DOCTOR OF ENGINEERING IN ENGINEERING

The Doctor of Engineering (DEng) program prepares our students to work at the highest levels of the engineering profession, with emphasis on solving problems which arise in the use of technology to benefit society at large.

Since these problems frequently have a societal impact which is non-technical in nature and since technological advances are implemented through business and industry, the Doctor of Engineering program seeks to couple understanding of the characteristics of social and business institutions with high competence in solving engineering problems.

Following entry into the Doctor of Engineering program, students will complete a minimum 36-semester-credit-hour course of study prior to a one calendar year (4 credit hours per semester) internship in which they will extend their education in a practice-oriented environment such as an industrial organization. The Doctor of Engineering program is administered by the Department of Multidisciplinary Engineering with the Graduate and Professional School.

The final oral/written examination for the Doctor of Engineering degree is administered by the student's advisory committee, as approved by the Department of Multidisciplinary Engineering and the Graduate and Professional School. Additional information can be obtained from the Department of Multidisciplinary Engineering.

Admission
An individual possessing a minimum of an ABET-accredited bachelor's degree in engineering or the equivalent may apply for program admission. A person applying with only a bachelor's degree must have a graduate point average of at least 3.00/4.00. An individual applying with a master's degree in engineering must have a grade point average of at least 3.25 for his/her overall graduate studies. To be admitted to the Doctor of Engineering program, an applicant must complete the appropriate application form, provide transcripts of all academic work taken beyond the secondary school level, prepare a 300-word essay dealing with the applicant's motivation for seeking admission to the program, be interviewed by the admissions subcommittee of the Doctor of Engineering program committee, and be approved by the Department of Multidisciplinary Engineering. A student is required to pass the oral and written examinations associated with the Doctor of Engineering qualifying examination described in "Examinations."

This program is also approved for delivery via asynchronous or synchronous distance education technology.

Program Requirements

Program Requirements

Student's Advisory Committee

On-Campus and Distance Education Degree Programs

After receiving admission to graduate studies, students will consult with the graduate program concerning selection of a chair and members for an advisory committee representative of the student's field(s) of study and research. The student's advisory committee will consist of no fewer than two members, where the chair or co-chair must be from the student's department (or intercollegiate faculty, if applicable), and at least one or more of the members must have an appointment to a department other than the student's major department. The outside member for a student in an interdisciplinary degree program must be from a department different from the chair of the student's advisory committee. The chair, in consultation with the student, will select the remainder of the advisory committee.

Only members of the Graduate Committee Faculty located on Texas A&M University campuses may serve as chair of a student's advisory committee. Other members of the Graduate Committee Faculty – including those located off-campus or outside the university (if permitted by program, department, and college/school policy) – may serve as co-chair or member (but not chair).

The advisory committee as a group – and as individual members – are responsible for advising the student on academic matters. The duties include responsibility for approving the student's proposed degree plan; research proposal; record of study; and conducting examinations. The advisory committee members' approval of a degree plan indicates their willingness to accept the responsibility for guiding and directing the entire academic program of the student and for initiating all academic actions concerning the student. Additionally, in the case of academic deficiency, the advisory committee is responsible for initiating recommendations to the Graduate and Professional School.

The chair of the advisory committee, who usually has immediate supervision of the student's degree program, has the responsibility for calling meetings at any time considered desirable.

If the chair of the student's advisory committee is unavailable for an extended period of time in any academic period during which the student is involved in activities relating to an internship, thesis or professional paper – and is registered for courses such as 684, 691, 692, or 693 – the Department Head or intercollegiate faculty Chair may appoint an alternate advisory committee chair during the interim period.

If the chair of a student's advisory committee is on an approved leave of absence – and the student is near completion of the degree and wants the chair to continue to serve in this role – a written request must be submitted to the Associate Provost and Dean of the Graduate and Professional School, by the Department Head or intercollegiate faculty Chair, that the faculty member who is on an approved leave of absence be allowed to continue to serve as chair of the advisory committee – without a co-chair – for up to one year. The request must confirm that the faculty member is able to engage in the required duties as chair during the leave of absence. Extensions beyond the one-year period (if necessary) may be

granted with additional approval of the Associate Provost and Dean of the Graduate and Professional School.

If the chair of a student's advisory committee voluntarily separates from the University, and the student is nearing completion of the degree, the chair may to continue to serve in this role – at the student's request – for up to one year. Two options are available:

- The chair may continue, with a co-chair, without additional approval by the Graduate and Professional School. The student must select a current member of the Graduate Committee Faculty – from the student's academic program and located near the Texas A&M University campus site – to serve as co-chair of the advisory committee.
- The chair may continue, without a co-chair, with approval by the Graduate and Professional School. A written request must be submitted to the Associate Provost and Dean of the Graduate and Professional School by the Department Head or intercollegiate faculty Chair to allow the faculty member to continue as chair, without a co-chair, of the advisory committee.

For both options, extensions beyond the one-year period (if necessary) may be granted with additional approval of the Associate Provost and Dean of the Graduate and Professional School.

Although individual committee members may be replaced by petition for valid reasons, all members of a student's advisory committee cannot resign *en masse*.

Degree Plan

On-Campus and Distance Education Degree Programs

The student's advisory committee – in consultation with the student – will evaluate the student's previous education, develop a proposed degree plan, and outline a research problem based upon the student's degree objectives. When completed, as indicated by the dissertation equivalent for the degree of Doctor of Engineering, the degree plan will constitute the basic requirements for the degree.

The degree plan must be created, submitted, and approved through the online Document Processing Submission System (http://ogsdpss.tamu.edu/) (DPSS). The degree plan must be submitted prior to the deadline imposed by the student's college and approved by the Graduate and Professional School no later than 90 days prior to the preliminary examination.

A degree plan must carry a reasonable amount of 691 (Research).

Additional coursework may be added to the approved degree plan through DPSS, if deemed necessary by the student's advisory committee, to correct deficiencies in the student's academic preparation. No changes can be made to the degree plan once the student's Request for Final Examination or Request for Final Examination Exemption is approved by the Graduate and Professional School.

Coursework included on the degree plan is subject to the requirements and restrictions detailed in the Credit Requirement and Limitations on Credits and Coursework sections in each degree program page.

Degree program time limits apply to courses listed on a degree plan. Details are available on the Time Limits section in each degree program page.

Credit Requirements

On-Campus and Distance Education Degree Programs

Students are required to complete a minimum of 96 semester credit hours for the Doctor of Engineering degree and must include the following components:

1. 80 semester credit hours of coursework composed of
   - a minimum of 20 semester credit hours of required core coursework,
   - 12 semester credit hours of elective professional development courses,
   - 32 semester credit hours of department-oriented graduate-level courses,
   - 12 semester credit hours of engineering design courses, and
   - 4 semester credit hours of professional development seminar; and
2. 4 semester credit hours per semester and per summer term of Professional Internship (see section on "Internship" in the degree program page).

A field of study may be primarily in one department or in a combination of departments.

Limitations on Credits and Coursework

On-Campus and Distance Education Degree Programs

Credit-hour requirements are subject to the following limitations:

1. To receive a graduate degree from Texas A&M University, students must earn one-third or more of the credits through the institution's own direct instruction. This limitation also applies to joint degree programs.
2. Transfer credits may be used toward meeting the credit hour requirements under the following limitations:
   - Courses taken in residence at an accredited United States or international institution (recognized by the Office of Admissions), with a final grade of B or greater, may be considered for transfer credit if – at the time the courses were completed – the courses would be accepted for credit toward a similar degree for a student in degree-seeking status at the host institution.
   - An official transcript from the institution at which transfer coursework was taken must be sent directly to the Office of Admissions. Credit for coursework submitted for transfer from any college or university must be shown in semester credit hours or equated to semester credit hours.
   - Grades for courses completed at other institutions are not included in computing the GPA.
   - Coursework in which no formal grades are given, or in which grades other than A or B were earned (for example, CR, P, S, U, H, etc.), is not accepted for transfer credit.
   - Except for officially approved cooperative doctoral programs, credit for thesis or dissertation research – or the equivalent – is not transferable.
   - Courses used toward a degree at another institution may not be applied for transferred graduate credit.
     - Courses used toward a certificate, but not applied to an awarded degree, may be considered for transfer.

    - If the course to be transferred was taken for a certificate or prior to the conferral of a degree at the transfer institution, a letter from the registrar at that institution stating that the course was not applied for credit toward the degree must be submitted to the Graduate and Professional School.
    - Credit for "internship" coursework in any form, or taken by extension, is not transferable.
    - Courses for which transfer credits are sought must be approved by the student's advisory committee and the Graduate and Professional School.
3. Approval to enroll in any professional course should be obtained from the Department Head or intercollegiate faculty Chair (if applicable) in which the course will be offered before including such a course on a degree plan.
4. A maximum of 9 credit hours of advanced undergraduate courses (400-level) may be considered for application to the degree plan.
5. No more than 50 percent of the non-research credit hours required for an in-person degree program may be completed through distance education courses.
6. No credit may be obtained by correspondence study, by extension, or for any course of fewer than three weeks duration.

Some departments may have additional or more restrictive requirements.

Examinations

On-Campus and Distance Education Degree Programs

Qualifying Examination

A student admitted to the program is required to pass a comprehensive written and oral examination called the Doctor of Engineering Qualifying Examination.

Qualifying Examination Format

It will be administered when semester credit hours equivalent to the number required for a Master of Engineering degree have been accumulated. An individual holding a master's degree when they enter the Doctor of Engineering program will be expected to take the Doctor of Engineering Qualifying Examination during their first semester of enrollment. The examination determines whether or not the student is prepared to continue study toward the Doctor of Engineering degree.

The student's major department and advisory committee may require departmental, cumulative or other types of examinations at any time deemed desirable. These examinations are entirely at the discretion of the department and the student's advisory committee. For instance, these examinations may be used for determining the technical depth and breadth required for the internship project.

Qualifying Examination Scheduling

Students are eligible for to schedule the Qualifying Examination in the Academic Requirements Completion System (ARCS) if they meet the following list of eligibility requirements:

- Student is registered at Texas A&M University for a minimum of one semester credit hour in the long semester or Summer term during which any component of the preliminary examination is held. If the entire examination is held between semesters, then the student must be registered for the term immediately preceding the examination.
- An approved degree plan is on file with the Graduate and Professional School prior to commencing the first component of the examination.
- Student's cumulative GPA is at least 3.000.
- Student's degree plan GPA is at least 3.000.
- At the end of the semester in which at least the first component of the exam is given, there are no more than 6 hours of coursework remaining on the degree plan (except 681, 684, 690, 691, 692, 693, 695, 697, 791, or other graduate courses specifically designated as S/U in the course catalog). The head of the student's department (or Chair of the Interdisciplinary Degree Program, if applicable) has the authority to approve a waiver of this criterion.

Qualifying Examination Grading

Credit for the Qualifying Examination is not transferable in cases where a student changes degree programs after passing a Qualifying Exam.

A positive evaluation of the Qualifying Examination by all members of a student's examination committee with at most one dissension is required to pass a student on the Qualifying Examination.

The student's department will promptly report the results of the Qualifying Examination to the Graduate and Professional School *via* the Academic Requirements Completion System (ARCS) within 10 working days of completion of the Qualifying Examination.

If an approved examination committee member substitution (one only) has been made, their approval must be submitted to the Graduate and Professional School *via* ARCS. The approval of the designated department approver is also required on the request.

Qualifying Examination Failure

A student who fails the Qualifying Examination may, with the approval of the advisory committee, retake the examination once. The second examination will be administered after a suitable period of preparation, normally not less than six months, upon the recommendation of the advisory committee.

Final Examination

Candidates for the degree of Doctor of Engineering must pass a final oral examination in the final semester following the internship by deadline dates announced in the Graduate and Professional School Calendar (https://grad.tamu.edu/knowledge-center/dates-and-deadlines/dates-and-deadlines/) each semester. The student is allowed only one opportunity to take the final examination.

No unabsolved grades of D, F, or U for any course can be listed on the degree plan. The student must be registered for any remaining hours of 681, 684, 690, 691, 692, 791 or other graduate courses specifically designated as S/U in the course catalog during the semester of the final exam. No student may be given a final examination until they have been admitted to candidacy and their current official cumulative and degree plan GPAs are 3.00 or better.

Refer to the Admission to Candidacy (https://catalog.tamu.edu/graduate/academic-expectations-general-degree-requirements/#degreerequirementstext) section of the graduate catalog for candidacy requirements.

This exam will include presentation of results of internship work.

Final Examination Scheduling
A request to schedule the final examination must be submitted to the Graduate and Professional School via ARCS a minimum of 10 working days in advance of the scheduled date. Any changes to the degree plan must be approved by the Graduate and Professional School prior to the submission of the request for final examination.

The student's advisory committee, as finally constituted, will conduct this examination, which will include the internship experience and closely allied topics as well as the broad field of the candidate's training. Only one committee member substitution is allowed with the approval of the Graduate and Professional School.

The final examination is not to be administered until the dissertation or record of study is available in substantially final form to the student's advisory committee, and all concerned have had adequate time to review the document. Whereas the final examination may cover the broad field of the candidate's training, it is presumed that the major portion of the time will be devoted to the dissertation and closely allied topics. Persons other than members of the graduate faculty may, with mutual consent of the candidate and the chair of the advisory committee, be invited to attend a final examination for an advanced degree. A positive vote by all members of the graduate committee with at most one dissension is required to pass a student on his or her exam. A department can have a stricter requirement provided there is consistency within all degree programs within a department. Upon completion of the questioning of the candidate, all visitors must excuse themselves from the proceedings.

Final Examination Grading
The student's department will promptly report the results of the Final Examination to the Graduate and Professional School via the Academic Requirements Completion System (ARCS) within 10 working days of completion of the final examination. The Graduate and Professional School will be automatically notified via ARCS of any cancellations.

A positive evaluation of the final exam by all members of a student's advisory committee with at most one dissension is required to pass a student on their final exam. If an approved committee member substitution (one only) has been made, their approval must be submitted to the Graduate and Professional School via ARCS.

A department can have a stricter requirement provided there is consistency within all degree programs within a department. Persons other than members of the graduate faculty may, with mutual consent of the candidate and the major professor, attend final examinations for advanced degrees. Upon completion of the questioning of the candidate, all visitors must excuse themselves from the proceedings. The advisory committee will submit its recommendations through the Dean of the College of Engineering to the Graduate and Professional School regarding the acceptability of the candidate for the doctoral degree.

Record of Study

On-Campus and Distance Education Degree Programs

A record of study, which usually is a report of the student's internship experiences, must be prepared in accordance with guidelines issued by the Doctor of Engineering program committee. By deadlines announced each semester, the candidate must submit to the Office of the Dean of the College of Engineering one copy of the record of study in final form. The suggestions and corrections of the members of the advisory committee must be incorporated, and the report must bear the signature of the department head and the members of the student's advisory committee. The record of study must be the original work of the candidate.

A record of study's format must be acceptable to the Graduate and Professional School as outlined in the Guidelines for Theses, Dissertations, and Records of Study.

After successful defense and approval by the student's advisory committee and the head of the student's major department, a student must submit the record of study in electronic format as a single PDF file to https://etd.tamu.edu/. Additionally, a record of study approval form with original signatures must be received by the Graduate and Professional School through the Academic Requirements Completion System (ARCS). Both the PDF file and the completed ARCS approval form must be received by the deadline.

Except as noted in the sections above, the requirements for the Doctor of Engineering degree are identical to those for the Doctor of Philosophy.

Deadline dates for submitting are announced each semester or summer term in the Graduate and Professional School Calendar (see Time Limit statement). These dates also can be accessed *via* the Graduate and Professional School website (https://grad.tamu.edu/).

Before a student can be "cleared" by Thesis and Dissertation Services, a processing fee must be paid through Student Business Services. This processing fee is for the thesis/dissertation services provided. After commencement, dissertations are digitally stored and made available through the Texas A&M Libraries.

A record of study that is deemed unacceptable by the Graduate and Professional School because of excessive corrections will be returned to the student's department head. The manuscript must be resubmitted as a new document, and the entire review process must begin anew. All original submittal deadlines must be met during the resubmittal process to graduate.

Additional Requirements

Additional Requirements

Residence

On-Campus Degree Program

A student who enters the DEng program with baccalaureate degrees must spend two academic years in resident study at Texas A&M University. A student who holds a master's degree when he or she enters the program must spend one academic year in resident study. In this context, an academic year is defined as two regular semesters, two 10-week summer semesters or a regular semester and a 10-week summer semester. To satisfy the residence requirement, the student must complete a minimum of 9 credit hours per semester or 10-week summer semester in resident study at Texas A&M University for the required period.

Students who are employed full-time while completing their degree may fulfill total residence requirements by completion of less-than-full time course loads each semester. In order to be considered for this, the student is required to submit a Petition for Waivers and Exceptions

along with verification of his or her employment to the Graduate and Professional School.

Distance Education Degree Program

The distance education modality does not have any residence requirement.

Continuous Registration

On-Campus and Distance Education Degree Programs

A student in a program leading to a Doctor of Engineering who has completed all coursework on his or her degree plan other than 684 (Internship) is required to be in continuous registration until all requirements for the degree have been completed. However, colleges or departments may have additional or higher requirements.

See Continuous Registration Requirements (https://catalog.tamu.edu/graduate/academic-expectations-general-degree-requirements/#registrationandacademicstatustext).

Scholarship

On-Campus and Distance Education Degree Programs

To remain in good standing, a student admitted to the Doctor of Engineering program must maintain a GPA of 3.00 during his or her graduate studies.

Internship or Practicum

On-Campus and Distance Education Degree Programs

As part of the degree requirements after completing courses on the approved degree plan (except ENGR 684), each student will spend a minimum of one calendar year working under the supervision of a practicing engineer in industry, business or government. The objectives of the internship are two-fold:

1. to enable the student to demonstrate the ability to apply both knowledge and technical education by making an identifiable contribution in an area of practical concern to the organization or industry in which the internship is served, and
2. to enable the student to function in a non-academic environment in a position in which he or she will become aware of the organizational approach to problems, in addition to those of traditional engineering design or analysis.

During the internship phase of the program, the student must be continuously enrolled in the university.

The nature of the internship experience will be determined by mutual consent among the student, the advisory committee and the supervising organization prior to commencement of the internship period. It is expected that the internship experience will be at a level in the organization which will enable the student to deal with broadly based problems affecting more than one facet of the organization, rather than a single narrow or specific technical problem. The student is responsible for identifying and arranging a suitable internship. Specific arrangements for the internship will be made through the student's major department, and an internship agreement must be negotiated between the student and the advisory committee, and the internship supervisor and appropriate representatives of the industrial organization. Copies of all agreements must be approved by the College of Engineering.

99-Hour and 7-Year Cap on Doctoral Degrees

On-Campus and Distance Education Degree Programs

In Texas, public colleges and universities are funded by the state according to the number of students enrolled. In accordance with legislation passed by the Texas Legislature, the number of hours for which state universities may receive subvention funding at the doctoral rate for any individual is limited to 99 hours. Texas A&M and other universities will not receive subvention for hours in excess of the limit.

Institutions of higher education are allowed to charge the equivalent of non-resident tuition to a resident doctoral student who has enrolled in 100 or more semester credit hours of doctoral coursework.

Doctoral students at Texas A&M have seven years to complete their degree before being charged out-of-state tuition. A doctoral student who, after seven years of study, has accumulated 100 or more doctoral hours will be charged tuition at a rate equivalent to out-of-state tuition. Please note that the tuition increases will apply to Texas residents as well as students from other states and countries who are currently charged tuition at the resident rate. This includes those doctoral students who hold GAT, GANT, and GAR appointments or recipients of competitive fellowships who receive more than $1,000 per semester. Doctoral students who have not accumulated 100 hours after seven years of study are eligible to pay in-state tuition if otherwise eligible.

Doctoral students who exceed the credit limit will receive notification from the Graduate and Professional School during the semester in which they are enrolled and exceeding the limit in their current degree program. The notification will explain that the State of Texas does not provide funding for any additional hours in which a student is enrolled in excess of 99 hours. Texas A&M University will recover the lost funds by requiring students in excess of 99 hours to pay tuition at the non-funded, non-resident rate. This non-funded, non-resident tuition rate status will be updated for the following semester and in all subsequent semesters until receipt of a doctoral degree. Please see the Tuition Calculator (https://tuition.tamu.edu/) at the non-resident rate for an example of potential charges.

The following majors are exempt from the 99-Hour Cap on Doctoral Degrees and have a limit of 130 doctoral hours:

- Biochemistry and Molecular Biophysics
- Biomedical Sciences
- Clinical Psychology
- Counseling Psychology
- Epidemiology and Environmental Health
- Genetics and Genomics
- Health Services Research
- Medical Sciences
- Microbiology
- Neurosciences (College of Medicine)
- Nutrition
- Oral and Craniofacial Biomedical Sciences
- Pharmaceutical Sciences
- Public Health Sciences
- School Psychology
- Toxicology

Application for Degree

On-Campus and Distance Education Degree Programs

For information on applying for your degree, please visit the Graduation (https://catalog.tamu.edu/graduate/academic-expectations-general-degree-requirements/#degreerequirementstext) section.