies/doctoral-candidacy>).
7. Doctoral Defense - When a graduate student passes the final oral examination or dissertation defense, the student must deliver all graduation requirements to the School of Engineering Research & Graduate Programs Office (1415 LEEP2) so that completion of degree requirements may be officially certified. More information can be found at <http://policy.ku.edu/graduate-studies/final-oral-exams>.
8. The graduation checklist is available online at <http://enr.ku.edu/doctoral-degree-checklists> and graduation deadlines are posted on the KU Graduate Studies webpage at <http://www.graduate.ku.edu/graduation> (see the annual Academic Calendar under Important Information).

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### **Qualifying Exam Definitions (department / program specific):**

**AE**- The qualifying examination tests breadth of knowledge and determines the student's ability to formulate mathematical representations of real physical situations. The examination covers mathematics and 2 of these 5 areas:

- Aerodynamics
- Astronautics
- Structures and materials
- Dynamics and controls
- Propulsion

**BioE**- Each doctoral student must pass the doctoral qualifying examination, normally taken at the end of the first year of graduate study. The written and oral examination measures the student's ability to comprehend and communicate technical literature in the chosen track of study. The qualifying examination may be retaken once. A more detailed description of the examination is available on the [program's website](#).

**CPE**- All doctoral students are required to complete the qualifying exam, also termed the preliminary examination of research, after the completion of their core coursework. Students must maintain a cumulative GPA of at least 3.2 for Chemical Engineers and 3.25 for Petroleum Engineers in the core courses, as specified by the graduate standards committee. After completing the preliminary exam the student is considered a PhD aspirant. Students who complete a master's degree at KU in Chemical & Petroleum Engineering are not required to complete the preliminary exam.

**CEAE**- An aspirant for the Ph.D. degree must pass a qualifying examination. The department normally gives this examination upon completion of the aspirant's M.S. work or at a comparable level for non-M.S. students.

**EECS**- Each doctoral student must pass a doctoral qualifying examination, which also meets the research skills requirement. This is an assessment of the student's ability to conduct PhD-level scholarship based on classroom performance, written research and an oral examination to be given by a committee of tenured/tenure track graduate faculty members.

**ME**- Students should plan to complete the qualifying examination in the first semester of participation in the doctoral program on regular status. The doctoral qualifying examination covers basic material from major areas in mechanical engineering and advanced materials from the student's specialty. On successful completion of the qualifying examination, the student selects a major professor to serve as the chair of their doctoral committee and direct their research.

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### **Comprehensive Oral Exam Definitions (department / program specific):**

**AE-** When the aspirant has completed most of the course work and satisfied the research skills (AE 691), responsible scholarship (AE 692) and residency requirements, he or she must take the comprehensive examination. The comprehensive examination is made up of two parts. The first part must consist of a written research proposal outlining in some detail the work to be done for the dissertation. The second part is an oral examination in which she or he must defend the research plans and demonstrate competence in her or his particular and related areas. Upon passing the comprehensive examination, the aspirant becomes a doctoral candidate.

**BioE-** Doctoral students must take the comprehensive examination after passing the qualifying examination, completing the research skills requirement (BioE 800), residency requirement, responsible scholarship requirement (BioE 801), and at least  $\frac{3}{4}$  of the course work required in the Plan of Study. The examining committee for the comprehensive examination is generally the student's doctoral advisory committee. Before the examination, the student must submit in writing to the committee a detailed NIH or NSF-style research proposal for a possible Ph.D. dissertation project. Any modifications to the format should be approved by the student's doctoral advisory committee. The comprehensive examination evaluates the student's ability to write an original research proposal, design experiments, and interpret results in a sound and critical manner. A more detailed description of the examination is available on the [program's website](#). Passing the examination advances the student to doctoral candidacy.

**CPE-** The aspirant takes the comprehensive examination after completion of a majority of the course work for the Ph.D. and student has met residency, research skills and responsible scholarship requirements (C&PE 800). The examination consists of 2 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 by an examining committee. The aspirant identifies a research problem in 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 and must be distinctly different from the dissertation problem.

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 may also cover areas peripheral to the proposal. 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.

**CEAE-** Before being admitted to the comprehensive examination, the aspirant must satisfy residency and the department's basic research skills and responsible scholarship requirements. The research skill requirement provides the aspirant with a research skill distinct from, but strongly supportive of, the dissertation research. Research skills are often met when students complete a research-related course, listed on the approved Plan of Study. The responsible scholarship requirement serves to ensure that students are trained in responsible research and this requirement is met when students complete the Responsible Scholarship Training Seminar (8 – one hour sessions). All doctoral students must successfully complete the training seminar in their first fall semester of enrollment.

**EECS-** The student must take the doctoral comprehensive examination after passing the qualifying examination, completing the research skills requirement, and completing at least  $\frac{3}{4}$  of the course work requirement beyond the M.S. The student must complete the comprehensive examination before detailed work on the Ph.D. dissertation begins. Before the examination, the student must submit in writing to the committee a detailed proposal for a possible Ph.D. dissertation. In the comprehensive examination, the student is examined upon the proposal and on knowledge and insight in the specialization, and a dissertation committee is formed.

**ME-** The comprehensive examination has a written and oral component. The written component contains a detailed literature review of existing research in the proposed area as well as a description of the work or research plan to be completed for the dissertation. For the oral component, the aspirant must defend the proposed work or research plan and demonstrate proficiency in the specialization.