



Artie McFerrin Department of Chemical Engineering

**Dwight Look College of Engineering**

Texas A&M University

Jack E. Brown Engineering Bldg.

3122 TAMU

College Station, TX 77843-3122

Phone: (979) 845-3361; Fax: (979) 845-6446; E-mail: [che@tamu.edu](mailto:che@tamu.edu)

<http://engineering.tamu.edu/chemical>

# **Graduate Student Handbook**

**Artie McFerrin Department of Chemical Engineering**

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**Texas A&M University**

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## **Introduction**

Welcome to the Artie McFerrin Department of Chemical Engineering at Texas A&M University. We are delighted that you have chosen to pursue a graduate degree in this department. Both the University and the Department have requirements that you must satisfy to complete your degree. The requirements imposed by Texas A&M University appear in the Graduate Catalog. The purpose of this handbook is to provide information about specific additional requirements imposed by the Artie McFerrin Department of Chemical Engineering and about other procedures and policies of the department.

## **Degree Requirements**

The general requirements imposed 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 Artie McFerrin Department of Chemical Engineering requirements, which are in addition to those of the university, appear in this handbook.

The primary graduate degrees administered by the Artie McFerrin Department of Chemical Engineering are the Doctor of Philosophy, the Master of Science, and the Master of Engineering. In addition, the Dwight Look College of Engineering administers the Doctor of Engineering degree with Chemical Engineering as a subject area. 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 the 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 and satisfactory academic progress 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 3.0. Failure to do that will result in dismissal from the graduate program. A grade below C in any core course will result in dismissal from the graduate program.

## **Science Majors Program**

Students whose undergraduate degree is not in chemical engineering will need to take selected undergraduate chemical engineering classes depending upon their background. Examples of classes that some students have taken in the past are CHEN 205 (Thermodynamics I), 304 (Fluid Mechanics), 323 (Heat Transfer), 354 (Thermodynamics II), 424 (Mass Transfer), and 464 (Chemical Kinetics). These undergraduate classes provide the background needed for graduate-level classes. The classes needed for each student will be identified by the Graduate Program Director. The student needs to maintain a GPA of 3.3 in these classes to continue in the graduate program.

## Graduate Degrees Offered By the Department

### Doctorate of Philosophy (PhD) Degree

The PhD requires 96 hours beyond a baccalaureate degree or sixty four hours beyond a master's degree. These totals include a significant amount of credit for research (CHEN 691). The specific course requirements imposed by the Department of Chemical Engineering are that a PhD student must complete a minimum of 29 hours of formal course work beyond the baccalaureate degree. These formal courses are classified into two categories: required courses and electives.

The following are the required 17 hours of courses that all PhD 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 601: Chemical Engineering Laboratory Safety and Health (1)
- CHEN 681: Seminar (2)
- CHEN 695 and CHEN 696: Graduate Mentoring Seminar (2)

### Total Credits: 17 “core” credits

The remaining 12 credit hours of formal course work (typically four, three-credit courses) are subject to the following restrictions:

- The electives must be formal graduate-level courses and should be approved by the Graduate Program Director. 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 nine hours of credit must be for courses taken within 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 Program Director, 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.
- Students must register for CHEN 681 Seminar in all the semesters they are on campus. However, only two credits will be counted towards their 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 1	3
Graduate Technical Elective 2	3
Graduate Technical Elective 3	3
Graduate Technical Elective 4	3
CHEN 601: Chemical Engineering Laboratory Safety and Health	1
CHEN 681: Seminar	1
CHEN 681: Seminar	1
CHEN 695: Graduate Mentoring Seminar I	1
CHEN 696: Graduate Mentoring Seminar II	1
CHEN 691: Research	67
<b>Total</b>	<b>96</b>

**Typical PhD degree plan**

The remainder of the credit hours (usually 67 hours) will be CHEN 691: Research.

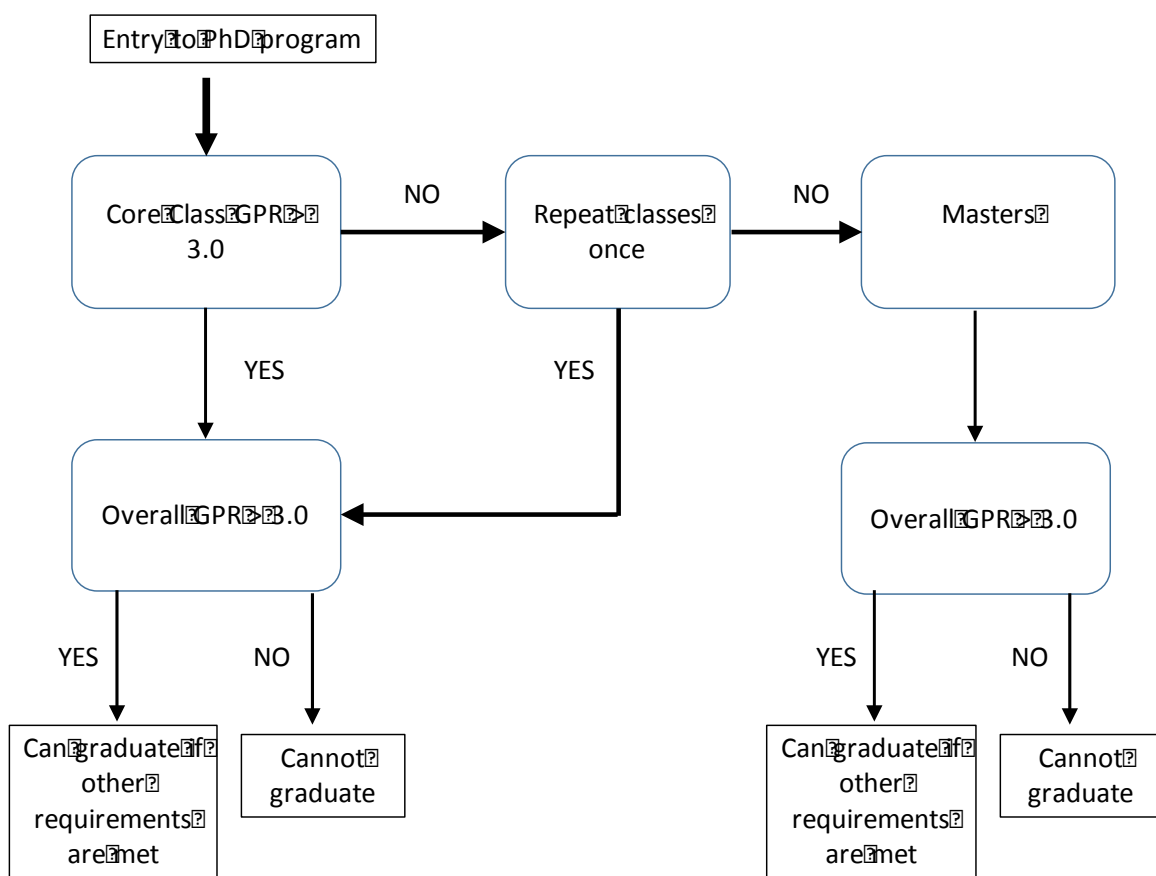
Students who enter the PhD program with a BS must spend a minimum of two academic years in resident study. Students who enter the PhD program with a master's degree must spend a minimum of one academic year (2 adjacent terms) in resident study. To satisfy the continuous residence requirement, the student must complete a minimum of 9 credit hours per semester or 6 credit hours for a 10-week summer semester.

#### **Steps for Completing a PhD Degree in Chemical Engineering at Texas A&M University**

1. Select a research advisor by the end of the student's first term at Texas A&M. A "term" is a semester or a full summer.
2. Complete the Proficiency exam satisfactorily in the first year (details appear later in this Handbook).
3. File a degree plan by the end of Year 1 at Texas A&M. This step is necessary to continue receiving financial aid beyond three terms at Texas A&M.
4. Form a dissertation committee and hold a committee meeting by the end of year 2.
5. Pass the Preliminary Exam and submit a Research Proposal to the Office of Graduate and Professional Studies by the end of Year 3. If the student fails to meet these time limits, he/she must request permission from the Graduate Program Director or Department Head to continue receiving financial aid.
6. Schedule annual committee meetings, including between the completion of the Preliminary Exam and the final defense examination. A minimum of three members of the PhD dissertation committee should be present for these meetings.
7. Satisfy the Departmental presentation criterion. In addition to presenting at national meetings (e.g., AIChE), students can present in the Spring poster presentation event, or in the Graduate Student Association research symposium to meet this requirement.
8. Satisfy the Departmental Publication Criterion (details appear later in this Handbook).
9. Write a dissertation, pass the final oral defense examination, and follow check-out procedures (see the Graduate Program Specialist for a check-out form).

#### **GPR Requirements**

PhD students are required to have a GPR of 3.0 in the four core classes. Students who do not meet this criterion will transfer to the Master of Science or Engineering program. A student who falls below a 3.0 GPR has one academic semester to bring their GPR above 3.0. Failure to do that will result in dismissal from the graduate program. A chart of the key GPA requirements is shown below.



### Departmental Doctoral Proficiency Examination

The purpose of the Chemical Engineering Doctoral Proficiency Examination is to determine the student's qualifications for a PhD degree, determined on the basis of the student to demonstrate competency in a common body of knowledge.

The proficiency exam will consist of an oral (30 min) exam. As part of this exam, they will choose a paper and critique it for 15 min, followed by open-ended questions on the paper/topic and chemical engineering fundamentals for 15 min. Students will select a paper out of a pool containing 20-25 papers on different topics (to be selected by the graduate committee). The papers will be on core chemical engineering subjects and will be selected from Journals such as AIChE Journal, IECR Research, J Heat Transfer, Soft Matter, Journal of Fluids, J Applied Physics, etc. Students will have to present on the paper they select and will not have the option of returning it to the pile and picking a different paper. Students will select their paper before the holidays start in December and will have ~ 4 weeks to prepare for the exam.

A committee of 3 faculty members will administer the exam. Multiple exam committees will be formed and exams will be held in parallel throughout the day. The committee will

discuss and assign each student a Pass/Fail grade. A majority of “Pass” among the committee members is required. Students will have two chances to pass the proficiency exam. If necessary, a second round of exams will be held later in the Spring semester. It is expected that all students will complete the proficiency exam by the end of the 2<sup>nd</sup> semester in the program. If students fail to pass the proficiency exam after two attempts, they will change their degree to MS or a MEng.

#### ***Doctoral Proficiency Examination Timing***

The proficiency exams will be administered once every year in January. All PhD students are expected to take this at the end of their first semester in residency.

#### ***Process for Students Who Do Not Pass the Proficiency Examination***

Students who fail the proficiency exam must retake and pass the exam in the same semester. Students who fail the proficiency exam in two consecutive sittings will transfer to the Master of Science or Engineering program. These students will be given the option of reentering the PhD program after successful completion of a Master degree and based on the recommendation of the MS thesis committee.

#### **Dissertation Committee Meetings**

All PhD students are required to meeting annually with their dissertation committee. Meetings should take place between September 1<sup>st</sup> and May 1<sup>st</sup>. Students will make a short presentation on progress in their research project and towards their degree requirements. The duration of the meeting and any additional requirements will be determined by the committee chair (i.e., the PhD advisor). At the end of the meeting, the student and the committee members will complete a mandatory annual evaluation form.

#### **Departmental Publication Criterion**

As a means to encourage and foster scholarship, the department has implemented the following minimum Publication Criterion for PhD students: At the time of the thesis defense **two** papers should be accepted/in press/in print.

#### **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 25 credit hours must be formal course work (required courses and electives) and at least one 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)
- CHEN 696: Graduate Mentoring Seminar (1) (only offered in Fall)



## **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 Program Director. 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 six hours of credit must be for courses taken within 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 Program Director, up to nine credit hours may be transferred from other institutions. These courses cannot have been used towards another degree.
- Students must register for CHEN 681 Seminar in all the semesters they are on campus. However, only two credits will be counted towards their degree plan.
- Graduate courses cannot be retaken for credit.

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 1	3
Graduate Technical Elective 2	3
Graduate Technical Elective 3	3
CHEN 681: Seminar	1
CHEN 681: Seminar	1
CHEN 696: Graduate Mentoring Seminar	1
CHEN 691: Research	7
<b>Total</b>	<b>32</b>

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

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.
2. File the degree plan by the end of the student's second semester (two terms) at Texas A&M.
3. Complete the Thesis Proposal, finish the thesis, and pass the final examination. 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 submit all required documents by October 1<sup>st</sup> (Spring Admission) or December 1<sup>st</sup> (Fall Admission) prior to graduation. Required documents

are: Letter of Intent, Personal statement, and 3 Letters of Recommendation. Note that MS students cannot transfer into the PhD program and must complete their current degree program prior to entering the PhD program.

Students who complete the MS degree and continue on into the PhD program must take at least one graded CHEN graduate elective. This is per the requirements of the Office of Graduate and Professional Studies, and is required to have an official GPA for their PhD work, Note that the PhD advisor and dissertation committee can suggest additional classes for the student based on the PhD project and the student's background. In addition, the student must complete other degree requirements for the PhD program (CHEN 695, presentation and publication requirement).

### 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 15 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)
- CHEN 696: Graduate Mentoring Seminar (1) (Only offered in Fall)

### Total Credits: 15 "core" credits

The remaining 15 credit hours are subject to the following restrictions:

- The electives must be formal graduate-level courses and should be approved by the Graduate Program Director. In special cases, up to three credit hours of advanced undergraduate level courses may be included.
- At least nine hours of credit must be for courses taken within 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 Program Director, 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)

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 1	3
Graduate Technical Elective 2	3
Graduate Technical Elective 3	3
Graduate Technical Elective 4	3
CHEN 681: Seminar	1
CHEN 681: Seminar	1
CHEN 696: Graduate Mentoring Seminar	1
CHEN 685: Directed Studies	3
<b>Total</b>	<b>30</b>

courses can satisfy these requirements.

- Students must register for CHEN 681 Seminar in all the semesters they are on campus. However, only two credits will be counted towards their degree plan.
- Graduate courses cannot be retaken for credit.
  - The elective 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).

Any combination of CHEN 685: Directed Studies and/or CHEN 684: Professional Internship can be used instead of CHEN 685.

### **Doctorate of Engineering (DEng) Degree**

The Dwight Look College of Engineering administers the Doctorate of Engineering degree. The degree requires 96 hours beyond the baccalaureate or 64 hours beyond a master's degree. Additional details about this program may be obtained from the Graduate Catalog.

#### **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 and Professional Studies website. The procedure to file a plan can be initiated by going to <http://ogsdps.tamu.edu>. After entering and submitting a degree plan for approval, the committee and department will review the degree plan and approve the plan electronically. Once approved by the department it will be electronically forwarded to the Office of Graduate and Professional 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. Master's level committees consist of at least three members of the Graduate Faculty, two from within the department and one from outside the department. Doctoral level committees consist of at least four members of the Graduate Faculty, three from within the department and one from outside the department. All these committee members must be members of the Graduate Faculty at Texas A&M University in College Station. It is possible to include other members of the Graduate Faculty in the Advisory Committee, e.g., faculty members at other institutions, researchers in industry or at national labs, faculty at TAMUQ, 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.

## **Selection of Advisory Committee Members**

Selection of Research Advisor. Advisor selection will be held in the Fall semester for students who are not pre-assigned to a research group at the time of admission. The procedure for this is outlined in the timeline below for the case of students entering in the Fall academic semester.

- Graduate Student Orientation: The Director of the Graduate Program gives students a general overview of the advisor selection process; students receive packet of abstracts outlining PhD and MS projects available.
- First week of class: students begin attending research seminars. There are six 30 min slots each week for faculty to give talks to the students. These generally take place for 2-3 weeks, depending on how many faculty need to present.
- Third to Sixth week of class: students will be required to submit their choices for advisor selection to the Graduate Program Director.

It is essential that the students carefully consider all options when picking a faculty advisor. As part of the advisor selection process, all students must speak with **at least five faculty** members who are recruiting students during that academic year and all students must speak to any junior faculty member seeking to recruit their first two PhD students. Students will be given forms to have the faculty sign verifying that they have spoken. Beyond these specific requirements, the students are encouraged to meet with all faculty members. This is a unique opportunity for both the new graduate students and faculty to become acquainted with one another and to help build ties and communication between the students and faculty.

In the week after submission of the student lists, the Department Head, in consultation with the Graduate Program Director and the faculty, will assign students. Assignments will be made taking into account student choices, faculty choices, availability of funds, and other Departmental requirements. In the event that not all students are successfully paired with an advisor, the unassigned students will be asked to submit a second list of faculty with openings. The remaining students will then be assigned based on consultations between the Department Head, Graduate Program Director, and relevant faculty (i.e. those with funded openings not filled in the first round).

**The selection of a research advisor is the most important decision a graduate student will make and should not be taken lightly.** Ultimate responsibility for finding a research advisor lies with the student. Changing advisors can not only adversely impact the student, but can hurt the research program of the advisor and other students who may have wanted to join that group but were unable. Once an advisor selection has been made, the Graduate Program Director must approve a change of advisor. Unless there is cause, such as misconduct or loss of funding, such requests will not likely be granted.

If you are having problems with your research, speak first to your advisor honestly and openly. If you do not feel comfortable doing this, then speak to the Graduate Program Director about the situation in your research group.

Selection of Committee Members. After the student has a Research Advisor (who also serves as the Committee Chair), the student and the Advisory Committee Chair jointly select the remaining members of the Advisory Committee, subject to the stipulations given in the Graduate Catalog. More than the minimum number of committee members may be appointed. The membership of the Advisory Committee is established formally by submitting the degree plan to the Associate Head for Graduate Programs of the Department for verification that departmental requirements are met, and then it is passed to and signed by the Department Head before submission to the Office of Graduate and Professional Studies. Degree plans should be submitted no later than one year after first enrollment. Additional information about the degree plan is available in the Graduate Catalog.

## **Major Examinations**

Several major examinations are required of candidates for the various graduate degrees. MS candidates must pass a Final Examination. PhD candidates must pass the Departmental Doctoral Proficiency Examination (described earlier), a Preliminary Examination, and a Final Examination. Please refer to the Graduate Catalog for additional requirements and stipulations regarding the Preliminary and Final Examinations.

### **Preliminary Examination**

The Graduate Catalog completely describes this examination. Note that the examination must have both written and oral portions. The proper procedure for scheduling the oral portion of this examination is for a student to contact each member of his/her Advisory Committee to set a time, date, and place for the examination. The Advisory Committee Chair and the student will complete the Preliminary Examination Checklist, obtaining any additional signatures that may be required. Note that the Degree Plan must be approved at least 90 days before the Preliminary Examination.

### **Final Examination**

The Graduate Catalog describes this examination for PhD and MS. For candidates in the Department of Chemical Engineering, the examination is oral, and a portion of the examination consists of the presentation of the results of the thesis research in a departmental seminar. Final Examinations cannot be waived for PhD and MS students in the Department of Chemical Engineering.

The proper procedure for scheduling the Final Examination is for the student to contact the members of the committee to establish an acceptable date and time for the examination. The graduate student prepares a *Request for Final Exam* form located at the Office of Graduate and Professional Studies website. After completing the form, the Committee Chair and the Department Head sign it, and it should be returned to the Graduate Program Specialist. The Graduate Program Specialist forwards the form to the Office of Graduate and Professional Studies and sends copies to the Advisory Committee announcing and confirming the date, time, and place of the examination. Advisory Committee members should be contacted well in advance of the anticipated examination date to determine when they want review the thesis.

## **Research Proposal**

MS and PhD students must submit a research proposal. Masters students should submit the proposal at the end of their first year, while PhD students should submit it after taking their preliminary Exam. Students should submit their proposal to their Advisory Committee and allow an appropriate amount of time for their review. Once the Committee has approved, students should prepare a *Proposal Approval Page* form located on the Office of Graduate and Professional Studies website. All committee members and the Department Head will sign it. The completed form should be submitted to the Office of Graduate and Professional studies along with a hard copy of the research proposal.

All research proposals are routed to the Office of Research Compliance and Biosafety for review and approval by the Office of Graduate and Professional Studies prior to final approval.

## **Theses and Dissertations**

Theses and dissertations must be submitted in a format acceptable to the Office of Graduate and Professional Studies. The Thesis Clerk determines the acceptability of the document submitted as a PDF file. Please refer to the Graduate Catalog to obtain additional information, but note in particular the following information:

"Theses, dissertations and records of study that, because of excessive corrections, are deemed unacceptable by the Thesis Clerk, will be returned to the student's department head. The PDF document must be resubmitted as a new document, and the entire process must begin again. All original submission deadlines must be met during the resubmission process in order to graduate that semester."

Format Instructions are available online from the Office for Graduate and Professional Studies at <http://thesis.tamu.edu/thesis-manual>.

## **CHEN 695 and 696 – Graduate Mentoring Seminars**

Another goal of the graduate program is to mentor students. This is primarily achieved through the advisor-student relationship. The Department also contributes to this by facilitating student professional development. This not only helps enable the research mission of the Department, but also helps students develop skills as educators. To facilitate this, the Department has developed two graduate mentoring classes (CHEN 695 and 696) that all graduate students seeking PhD degrees are expected to take. The Graduate Program Director is responsible for coordinating this class, along with help from various faculty members, as appropriate.

CHEN 695 will introduce students to teaching methodologies and concepts, as all advanced degree holders will find themselves in the role of an educator either formally or informally. Students will be assigned to a class and will work with the Graduate Program Director to develop a teaching module for the class that they have been assigned. The faculty member teaching the course will evaluate the graduate student's performance in developing the teaching module. In addition, the students will be expected to spend

approximately 10 hours per week to assist the course they are assigned. The responsibilities include:

- 1) Attend class (~3 hours per week)
- 2) Hold formal office hours (~2 hours per week)
- 3) Coordinate grading of homework (~5 hours per week)

CHEN 696 will cover a broad range of topics/skills. The goal of this class is to help graduate students develop/refine skills that will enable them to successfully interact with other professionals, augment formal training students receive from their advisors, and broadening student perspectives. Possible topics include: Oral (Elevator talks, technical seminars) and written communication (abstracts) skill development, research and scientific methods, hypothesis testing, and research ethics.

#### Some other points of note:

- PhD students will enroll in CHEN 695 and CHEN 696. MS and MEng students will enroll only in CHEN 696.
- The course will be graded as pass/fail. Student performance (i.e. whether they get an S or U grade) will be assessed by the course instructor and students enrolled in the CHEN course the student is involved with, and the CHEN 695/696 instructor.
- University centers/resources (e.g. Center for Teaching Excellence) would be utilized where appropriate.

### **Registration Requirements**

Texas A&M University requires that fellowship holders and graduate assistants register for a minimum number of hours for credit. The Department of Chemical Engineering has additional registration requirements:

1. All students funded by the department through a teaching/research assistantship or by a departmental fellowship must register for a minimum of 9 hours for the fall and spring semesters, and 6 hours for the ten-week summer session.
2. Students not funded by the department, who either take courses or who have completed their coursework and are working on their research, must register for the minimum load of 9 hours in the fall and spring semesters and 3 hours for the ten week summer session. These students can take the summer off (not register for the summer semester), **however in this case they cannot be on the campus working on their projects.**
3. Students not funded by the department, who have completed all their required coursework and research, but have not defended their theses or dissertations and are in the process of writing their theses or dissertations, must register for a minimum of 4 hours of CHEN 691 *in absentia* or for one hour of CHEN 691 in residence. "*In absentia*" means off campus. Students *in absentia* are not assigned office space and desks and cannot use the laboratories. Special arrangements must be made with the Graduate Program Director to use departmental computers. *In absentia* registration cannot be extended; students registering *in absentia* must

complete all their degree requirements that semester.

4. Students who have completed all their required course work, written their theses or dissertations, and passed their oral defenses, but not cleared their theses with the Thesis Clerk before the beginning of a semester, or students that completed everything after the deadline for no registration to receive a degree, can register for one hour of CHEN 691. These students will not be assigned office space and desk and they cannot use the laboratories or departmental facilities such as the computers, etc. One hour of CHEN 691 registration cannot be extended, and the students registering under this category must complete all their degree requirements that semester.

## **Student Responsibilities**

The ultimate responsibility for meeting the requirements for a graduate degree rests with the student and his/her Advisory Committee. Regular communication between the student and his/her Advisory Committee Chair is conducive to successfully completing the graduate program requirements. Until a student selects an Advisory Committee chair, the Graduate Program Director of the Department of Chemical Engineering serves as the academic advisor for that student.

The objectives and scope of the dissertation or thesis research should be defined as clearly as possible as early in the student's program as possible. This definition should result from a joint activity of at least the student and research advisor and may involve all or part of the Advisory Committee. However, defining the objectives and scope are an important part of the research project and of the student's educational experience. Because of the unpredictable nature of research activities, the scope and objectives may require refinement or significant alteration during the research project.

## **Financial Assistance**

Financial assistance to graduate students within the Department of Chemical Engineering falls into two principal categories: fellowships and assistantships. Payment for each month usually becomes available on the first working day of the following month. The University considers the fellowships to be scholarships, and they are processed through the Student Financial Aid Office. Assistantships are considered to be part-time employment (up to 50% time) and the appropriate payroll office processes the paperwork. Currently, assistantship income is reported to the Internal Revenue Service on W-2 Forms but fellowship income is not reported on any form, even though both are taxable income. Fellowships and assistantships are treated differently with respect to tuition waivers and registration requirements (please refer to the appropriate sections of this Handbook for more information). The student should consult the chair of his/her Advisory Committee to determine the type of support that he/she receives.

## **Tuition Exemption**

Holders of fellowships and assistantships qualify for Texas resident tuition rates. In addition, spouses and children of graduate assistants also qualify for the resident rates, but spouses and children of fellowship holders do not. Tuition exemption forms for



fellowship holders must be submitted directly by the department to the Student Financial Aid Office. Graduate Assistants (includes Graduate Assistants Teaching (GAT), Graduate Assistants Non-Teaching (GANT), Graduate Assistants-Research (GAR)) receive the tuition exemption, by notifying the Administrative Payroll Assistant or the Graduate Program Specialist that registration for the current semester is completed. The tuition exemption granted to the student's spouse and children, will be applied electronically in the department. The student should ask the Administrative Payroll Coordinator or Graduate Program Specialist to enter the exemption. Questions about the tuition exemption should be directed to the Graduate Program Specialist or Administrative Payroll Coordinator.

### **Duration of Financial Assistance**

Students who receive financial aid normally are supported continuously on a 12-month basis as long as they demonstrate satisfactory progress in a degree program. Continued financial aid is contingent upon the availability of sufficient funds to provide the stipend and satisfactory academic/research performance.

The Department of Chemical Engineering has established guidelines for the number of terms for which support will be provided. In these guidelines, the fall and spring semesters and the entire 10-week summer session are considered as "terms." MS or MEng students normally do not receive financial aid.

### **Health Insurance**

Under the policies of the Texas A&M University System, any person employed at least half time in a benefit eligible position is eligible for group insurance. Graduate assistants who receive financial aid as graduate assistant research, graduate assistant non-teaching, or graduate assistant teaching are eligible for this coverage. Benefits include group health, group life insurance, long-term disability, accidental death and dismemberment, and optional life. If a student is married, dependent coverage is also available. Graduate students who are not employed by the Texas A&M University System are not eligible for this coverage. Texas A&M University does provide free care to all registered students on a walk-in basis through the A. P. Beutel Health Center, but it does not provide for hospitalization or care for serious illness. Because the United States has a private health care system, and because health services can be extremely expensive, the Department of Chemical Engineering strongly recommends that all students be covered by some type of medical insurance. A group health insurance policy for students not on financial assistance is available through the A. P. Beutel Health Center. Contact the A. P. Beutel Health Center for more information about this policy. This policy will be purchased by the Department of Chemical Engineering for Chemical Engineering graduate students holding fellowships.

The Texas A&M University system health insurance (Texas A&M employee health benefits) is subject to a 60-day waiting period before the state contribution is provided for an employee. The effective date of medical coverage can begin immediately, but the student is financially responsible for full payment of the monthly premium; otherwise, the effective date of coverage begins on the first day of the month following the 60<sup>th</sup> day of

employment. The state contribution is then provided based on eligibility as a part-time employee.

## **Work Requirements**

As stated above, graduate assistants are part-time salaried employees. The regular schedule of work for employment is set by agreement between student and supervisor. In addition to the effort required in return for financial compensation, the level and schedule of effort for CHEN 691 credits is set by agreement between the student and the Advisory Committee Chair. Students working outside their group must inform their research advisors.

## **Petitions**

Should a situation arise that is not covered by the procedures described in this handbook then the student can file a written petition with the Graduate Program Director. All petitions will be decided on a case-by-case basis.

## **Absence from Workstation**

According to present university policy, graduate assistantships neither accrue leave of any kind (such as sick leave or annual (vacation) leave) nor qualify for paid official university holidays. As a result, graduate assistants must be placed on Leave Without Pay for absences from campus. Students must complete a Departmental Absence form when they need to be absent. These absences should not amount to more than two weeks per year and should be approved by the student's Advisory Committee Chair. The responsibility for monitoring absences lies with the Advisory Committee Chair; therefore, all absences must be approved in advance with the Chair. The Departmental Absence form may be obtained from the Business Coordinator (Payroll Assistant).

Absences for official university business (for example, travel to a scientific or engineering conference) should be covered by filing an official Travel & Leave Form. Students must file this form regardless if they expect to be reimbursed for any travel expenses. Travel and Leave forms may be obtained from the Travel Assistant in room 252.

## **Resignation**

Before leaving the university, all graduate students receiving financial aid must submit a letter of resignation to the departmental Payroll Coordinator. In this letter, the student should provide a permanent forwarding address.

In addition to the letter of resignation, the student should provide the Graduate Program Specialist with information about his/her next place of employment to assist the Department in providing statistics to the university administration. Normally, the student will be asked to provide this information at the time he/she schedules the Final Examination; however, if the student leaves the University before completing the thesis/dissertation or scheduling the Final Examination, this employment information should be provided before leaving.

Additionally, the student must complete the Departmental checkout form. This form is issued by the Payroll Coordinator in room 254. In short this form is used to verify that the student is leaving the Department with their affairs (e.g. key return, clearing out of lab/office space, etc.) in good order.

## **Departmental Office Information**

The Graduate Program Specialist should be the first point of contact within the departmental offices for most graduate students. The principal exceptions relate to documents concerned with financial aid and payroll, and then the student should see the Business Coordinator (Payroll Coordinator). Appointments to see the Department Head should be made through the Administrative Assistant. All graduate students should check their mailboxes located in 113 Brown Building at least once a day for important announcements. Also, check your email on a regular basis because all important announcements are sent to the student's chemail.tamu.edu address.

## **Keys**

The departmental keys and visitor scan cards are maintained in room 117 E. in a secured cabinet. When an individual needs to obtain a key to an office/lab, a key form request must be signed by the employee's supervisor. This key request authorization is kept on file along with a log detailing which individual has what key and the date it was checked out.

## **Supplies**

The Department of Chemical Engineering does not provide office supplies for graduate students. If the student's advisor approves, the student may place an order with the main office staff and provide an account number. The items will be delivered to the main office and placed with all other incoming packages. Again, the student's group will be notified via email.

## **Repairs**

If you have any repairs needed in your lab or office, please go to [http://che-db.tamu.edu/JEB\\_request/](http://che-db.tamu.edu/JEB_request/). If there is an emergency repair, please contact the main office so that the Facility Coordinator can be contacted via radio.

## **Safety Procedures and Requirements**

The Artie McFerrin Department of Chemical Engineering is strongly committed to providing a safe environment for everyone associated with it, including faculty, staff, students and visitors. The department has adopted a safety policy that appears in detail in the Department of Chemical Engineering Safety Manual. Violations of the safety regulations may result in reduction or complete termination of financial assistance. Therefore, every student should obtain a copy of this manual and become thoroughly familiar with its contents. A few excerpts from the safety manual are presented here, but the coverage is by no means complete. Every graduate student pursuing a PhD or MS is

required to complete CHEN 601, Chemical Engineering Laboratory Safety and Health, as soon as possible during their graduate program.

The Artie McFerrin Department of Chemical Engineering endorses the rules and regulations of the Texas A&M University Environmental, Health, and Safety Department (EHSD) and the Texas Engineering and Experiment Station (TEES) and Dwight Look College of Engineering Safety Policy. All persons studying, working or visiting any area assigned to the chemical engineering department must follow the aforementioned rules, regulations, and policy, and the safety regulations of the department. Compliance with these rules and regulations is a condition of employment, visitation, and/or study. Research directors, instructors of laboratory courses, and supervisors of staff workers have the ultimate responsibility for safety.

The Department Head assigns the duties of Safety Officer to a faculty member. The Safety Officer is chairman of the Safety Committee, (also appointed by the Department Head). Both the Safety Officer and the Safety Committee have the authority to stop any procedure any time they consider it unsafe. Any such cease order issued remains in effect until a safety analysis determines it is prudent to continue operations. The Safety Committee investigates reports of safety violations, all accidents, and any incident with a potential for damage or injury. The results of the investigations, including recommendations for corrective action and penalties when applicable, are forwarded to the Department Head for final disposition.

Any researcher (faculty, graduate student, undergraduate student, or research associate) engaged in experimental work must submit a written Project Safety Analysis (PSA) to the Safety Officer giving a detailed description of the safety aspects of each project. The PSA describes all the hazards involved and details the design and operating precautions taken to protect the investigator, the occupants of the building, and the environment. The PSA must be submitted before construction begins on new projects or before a new researcher begins to operate existing apparatus. For any procedure that cannot strictly comply with some Safety Policy or Regulation, a variance from the policy or regulation must be requested by the P.I. and approved by the Department Head. The P.I. shall request approval, in writing, detailing the reasons for the exceptions and the precautions being taken. The Department Head shall act with the advice of the Safety Committee to approve or reject the variance request.

Anyone with doubts about the safety of any apparatus, practice or procedure has the right and the responsibility to report such concerns directly to the Department Head or the Safety Officer as soon as possible. The report may be anonymous, if desired. There shall be no reprisals for reports concerning safety.

## **Computer Laboratory Information**

The Department of Chemical Engineering maintains a Computer Laboratory for the use of graduate students majoring in chemical engineering. In addition to the computers owned and maintained by the department, this facility provides access through the campus-wide network to other computer systems operated by the University. The

Computer Laboratory Supervisor is responsible for operation of the Computer Laboratories and assisting with its use. The Computer Systems Manager handles hardware installations and repairs for systems within the Computer Laboratory and in individual research groups when requested.

The Computer Laboratory for Graduate Students is located in room 115 of the Brown Engineering Building. The lab is accessible 24 hours a day via a security system. The Computer Laboratory contains both Macintosh and Windows PCs and a laser printer. Additional details are available in a separate document, Computer Systems Laboratory Information.

## **Graduate Student Accounts**

To receive an account on the Department of Chemical Engineering Computer system, go to room 117E, obtain and complete an account application form, and leave the form with the Computer Systems Manager or the Computer Laboratory Supervisor.

## **Shipping and Receiving**

All shipments will be received at the Jack E. Brown Building Loading Dock. When a delivery service arrives, they will use the phone located at the dock to notify the main office that a delivery has arrived. A CHEN Staff member will meet the delivery service to sign in the shipment. Direct CHEN Phone Number is 845-3361. In the case of large equipment deliveries, the CHEN Facilities Coordinator will be notified to meet the shipment.

Once the shipment is signed in, each shipment will be logged in to the CHEN receiving manual. The shipment will be initialed and dated by the receiver. The boxes are opened and inspected to obtain the packing slip. In cases where the packing slip is fix to the outside of the shipment, the item will not be opened. The original packing slip is delivered to the CHEN Business Office and filled. Copies of the packing slips will be made, and placed in the professor's mail box in 247. All items received will be sorted and stored in a secure room off of the loading dock. Research groups will be called if they have received a package, and will be able to pick them up at 11am or 3pm. If the shipment received is perishable, individuals will be notified immediately. Any flat mail that is deemed to be paper documents will not be opened. The research group representative will verify all items received before signing for the package.

## **Mail**

- Graduate Student mail is distributed every Friday to the Graduate Mailboxes located on the first floor of the JEB Building. Unclaimed Graduate Mail is recycled every six weeks.
- The mail is sorted by name and placed in mailboxes. If a recipient has left the department, the mail is forwarded on to that person. Monthly billing statements and checks go to the Business Office for processing. If an individual is receiving an item

- that is labeled confidential, that the item will be placed directly in the individual's office.
- Campus mail items, if they come in with a name on them, go into the individual's mailbox, but if addressed to Chemical Engineering only, they are opened to see to whom they should go.
  - Federal Express, UPS and other delivery company items are received at the CHEN Receiving area as stated above.
  - Overnight Mail Service – Please work with the front desk in the administrative receiving area to assist you with any overnight mail needs. If you are preparing the service for yourself, please make sure that the senders name and the account number is clearly written on the form. The receipt should be given to the CHEN Business Office.

## **Purchasing**

The Department of Chemical Engineering manages its finances under the guidelines of the Texas A&M University Financial Management System and the Texas Engineering Experiment Station (TEES). The procedures outlined in this document are a combination of TAMU/TEES guidelines and internal departmental procedures to assist the department in accurately processing fiscal matters. Ultimately, the P.I. is responsible for spending and budgeting of his/her projects. The Departmental Business Administrator can provide assistance in reviewing accounts.

Per SAP 25.99.99.E0.02 Non-payroll costs and transfers to should be submitted within 90-days of the original transaction (i.e. goods received date or invoice received date, travel end date, service provided date). Requests made more than 90-days from the date of the original transaction goods received date will only be considered if appropriately justified.

All purchases made by Chemical Engineering personnel will require a departmental purchase order. This purchase order (P.O.) must be completed in detail by the individual ordering the item and must be signed off by the primary account holder. Any additional information that can accompany the purchase order, such as a quote, or email from a vendor, should be provided when making the order. Purchase order forms are available in the CHEN Business Office and completed forms should be returned to the CHEN Business office and placed in the drop box. When the purchase requisition is approved, an email notification will go out to the individual making the purchase to notify him/her that he/she can precede with the purchase.

Purchases costing between \$0 and \$4,999.00 are processed directly by the individual completing the purchase order, or by the CHEN Business Office. If the individual is making the order, please make sure that all documentation regarding the order is turned in immediately to the CHEN Business Office (i.e. receipts, emails concerning orders, quotes). Purchases costing over \$5,000.00 are processed by the CHEN Business Office and all "good faith" efforts are made to utilize HUB vendors when possible on all purchases.

## Departmental Contacts

<b>Title</b>	<b>Personnel</b>	<b>Phone:</b>	<b>After Hours Contact:</b>
Department Head	M. Nazmul Karim	5-3348	255-8016
Executive Assistant to the Department Head	Toni Alvarado	5-9806	
Graduate Program Director	Arul Jayaraman	5-3306	450-3439
Safety Officer	Doug White	5-0610	Home: 690-0445
Academic Business Administrator	Crystal Trammell	5-9777	
Payroll Coordinator	Pamela Spangle	5-3381	
Graduate Program Specialist	Ashley Henley	5-3364	
Facility Coordinator & Key Control	Louis Muniz	2-1468	Physical Plant: 845-4311
Accounting	Terah Cooper	5-6052	
Travel	Mark Anderson	5-0422	
Server Administrator	Mark Hopcus	5-3349	
Computer Systems Manager	Brandon Degner	5-3349	