

The Roadmap to the Doctor of Engineering (DE) Degree

The Doctor of Engineering degree is designed to prepare engineers to study engineering problems of complex nature and to develop solutions that address the most pressing engineering issues of the future. This document describes the procedure and timeline to earn the DE degree at Lamar University.

Degree Requirement at a Glance

| Type | Core* | Electives* | Dissertation | Seminar | Total |
|--|-------|------------|--------------|---------|-------|
| Students admitted with a BS degree from 4-year engineering college | 9 | 36 | 30 | 4 | 79 |
| Students admitted with a MS degree in engineering | 9 | 18 | 30 | 4 | 61 |

*: Upon approval of the student's supervising professor and the College of Engineering, the core courses may be substituted by the courses prescribed by the supervising professor.

** : All electives must be approved by the student's supervising professor

Engineering Core Courses and Electives

ENGR 5331-10: Engineering Ethics & Communication

ENGR 5332-10: Statistical Principles in Engineering

ENGR 5333-10: Mathematical Principles in Engineering

The three courses are offered throughout the academic year.

Degree Requirements

1. The student with a Master's degree shall complete a residency of at least one year; the student with a BS degree shall complete a residency of at least two years
2. Completion of a total of 9 semester hours of core course work (ENGR 5331, ENGR 5332 and ENGR 5333). Exceptions to this rule must be approved by the Senior Director of Engineering Graduate Programs
3. Completion of a minimum of 18 semester hours of DE dissertation preparatory courses for students with a Master's degree at time of admission, or completion of a minimum of 36 semester hours of DE dissertation preparatory courses for students with a BS degree in engineering at time of admission. The preparation includes completion of one semester of ENGR 6320, Justification of Engineering Project
4. Completion of a minimum of 4 semester hours of Professional Seminar (ENGR 6110)
5. Completion of candidacy qualifying examination designed by the student's dissertation committee

6. After the student is admitted to candidacy, a research proposal must be presented to the doctoral dissertation committee within 6 months after passing the qualifying examination. Upon committee approval of the proposed engineering research through an oral defense, the research work is initiated
7. Completion of a minimum of 30 semester hours of DE dissertation courses (ENGR 6603 and ENGR 6604) and satisfactory defense of DE dissertation
8. The DE degree must be completed within 10 consecutive years of study

DE Qualifying Examination

The DE qualifying examination should be administered, preferably in the first semester of the second year, and must be completed no later than the end of the second year of DE study. The examination must be conducted in the semester when the student takes ENGR 6320 (Justification of Engineering Project). The test examines the technical literacy of a DE student in an oral examination conducted by the student's dissertation committee as part of ENGR 6320 coursework. One week before the examination, the student's committee assigns one or more peer-reviewed articles in the student's research area for his/her review. During the examination, the student is required to make a short presentation of the reviewed literature with cross-referencing materials, and answer the questions from the committee. Students who pass the qualifying examination are admitted to candidacy. Students who fail to pass the qualifying exam can schedule a second and final re-examination within 6 weeks after the first attempt. Failing to pass the qualifying exam for the second time will remove the student from the DE program.

DE Dissertation

Upon admitted to DE candidacy, the student performs DE research by taking ENGR 6603 and ENGR 6604 (DE dissertation) offered by his/her supervising professor. ENGR 6603 should be taken only once for the development of a DE research proposal, which is a concise technical document outlining the proposed research agreed upon by both the student and his/her supervising professor. The student must successfully defend for the proposal while taking ENGR 6603. Once the proposal is approved by the dissertation committee, the student continues to work on the DE research while taking ENGR 6604 until graduation. In the graduating semester, the student must successfully defend for the DE dissertation.

Timeline

Unless under special circumstances, the following timeline is recommended by the College of Engineering.

For students admitted with a MS engineering degree*

| Time | Accomplishments |
|-------------|---|
| Year 1 | <ol style="list-style-type: none">1. Complete the core course requirement.2. Complete part of the elective requirement; the electives can be special topic courses designed by the student's supervising professor.3. Complete the diagnostic exam on course work. (Form D1A and D1B)4. Explore research opportunities with the supervising professor. |
| Year 2 | <ol style="list-style-type: none">1. Consult with the supervising professor to form a permanent DE dissertation committee consisting of no less than four (4) faculty members. At least one committee member must be outside of the department that student is in. The committee chair is the supervising professor of the student. (Form D2)2. Complete the elective course requirement including ENGR 6320 (Justification of Engineering Project). The purpose of ENGR 6320 is to prepare the DE student in reviewing literature for the DE research. The DE student must take the DE qualifying examination while taking ENGR 6320. (list the courses in Form D3)3. Pass the DE qualifying examination and enter DE candidacy. (Form D4A and D4B)4. Start working on DE dissertation proposal with the supervising professor. |
| Year 3 | <ol style="list-style-type: none">1. Start taking ENGR 6110 (professional seminar) each long (fall and spring) semester after entering candidacy. The course rotates each DE candidate to make technical presentations to all other peer candidates.2. Take one ENGR 6603 (DE dissertation) course. Upon conclusion of this course, the DE candidate's proposal must be defended.3. Successfully defend for the dissertation proposal. (Form D5)4. Take ENGR 6604 (DE dissertation) continuously. This course signifies that you have completed the proposal defense and actively work on the proposed DE research. |
| Year 4 & on | <ol style="list-style-type: none">1. Continue to take ENGR 6110 until graduation2. Continue to take ENGR 6604 until graduation3. Complete the proposed research.4. Draft the DE dissertation and schedule for DE defense at least 2 weeks before the final defense date. (Form D6A)5. Successfully defend for the DE dissertation. (Form D6B)6. File for graduation following the timelines specified for the semester of graduation. |

*: The procedures for students admitted with a BS degree from 4-year engineering college are similar, except that the Year 1 & 2 activities may stretch to 3 years because 18 more semester hours of electives are required for students admitted to the program with a BS degree.