

INTERDISCIPLINARY ENGINEERING - 6-YEAR BACHELOR OF SCIENCE AND JURIS DOCTOR

The College of Engineering and School of Law offer a combination degree program leading to the BS in Interdisciplinary Engineering (ITDE) and Juris Doctor (JD) degrees. This program is structured to allow students to complete it in six academic years, reducing the typical time to completion for sequential degrees by one year.

This combined degree program educates students in engineering and technology as a precursor to studies and practice in the law. Areas of legal practice that require advanced understanding of the engineering and technology development process include patents and intellectual property law, environmental law, and workplace health and safety law, among others. This program allows a streamlining of studies with mutual reinforcement of the respective degree disciplines.

Students who enroll in the combined program complete their first three academic years at the College of Engineering on the College Station campus. Upon the conclusion of the spring semester of the third year, students begin coursework in the School of Law for the fourth and fifth academic years in Fort Worth. For the sixth and final year, students have their primary curricula with the School of Law with coursework taken from both the School of Law and the College of Engineering, and courses are taken on the College Station campus. Students must complete all curriculum requirements and all additional graduation requirements published in the applicable undergraduate and graduate catalogs for the BS-ITDE degree and the JD degree.

Students interested in this combined program are strongly advised to meet with an academic advisor in the BS in Interdisciplinary Engineering program as early as possible to understand issues related to admission to both the BS and JD programs, course scheduling, minimum academic performance standards, and others. Admission to the BS degree program does not guarantee admission to the JD portion, and students must apply to the School of Law in the third academic year in order to begin law studies in the fourth academic year.

Program Requirements

The freshman year is identical for degrees in aerospace engineering, architectural engineering, civil engineering, computer engineering, computer science, electrical engineering, electronic systems engineering technology, environmental engineering, industrial distribution, industrial engineering, interdisciplinary engineering, manufacturing and mechanical engineering technology, mechanical engineering, multidisciplinary engineering technology, nuclear engineering, ocean engineering, and petroleum engineering (Note: not all programs listed are offered in Qatar). The freshman year is slightly different for chemical engineering, biomedical engineering and materials science and engineering degrees in that students take CHEM 119 or CHEM 107/CHEM 117 and CHEM 120.

Students pursuing degrees in biological and agricultural engineering should refer to the specific curriculum for this major. It is recognized that many students will change the sequence and number of courses taken in any semester. Deviations from the prescribed course sequence, however,

should be made with care to ensure that prerequisites for all courses are met.

| First Year | | Semester |
|---|--|--------------|
| Fall | | Credit Hours |
| CHEM 107 | General Chemistry for Engineering Students ^{1,4} | 3 |
| CHEM 117 | General Chemistry for Engineering Students Laboratory ^{1,4} | 1 |
| ENGL 103 or ENGL 104 | Introduction to Rhetoric and Composition ¹ or Composition and Rhetoric | 3 |
| ENGR 102 | Engineering Lab I - Computation ¹ | 2 |
| MATH 151 | Engineering Mathematics I ^{1,2} | 4 |
| University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ³ | | 3 |
| Semester Credit Hours | | 16 |
| Spring | | |
| ENGR 216/ PHYS 216 | Experimental Physics and Engineering Lab II - Mechanics ¹ | 2 |
| MATH 152 | Engineering Mathematics II ¹ | 4 |
| PHYS 206 | Newtonian Mechanics for Engineering and Science ¹ | 3 |
| University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ³ | | 3 |
| Select one of the following: | | 3-4 |
| CHEM 120 | Fundamentals of Chemistry II ⁴ | |
| University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ^{3,5} | | |
| Semester Credit Hours | | 15-16 |
| Total Semester Credit Hours | | 31-32 |

¹ A grade of C or better is required.

² Entering students will be given a math placement exam. Test results will be used in selecting the appropriate starting course which may be at a higher or lower level.

³ Of the 21 hours shown as University Core Curriculum electives, 3 must be from creative arts, 3 from social and behavioral sciences (see IDIS curriculum for more information), 3 from language, philosophy and culture (see CVEN, EVEN and PETE curriculum for more information), 6 from American history and 6 from government/political science. The required 3 hours of international and cultural diversity and 3 hours of cultural discourse may be met by courses satisfying the creative arts, social and behavioral sciences, language, philosophy and culture, and American history requirements if they are also on the approved list of international and cultural diversity (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/>) courses and cultural discourse (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/>) courses.

⁴ BMEN, CHEN and MSEN require 8 hours of freshman chemistry, which may be satisfied by CHEM 119 or CHEM 107/CHEM 117 and CHEM 120; Credit by Examination (CBE) for CHEM 119 plus CHEM 120; or 8 hours of CBE for CHEM 119 and CHEM 120. BMEN, CHEN and MSEN should take CHEM 120 second semester freshman year. CHEM 120 will substitute for CHEM 107/CHEM 117.

⁵ For BS-PETE, allocate 3 hours to core communications course (ENGL 210, COMM 203, COMM 205, or COMM 243) and/or 3 hours to UCC elective. For BS-MEEN, allocate 3 hours to core communications course (ENGL 203, ENGL 210, or COMM 205) and/or 3 hours to UCC elective.

Second Year

| Fall | | Semester Credit Hours |
|--------------------------------------|---|-----------------------|
| COMM 205 or ENGL 210 | Communication for Technical Professions or Technical and Business Writing | 3 |
| ENGR 217/PHYS 217 | Experimental Physics and Engineering Lab III - Electricity and Magnetism ¹ | 2 |
| ITDE 201 | Foundations of Interdisciplinary Engineering ¹ | 1 |
| MATH 251 | Engineering Mathematics III ¹ | 3 |
| PHYS 207 | Electricity and Magnetism for Engineering and Science ¹ | 3 |
| Math/Science Elective ^{1,7} | | 3 |
| Technical Electives ^{1,6} | | 3 |
| Semester Credit Hours | | 18 |

| Spring | | Semester Credit Hours |
|---|-------------------------------------|-----------------------|
| MATH 308 | Differential Equations ¹ | 3 |
| University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ³ | | 6 |
| Technical Electives ^{1,6} | | 9 |
| Semester Credit Hours | | 18 |

| Summer | | Semester Credit Hours |
|-----------------------|--|-----------------------|
| ITDE 399 | High Impact Experience for Interdisciplinary Engineers | 0 |
| Semester Credit Hours | | 0 |

Third Year

| Fall | | Semester Credit Hours |
|---|---|-----------------------|
| Select one of the following: | | 3 |
| MATH 304 | Linear Algebra ¹ | |
| MATH 311 | Topics in Applied Mathematics I ¹ | |
| MATH 323 | Linear Algebra ¹ | |
| MATH 401 | Advanced Engineering Mathematics ¹ | |
| University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ³ | | 3 |
| Technical electives ^{1,6} | | 10 |
| Semester Credit Hours | | 16 |

| Spring | | Semester Credit Hours |
|---|--|-----------------------|
| University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ³ | | 3 |

| | | |
|------------------------------------|----|----|
| Technical electives ^{1,6} | 12 | |
| Semester Credit Hours | | 15 |

Fourth Year

| Fall | | Semester Credit Hours |
|-----------------------|-----------------------------------|-----------------------|
| LAW 7001 | Analysis, Research, and Writing I | 3 |
| LAW 7005 | Civil Procedure | 4 |
| LAW 7042 | Torts | 4 |
| LAW 7110 | Professional Identity | 0.5 |
| LAW 7418 | Legislation and Regulation | 3 |
| Semester Credit Hours | | 14.5 |

Spring

| | | |
|-----------------------|---------------------------------------|------|
| LAW 7002 | Analysis, Research, and Writing II | 3 |
| LAW 7007 | Alternative Dispute Resolution Survey | 1 |
| LAW 7017 | Contracts | 4 |
| LAW 7021 | Criminal Law | 3 |
| LAW 7032 | Property | 4 |
| LAW 7110 | Professional Identity | 0.5 |
| Semester Credit Hours | | 15.5 |

Fifth Year

| Fall | | Semester Credit Hours |
|--|-----------------------------|-----------------------|
| LAW 7010 | Constitutional Law | 4 |
| LAW 7091 | Professional Responsibility | 3 |
| Upper level LAW electives ^{8,9} | | 8 |
| Semester Credit Hours | | 15 |

Spring

| | | |
|--|----|----|
| Upper level LAW electives ^{8,9} | 15 | |
| Semester Credit Hours | | 15 |

Sixth Year

| Fall | | Semester Credit Hours |
|---|--|-----------------------|
| ENGR 401 | Interdisciplinary Design ^{1,10} | 3 |
| Technical Electives ^{1,6,10} | | 3 |
| Upper level LAW electives ^{8,9,10} | | 9 |
| Semester Credit Hours | | 15 |

Spring

| | | |
|---|---|----|
| ENGR 402 | Interdisciplinary Design II ^{1,10} | 3 |
| ITDE 499 | Degree Plan Approval for ITDE | 0 |
| Technical Electives ^{1,6,10} | | 3 |
| Upper level LAW electives ^{8,9,10} | | 9 |
| Semester Credit Hours | | 15 |

| | | |
|-----------------------------|--|-----|
| Total Semester Credit Hours | | 157 |
|-----------------------------|--|-----|

⁶ A total of 40 semester credit hours of technical electives are required. To be selected in consultation with ITDE advisor.

⁷ Select from the following courses: ASTR 314; ATMO 363; BIOL 111, BIOL 113; CHEM 222, CHEM 227, CHEM 310, CHEM 311, CHEM 315, CHEM 316, CHEM 318, CHEM 322; GEOL 101,

⁸ Students must successfully complete a minimum of six credit hours in one or more upper-level experiential courses. As part of the six credit hours, the student must successfully complete an approved externship or a clinic that involves advising or representing one or more actual clients or serving as a third-party neutral. An experiential course must be a simulation course, a law clinic, or a field placement.

⁹ One LARW III course is required.

¹⁰ Courses taken for credit for both the undergraduate and professional degree for a combined total of 30 semester credit hours: ENGR 401, ENGR 402, 6 semester credit hours of technical electives, and 18 semester credit hours of upper level LAW electives. All double-counted elective courses are to be selected in consultation with both ITDE and LAW advisors.

The combined program includes a total of 188 semester credit hours, which includes 30 semester credit hours applied both to the Bachelor of Science in Interdisciplinary Engineering and Juris Doctor degrees.

The JD degree is conferred on students who satisfactorily complete the program with a cumulative grade point average of 2.33 or better in LAW classes. In addition, each student must complete an upper-level rigorous writing requirement, a six-hour experiential requirement, and a 30-hour *pro bono* requirement. Students must complete their degree requirements within 72 months of starting law school, which occurs at the start of the fourth year of this combined program.

Total Semester Credit Hours for Combination Program 188