



TEXAS A&M
UNIVERSITY *at* QATAR

CHEMICAL ENGINEERING PROGRAM

Chemical Engineering Graduate Student Handbook Texas A&M University at Qatar

Revised & Approved
CHEN Faculty
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It's Time to Engineer a World of Difference.

Introduction

Welcome to the Chemical Engineering Program at Texas A&M University at Qatar. We are delighted that you have chosen to pursue a graduate degree in this Program. Both the University and the Program have requirements that you must satisfy to complete your degree. The purpose of this handbook is to provide information about specific additional requirements as outlined by the Chemical Engineering Program and includes procedures and policies of the program. For further details please refer to the Texas A&M University Graduate Catalog.

For further information on the graduate program and admissions please go to the following website:
<http://www.qatar.tamu.edu/academics/graduate-studies/>

Degree Requirements

The general requirements outlined by Texas A&M University for the various graduate degrees appear in the Graduate Catalog, which also provides an excellent summary of the major steps required to fulfill the requirements for each degree. You should obtain a copy of the Graduate Catalog and become familiar with the requirements for your degree.

The two graduate degrees administered by the Chemical Engineering Program at Texas A&M University at Qatar are the Master of Science and the Master of Engineering. The following sections describe the requirements for each of these degrees in more detail. A Degree Plan, which specifies formally the exact courses required and the Advisory Committee for each student, is prepared by the student, in consultation with the Chair of his/her Advisory Committee. In this Graduate Student Handbook, a “term” is defined as a semester (e.g. fall or spring term) or a full summer.

For all of the degree plans listed below, students must demonstrate minimum scholarship standards to remain in the graduate program. Thus a student who falls below a 3.0 GPR has one academic semester to bring their GPR above this value. Failure to do that will result in dismissal from the graduate program. Similarly, a grade below C in any course will result in dismissal from the graduate program.

Other Degree Majors

Students whose undergraduate degrees are not in chemical engineering may need to take selected undergraduate classes in the Chemical Engineering Program and possibly additional chemistry and mathematics courses depending upon their background.

Examples of classes that some students have taken in the past are CHEN 204, 205, 304, 354, 424, and 464.

These undergraduate classes provide skills needed for graduate-level classes. Success in graduate-level classes typically requires competence in at least four out of the following five areas: chemistry, mathematics, thermodynamics, kinetics/reactions, and transport phenomena.

Master of Science (MS) Degree

The Master of Science requires a minimum of 32 semester credit hours of approved courses and research. Of those hours, a minimum of 28 credit hours must be formal course work (required courses and electives) and at least eight credit hour of CHEN 691:

Research needs to be included in the degree plan.

The following are the required 15 hours of courses that all MS students must complete:

- CHEN 601: Chemical Engineering Laboratory Safety and Health (1)
- CHEN 604: Chemical Engineering Process Analysis (3)
- CHEN 623: Applications of Thermodynamics to Chemical Engineering (3)
- CHEN 624: Chemical Engineering Kinetics and Reactor Design (3)
- CHEN 629: Transport Phenomena (3)
- CHEN 681: Seminar (2)

Total Credits: 15 “core” credits

The remaining 9 credit hours of formal course work (typically three courses) are subject to the following restrictions:

- The electives must be formal graduate-level courses and should be approved by the Graduate Advisor. Only technical (science or Engineering) courses can satisfy these requirements. In special cases, up to three credit hours of advanced undergraduate level courses may be included.
- At least three hours of credit must be for courses taken outside the Department of Chemical Engineering.
- Graduate courses completed at other institutions and passed with a grade of B or better may be used towards satisfying the departmental electives. With approval of the Graduate Advisor, up to nine credit hours may be transferred from other institutions. These courses cannot have been used towards another degree.
- Graduate courses cannot be retaken for credit.

The Eight remaining credit hours normally are CHEN 691: Research, but other options may be chosen, subject to the approval of the Graduate Advisor and the student's Advisory Committee. At least one credit hour of CHEN 691: Research must be included in the degree plan.

Fig 1: Typical Degree Plan

COURSE	CREDIT HOURS
CHEN 601 Chemical Engineering Laboratory Safety and Health	1
CHEN 604 Chemical Engineering Process Analysis	3
CHEN 623 Applications of Thermodynamics to Chemical Engineering	3
CHEN 624 Chemical Engineering Kinetics and Reactor Design	3
CHEN 629 Transport Phenomena	3
Graduate Technical Elective (Chemical Engineering)	3
Graduate Technical Elective (Chemical Engineering)	3
Graduate Technical Elective (Non - Chemical Engineering)	3
CHEN 681 Seminar	1
CHEN 681 Seminar	1
CHEN 691 Research	8
TOTAL	32

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MS candidates must present the results of their research in a seminar open to the public, as part of their Final Examination. The Final Examination cannot be waived.

Steps for Completing an MS Degree in Chemical Engineering at Texas A&M University

Students must follow these steps for completing an MS Degree:

1. Select a research advisor by the end of the student's first term at Texas A&M University at Qatar
2. File the degree plan by the end of the student's second semester (two terms) at Texas A&M University at Qatar.
3. Complete the Thesis Proposal, finish the thesis, and pass the final examination.
4. File the thesis and follow the check-out procedure (see the Graduate Program Coordinator for a check-out form).

Continuation into the PhD program.

A student who wishes to continue into the PhD program after completing a MS must as a minimum, meet the following criteria:

1. The student must have at least a 3.0 GPA in the four "core" graduate courses (CHEN 604, CHEN 623, CHEN 624, and CHEN 629).
2. The student must take and pass the proficiency exams as outlined above.

In addition to these criteria the student's committee must submit a memorandum to the Associate Head for Graduate Programs evaluating the student's request provided criteria 1 and 2 above are satisfied. Also, students who complete the MS degree and continue on into the PhD program have to take at least one CHEN graduate elective for credit after switching from the MS to PhD program. This is in order to have an official GPA for their PhD work, per the requirements of the Office of Graduate Studies.

Master of Engineering (MEng) Degree

The Master of Engineering degree requires a minimum of 30 semester credit hours of approved courses. Of those hours, a minimum of 26 credit hours must be formal course work. These formal courses are classified into two categories: required courses and electives.

The following are the required 14 hours of courses that all MEng students must complete:

- CHEN 604: Chemical Engineering Process Analysis (3)
- CHEN 623: Applications of Thermodynamics to Chemical Engineering (3)
- CHEN 624: Chemical Engineering Kinetics and Reactor Design (3)
- CHEN 629: Transport Phenomena (3)
- CHEN 681: Seminar (2)

Total Credits: 14 “core” credits

The remaining 16 credit hours are subject to the following restrictions:

- The electives must be formal graduate-level courses and should be approved by the Graduate Advisor. In special cases, up to three credit hours of advanced undergraduate level courses may be included.
- At least three hours of credit must be for courses taken outside the Department of Chemical Engineering.
- Graduate courses completed at other institutions and passed with a grade of B or better may be used towards satisfying the departmental electives. With approval of the Graduate Advisor, up to nine credit hours may be transferred from other institutions. These courses cannot have been used towards another degree. Only technical (science or engineering) courses can satisfy these requirements.
- Graduate courses cannot be retaken for credit.
- The electives courses are usually technical (Science or engineering) courses, however, one alternative for the MEng degree is to take the appropriate classes for obtaining a business certificate (ACCT 640 Accounting Concepts and Procedures; FINC 635 Financial Management for Non Business; MGMT 655 Survey of Management; MKTG 621 Survey of Marketing).
- No more than six credit hours are allowed for any combination of CHEN 685: Directed Studies and/or CHEN 684: Professional Internship.

Fig 2: Typical MEng Degree Plan

COURSE	CREDIT HOURS
CHEN 604 Chemical Engineering Process Analysis	3
CHEN 623 Applications of Thermodynamics to Chemical Engineering	3
CHEN 624 Chemical Engineering Kinetics and Reactor Design	3
CHEN 629 Transport Phenomena	3
Graduate Technical Elective (Chemical Engineering)	3
Graduate Technical Elective (Chemical Engineering)	3
Graduate Technical Elective (Chemical Engineering)	3
Graduate Technical Elective (Non - Chemical Engineering)	3
CHEN 681 Seminar	1
CHEN 681 Seminar	1
CHEN 685 Directed Studies	4
TOTAL	30

Degree Plan

Students must file their degree plans by the end of the first calendar year that they have been at Texas A&M University. The degree plans are submitted electronically through the Office of Graduate Studies website at <http://ogs.tamu.edu>.

The procedure to file your plan is to access the degree plan link at <http://ogsdps.tamu.edu>.

After you have audited your degree plan and submitted it for approval, the committee and Program will approve the plan electronically. Once approved by the Program it will be forwarded to the Office of Graduate Studies for final approval.

Courses used at another university toward a previous degree cannot be put in the degree plan to satisfy requirements for a degree.

Advisory Committees

The responsibility for guiding and directing the entire academic program of a graduate student lies with the student's Advisory Committee. Committees for Master of Science degree consist of at least three members of the Graduate Faculty, two from within the program and one from outside the program. All these committee members must be members of the Graduate Faculty at Texas A&M University in Qatar. It is possible include other members of the Graduate Faculty in the Advisory Committee, e.g., faculty members at other institutions, researchers in industry, faculty at TAMU-College Station, etc., however, this has to be done in addition to the minimum committee requirements mentioned above. Additional details about the Advisory Committee appear in the Graduate Catalog for each graduate degree.