

**MECHANICAL &
AERONAUTICAL ENGINEERING
GRADUATE STUDENT HANDBOOK**

University of California, Davis

2008-2009

TABLE OF CONTENTS

I.	INTRODUCTION & MISSION	
A.	Introduction	4
B.	MAE Mission Statement	4
II.	ACADEMIC RESOURCES	
A.	Advisers	4
B.	Faculty Committees	6
III.	ADMISSION	6
IV.	REQUIREMENTS FOR THE DOCTOR OF PHILOSOPHY & DOCTOR OF ENGINEERING DEGREES	
A.	General Requirements	7
B.	Preliminary Examination	8
C.	Program of Study	8
D.	Seminar Requirement	9
E.	Qualifying Examination	9
F.	Advancement to Candidacy	10
G.	Dissertation	10
H.	Transfer of Credit from Other Institutions	11
I.	Time to Degree Policy	11
J.	Commencement	12
K.	Departmental Exit Form	12
L.	Degree Program Timeline	12
V.	REQUIREMENTS FOR THE MASTER'S DEGREE	
A.	General Requirements	12
B.	Master of Science Plan 1	13
C.	Master of Science Plan 2	13
D.	Master of Engineering	14
E.	Seminar Requirement	14
F.	Advancement to Candidacy	14
G.	Transfer of Credit from Other Institutions	15
H.	Commencement	15
I.	Departmental Exit Form	15
K.	Degree Program Timeline	15
VI.	REGISTRATION REQUIREMENTS & PROCEDURES	
A.	University Requirements	16
B.	Academic Residency	16
C.	Part-time status	16
D.	Registration Procedures	16
E.	Adding/Dropping	17
VII.	GRADING & COURSE CREDIT	
A.	Satisfactory/Unsatisfactory (S/U)	17
B.	Repetition of Courses	17
C.	Incompletes	17
D.	Course Grading and Grade Point Average Requirements	18
VIII.	WITHDRAWALS, LEAVES, CHANGE OF MAJOR & READMISSION	
A.	Withdrawal from the University	18
B.	Planned Educational Leave Program (PELP)	18
C.	Filing Fee Status	19
D.	PELP/Filing Fee & the Graduate Student Health Insurance Program (GSHIP)	19
G.	Readmission	20
IX.	EMPLOYMENT	
A.	Employment Regulations Facilities	20
B.	Fee Remission Policy	20

C.	Teaching Assistantship (TA)	21
D.	Graduate Student Researcher (GSR)	22
E.	Reader	22
F.	SPEAK Test Requirements	23
X.	USE OF DEPARTMENT FACILITIES	
A.	Graduate Student Mailboxes and Department Correspondences	24
B.	Keys	24
C.	Telephones	24
D.	Office Supplies	24
E.	Copy Machines	24
F.	Viewgraph Policy	24
XI.	PURCHASING OF LABORATORY SUPPLIES & MATERIALS	
A.	Procedures for Purchasing Supplies and Materials	25
B.	Sources of Supplies	25
XII.	TRAVEL AND OTHER OUT-OF-POCKET EXPENSES	
A.	Travel	25
B.	Other Out-of-Pocket Reimbursements	26
XIII.	TECHNICAL SERVICES	
A.	College of Engineering, Engineering Fabrication Laboratory	26
B.	Biological and Agricultural Engineering Shop	26
XIV.	DEPARTMENTAL SAFETY INFORMATION	
A.	Departmental Safety Rules	27
B.	Departmental Safety Website	28
XV.	COMPUTER RESOURCES	
A.	Departmental Computer Resources	28
B.	Academic Computing Services (ACS)	28

I. INTRODUCTION & MISSION

A. Introduction

The faculty and staff of the Department of Mechanical and Aeronautical Engineering (MAE) at UC Davis welcome you to the graduate program. We sincerely hope you have a rewarding and successful experience. The purpose of this handbook is to help you become acquainted with the requirements, regulations and procedures affecting your graduate studies.

Graduate students on the UC Davis campus are officially students of the Office of Graduate Studies. Graduate work is performed under the supervision of faculty members who are organized in graduate groups and departments. It is important to point out that the MAE graduate program has degree requirements, policies, procedures, and deadlines that are in some cases more stringent than those of the College of Engineering and the Office of Graduate Studies. It is the responsibility of the student to meet all MAE Graduate Program requirements and deadlines.

This Handbook describes, among other things, the guidelines and step-by-step procedures for each MAE degree program, outlining the requirements of each program, delineating the responsibility of the faculty and students in meeting these requirements, and familiarizing graduate students with departmental policies and procedures.

You should carefully review this handbook and the College of Engineering Bulletin when you begin our program and periodically throughout your studies. You are responsible for knowing and adhering to the policies, procedures and regulations detailed here. No handbook, however, can answer all of the questions you have and certainly cannot replace contact with the faculty and staff who are here to help you. If you have any questions about the material in this Handbook or about matters not addressed herein, you should see the Graduate Program Coordinator, Amelia Swearingen, 2132B Bainer Hall, 752-0581 (aaswearingen@ucdavis.edu) or the Graduate Adviser for Continuing Students, Professor Harry Cheng, 2018 Bainer Hall, 752-5020 (hhcheng@ucdavis.edu) with any questions.

B. MAE Mission Statement

The MAE Department is committed to educating future engineers so that they may contribute to the economic growth and well-being of both the state and nation and to the advancement of knowledge in the mechanical and aeronautical sciences.

II. ACADEMIC RESOURCES

A. Advisers

Graduate Adviser for Continuing Students

The Graduate Adviser for Continuing Students for the MAE program is a resource for all graduate students in the department to provide information and advising on academic requirements, policies and procedures. The Graduate Adviser's signature is the only signature recognized as official by the Office of Graduate Studies on a variety of petitions and forms used by graduate students. In particular, the Graduate Adviser for Continuing Students is responsible for the following:

- Serves on the MAE Graduate Study Committee & TA Selection Committee
- Handles all Office of Graduate Studies and MAE Departmental forms
- Performs periodic review of student progress toward degree objectives
- Enforces MAE Graduate Procedures and Requirements
- Has responsibility for the content of MAE Graduate Program Web Pages
- Assists the Graduate Adviser for Admissions in Block Grant allocation decisions

The Graduate Adviser for Continuing Students is available for consultation by direct appointment.

Graduate Adviser for Admissions

Responsibilities of the Graduate Adviser for Admissions include:

- Acts as Chair of the MAE Graduate Admissions Committee
- Serves on the MAE Graduate Study Committee & TA Selection Committee
- Has responsibility for MAE graduate student recruitment
- Allocates Block Grant funds
- Approves change of major, change of degree objectives, and readmissions applications

Major Professor (Faculty Adviser)

A student's major professor is the faculty member who assists the student in preparing a detailed study program and who supervises the research that forms the basis for the thesis or dissertation.

Responsibilities of the Major Professor include:

- Assists students with preparation of program of study
- Supervises student thesis or dissertation research
- Assigns grades for MAE-299 (research) and MAE-290C (research conference) units
- Serves as the chairperson of the thesis or dissertation committee

One of the most critical decisions in a graduate student's career is the selection of a Major Professor (Thesis Adviser). The selection of a Major Professor and a research topic requires careful thought because the thesis/dissertation research is the principal activity of a graduate student and often defines the future career directions of the student.

Each student is assigned an initial faculty contact upon admission. The Graduate Program Coordinator must be notified if the student decides on a Major Professor who is different from the initial faculty contact. The Major Professor must be a member of the MAE Graduate Program.

Graduate Program Coordinator

The MAE Graduate Program Coordinator should be the first person consulted on all actions regarding graduate affairs. The Graduate Program Coordinator may advise the student to contact the MAE Graduate Adviser or the Office of Graduate Studies to address particular issues.

All forms and petitions may be picked up from the MAE Graduate Program Coordinator in 2132C Bainer Hall. All forms requiring a signature from the MAE Graduate Adviser must first be submitted to the MAE Graduate Program Coordinator, who will acquire the signature and submit the forms to the appropriate office(s).

Responsibilities of the Graduate Program Coordinator include:

- Responsible for various department-level graduate details including prospective student recruitment, new student orientation, and various academic and social functions
- Corresponds with prospective students and reviews applications for admission
- Informs current students of department announcements and initiatives

Advisory Committees

Various advisory committees including the Ph.D. Qualifying Examination Committee and the M.S. Thesis or Ph.D. Dissertation Committee will guide each student during the progress toward a graduate degree. The Graduate Adviser for Continuing Students must approve of the committee members and nominate them for approval by the Graduate Council. The Graduate Adviser for Continuing Students has the prerogative to reject the selection of advisory committees if he/she deems that the committee is not appropriately constituted.

B. Faculty Committees

Graduate Studies Committee (GSC)

The GSC is chaired by the Chair of the MAE Department. Its members include the Chair, the Graduate Adviser for Continuing Students, the Graduate Adviser for Admissions, and two other faculty members. The Graduate Program Coordinator is an ex-officio member.

Responsibilities include:

- Making recommendations regarding requirements for graduate degrees and other programmatic proposals for consideration by MAE faculty.
- Assisting the MAE Program Chair, Graduate Adviser for Continuing Students, and Graduate Adviser for Admissions in administering the graduate program
- Making fellowship decisions
- Appointing standing and ad hoc committees as necessary to properly administer the activities of the Program

Graduate Admissions Committee

The Graduate Admissions Committee is chaired by the Graduate Adviser for Admissions. Its members include the Graduate Adviser for Admissions and two other faculty members. The Graduate Program Coordinator is an ex-officio member. The Graduate Admissions committee is responsible for recruiting and admitting students to the MAE Graduate Program.

Teaching Assistant (TA) Selection Committee

The TA Selection Committee is chaired by the Vice Chair of the MAE Department. Its members include the Vice Chair, Department Chair, and the Graduate Adviser for Admissions. The Graduate Program Coordinator is an ex-officio member. The responsibility of the TA selection committee is to make all TA assignments. See pg. 23 for information about the TA assignment process.

III. ADMISSION

Admission recommendations are made by the Graduate Admission Committee with the final admission decision made by the Dean of Graduate Studies. Admission to graduate standing normally requires a minimum of 3.0 (out of 4.0) for the M.S. program and a minimum of 3.5 (out of 4.0) for the Ph.D. program. However, admissions decisions are made on a case-by case basis. A student may apply for admission for either an M.S. or a Ph.D. The M.S. is not a prerequisite to the Ph.D., and completing the M.S. requirements does not guarantee admission to the Ph.D. program.

Prospective students must adhere to the application instructions, deadlines and requirements detailed on the MAE website.

Remedial Course Requirement for Students without a B.S. in Mechanical and/or Aeronautical Engineering

Students with a background other than mechanical or aeronautical engineering may be required by the Graduate Adviser for Admissions to take a series of remedial courses. The precise set of courses is determined on a case-by-case basis.

Enrollment Requirements for New International Students

New international students must meet with an adviser at the Services for International Students and Scholars Office (SISS) before they can register for classes.

Prior to their first quarter of enrollment, students whose native language is not English and who do not have undergraduate degrees from English-speaking institutions are required to take the English examination given by the English as a Second Language (ESL) office on campus. The test is offered during "orientation" week at the start of each quarter.

Admission to the Doctoral Program for a Current MAE Master's Student

MAE M.S. students may continue on to the doctoral program. The Graduate Advisor for Admissions will evaluate these students on a case-by-case basis. For students who wish to change their degree objective to the Ph.D. the Department requires a minimum overall GPA of 3.5 in a minimum of 18 units of graduate coursework. A Petition for Change of Degree Objective must be submitted before the end of the academic quarter in which a candidate intends to complete the Master's program. If submitted late, the student must apply for re-admission to the program for the Ph.D. At the time of completion of the M.S. degree, a Graduate Program Exit Form (which exits the student from the M.S. program) must also be submitted to the Office of Graduate Studies.

In addition, candidates must take the Preliminary Examination the first time it is offered after submitting a Petition for Change of Degree Objective. Acceptance into the doctoral program is not automatic and completion of the M.S. requirements does not in itself guarantee admission to the Ph.D. program.

Admission to the M.S. Program for a Current MAE Doctoral Student

A Ph.D. student may wish to obtain a M.S. degree during the course of his/her doctoral studies. It is unnecessary to submit a Change of Degree Objective form. Instead, the student must Advance to Candidacy for the M.S. degree and fulfill the requirements for either the M.S. Plan 1 or Plan 2 degree.

IV. REQUIREMENTS FOR DOCTOR OF PHILOSOPHY AND DOCTOR OF ENGINEERING DEGREES

The MAE department offers two doctoral degrees - the Doctor of Philosophy (Ph.D.) and the Doctor of Engineering (D.Eng.). (Note: Admission to the D.Eng. program is closed until further notice). Both degrees represent the same level of academic attainment. While the Ph.D. Degree is concerned more with the fundamental and theoretical aspects of engineering, the D. Eng. degree focuses more on the technical, human, and economic aspects of applied engineering problems. The requirements for both degrees are essentially identical; the main difference is simply that of emphasis - the Ph.D. emphasizes research while the D.Eng. emphasizes creative design.

The awarding of a doctoral degree acknowledges an individual's ability to perform original and creative research. A candidate for the doctoral degree is expected to demonstrate the ability to make independent assessments of research in his/her field of study, be capable of proposing creative ideas and of translating these ideas into hypotheses that can be tested through experiments and/or theory. The candidate is expected to communicate his/her research results in written and/or oral forms.

A. General Requirements

The Ph.D. degree will be awarded upon completion of the requirements described below. The program is nominally a 5-year program. Candidates must be in residence for a minimum of six quarters. A student is considered in residence when he/she is enrolled in at least 4 units of approved upper division or graduate courses, including research. Students must enroll in a minimum of 12 units per quarter to be considered in full-time status. Two six-week summer sessions may be counted as the equivalent of one regular quarter for purposes of satisfying the residency requirement if a minimum of two units are taken in each summer session. Residence for the MS degree can be used to satisfy the residency requirements for a doctoral degree. Arrangements can be made to satisfy part of a residency requirement by study on another campus of the University of California. Doctoral students in the MAE department must maintain an overall GPA of 3.5 to be considered in good standing. A student's request to take the Qualifying Examination (see page 9) will not be approved if the student's GPA is below 3.50.

Other formal MAE requirements for the doctoral degree include: (1) passing the preliminary exam, (2) completing an approved program of study with a minimum GPA of 3.5, (3) passing the

qualifying examination, (4) advancing to candidacy, (5) submitting an acceptable dissertation and (6) giving an exit seminar.

B. The Preliminary Examination

The Preliminary Examination is the first evaluation of doctoral students by the Department faculty. The objective of this evaluation is to determine the probability of a student successfully completing the doctoral program as well as to test the student's grasp of fundamental concepts in Mechanical and Aeronautical Engineering at the upper division undergraduate level. All doctoral students in Mechanical and Aeronautical Engineering are required to take the Preliminary Examination.

This examination is offered twice a year, in January in the winter quarter and in May in the spring quarter. Students entering the doctoral program with a Master's degree are required to take the Preliminary Examination at the first opportunity (usually in January); students entering the doctoral program with only a Bachelor's degree must take the examination no later than its first offering in their second year as graduate students at UC Davis.

A student must take the exam in three subject areas. Engineering analysis is required of all, and the student must choose two other areas from the following: Aerodynamics and Flight Mechanics, Dynamics, Fluid Mechanics, Heat Transfer, Strength of Materials, System Dynamics and Controls, and Thermodynamics. The examination is based on material normally covered in these subject areas in upper division undergraduate courses. Outlines of material and past exam questions are available from the Graduate Program Coordinator.

If a student fails in one or more subject areas covered by the exam but still wishes to continue in the doctoral program, then he/she must retake those subjects at the very next offering of the preliminary exam. A student must, by the second attempt, obtain a passing grade on all three subjects selected; otherwise the student's doctoral program in MAE will be terminated. An application for readmission into the program will not be considered until at least three years have elapsed without student status (i.e. registered student, on Planned Educational Leave or Filing Fee) in the MAE Department.

A student must be registered during the quarter taking the preliminary exam. Master's students who are contemplating doctoral work may also take the preliminary examination before completing the Master's program. It is advisable to discuss taking the examination with both the Major Professor and the Graduate Adviser for Continuing Students. Passing the preliminary examination does not guarantee admission to the doctoral program.

C. Program of Study (coursework)

Every Ph.D. candidate must have a formal Program of Study approved by the student's guidance committee as well as by the Graduate Adviser for Continuing Students. With the advice of the Guidance Committee, each student develops a meaningful and coherent sequence of courses that will aid the student in obtaining background and training relevant to his/her research area. The technical strengths and weaknesses of the student are considered when formulating the Program of Study, and the program is individually tailored in such a way that the student obtains a strong overall technical background.

Each student selects a major field and either one or two minor fields. There is great flexibility in tailoring doctoral programs to meet the student's objectives, but the Program of Study may not be approved if the major and minor fields are too closely related or if some fields are so loosely defined that the courses lack cohesiveness.

An acceptable Program of Study includes a minimum of 48 units of coursework taken on a letter grade basis, of which at least 24 must be graduate level courses taken at UC Davis. At least 40 units must be earned in graduate level courses. Courses taken during a Master's program can be part of the 48-unit total. The 48 units of required coursework are divided among a 24-unit major and two complementary 12-unit minor areas. Alternatively, a single 32-unit major can be chosen with one 16-unit minor. These units are exclusive of seminar and research units. Courses taken more than eight years before filing the official Program of Study may be disapproved for lack of currency.

The Program of Study must be submitted to the Graduate Program Coordinator within one quarter of passing the Preliminary Examination.

Doctoral Guidance Committee

The Doctoral Guidance Committee consists of three faculty members who have been approved by the Graduate Adviser for Continuing Students. These may be, and usually are, the same faculty members who eventually become members of the student's Dissertation Committee. These members will approve and sign the Ph.D. Program of Study form. All faculty who are members of the UC Davis Academic Senate are automatically eligible to serve on doctoral guidance committees. Eligibility of non-members of the UC Davis Academic Senate for service on a Doctoral Guidance Committee is subject to approval by the Graduate Adviser for Continuing Students.

D. Seminar Requirement

In addition to coursework, doctoral students are required to enroll in the MAE 297 Seminar course. This 1-unit seminar, in which faculty, students, and visitors present their research on a variety of topics in mechanical and aeronautical engineering, is graded on a satisfactory/unsatisfactory (S/U) basis and is offered every academic quarter. Doctoral students are required to complete a minimum of 4 seminar units (i.e. to enroll in MAE 297 for 4 separate quarters) after completion of the Master's degree and before graduation. Students admitted directly into the doctoral program after the B.S. degree are required to complete at least 6 quarters of MAE 297. Students with a Master's degree from a different institution are required to complete 4 units of seminar.

The above requirements are minimum requirements. The MAE faculty feels that continuous exposure to the latest developments in the engineering and scientific fields is critical for graduate education. Hence, the faculty strongly encourages all current students to continue to attend the seminars even if they are not officially registered for the seminar course.

E. The Qualifying Examination

In the MAE department, the Qualifying Examination is essentially a critical review by a committee of examiners of a student's research proposal as well as an evaluation of how well the student is prepared to carry out the proposed research. Successful completion of the Preliminary Examination and an approved Program of Study are prerequisites for taking the Qualifying Examination.

To be eligible for taking the Qualifying Examination, the student must have satisfied all departmental requirements and have removed all academic deficiencies. Sufficient progress on the dissertation to allow the formulation and defense of a viable research proposal is also required. Typically, doctoral students in MAE take their Qualifying Examination in or around the sixth full-time quarter after entering the doctoral program.

Doctoral students in MAE must maintain a minimum overall GPA of 3.50 to be allowed to take the Qualifying exam and must be registered in the quarter in which they wish to take the exam. (Note: students may take the Qualifying Examination during the Summer without being registered if they were registered the previous Spring Quarter). A student on academic probation may not take the Qualifying Examination. All doctoral students must be in full-time status once they have passed the Qualifying Examination. If a student has requested part-time status the quarter he/she takes the Qualifying Examination, he/she may remain in that status for the remainder of that quarter. However, the student must be in full-time status each quarter thereafter.

Qualifying Exam Committee

The Qualifying Examination is administered by a faculty committee selected by the student after consultation with his/her major professor and approved by the Dean of Graduate Studies. The committee ordinarily consists of five members, with the majority being members of the MAE Graduate Program. Students are encouraged to include at least one member from outside MAE. The doctoral student's Major Professor (Research Adviser) may not be a member of the Qualifying Examination committee.

Applying for the Qualifying Examination

After setting up a Qualifying Examination committee, the student selects an examination date and time that are acceptable to the committee members. The Qualifying Examination application form must be submitted to the Office of Graduate Studies for approval at least eight weeks prior to the exam date. Applications are available from the Graduate Program Coordinator.

A student CANNOT take the Qualifying Examination prior to receipt of the Notice of Admission to the Qualifying Examination from the Office of Graduate Studies. It takes approximately 8 weeks for the Office of Graduate Studies to process the application and to notify the committee members of their appointment.

Research Proposal

At least two weeks prior to the Qualifying Examination, the student must submit a research proposal to the committee members. This proposal must include, (1) background information and bibliography on the research the student is proposing to conduct, (2) research objectives, (3) some preliminary results and (4) a plan and preliminary timeline indicating how and when the research objectives will be met. The Research Proposal must not exceed 15 pages and must include the signature of the Major Professor (Research Adviser) indicating approval of the Research Proposal.

Format of the Exam

The Qualifying Examination normally consists of a detailed oral presentation by the candidate of his/her research proposal. This is followed by questions and comments by the members of the examination committee. Candidates are not allowed to provide refreshments during the Qualifying Examination.

Report on Qualifying Examination

Immediately after the Qualifying Examination, the examination committee will inform the Office of Graduate Studies and the Graduate Adviser for Continuing Students of the results. There are three possible outcomes of a Qualifying Examination: a "pass", a "no pass" and a "fail". A "no pass" indicates that a student has failed the exam but that the committee feels that the student's weaknesses can be remedied in a reasonable time. The student is thus eligible to repeat the exam once. A student that receives a "fail" is not allowed to repeat the exam and must discontinue his/her doctoral program in MAE. A "no pass" is only given once, after which the re-examination must result in either a "pass" or a "fail".

F. Advancement to Candidacy

Upon successful completion of the Qualifying Examination, the student is eligible to Advance to Candidacy. When the form has been completed by the student and signed by both the Graduate Adviser for Continuing Students and the Major Professor, the student pays a candidacy fee at the Cashier's Office and returns the form to the Office of Graduate Studies. Per Directive 06-064 (<http://directives.ucdavis.edu/2006/06-064.cfm>), the Regents proposed that Nonresident Tuition (NRT) for doctoral students who have advanced to candidacy be eliminated effective July 1, 2006. This is valid for three calendar years from the point of advancement. This proposal was approved in the 2006-07 California State Budget Act. To be eligible for the Nonresident Tuition exemption in a given quarter, a doctoral candidate must have advanced to candidacy prior to the first day of that quarter. A student on academic probation is not eligible to advance to candidacy.

G. Dissertation

A dissertation is required of all MAE students in the Ph.D. Program. Although doctoral students are expected to have significant preliminary data at the time of the Qualifying Exam, the main portion of the research is often conducted after coursework is completed and the Qualifying Examination is passed. However, the process of a dissertation topic selection should be initiated much earlier. New students should begin consultations with individual faculty members during their first quarter to discuss possible research topics. It is important that this portion of the graduate program be planned early.

A dissertation based on research work or project executed by the candidate, bearing on the principal subject of study, and of such character as to show ability to prosecute independent investigation must be approved by the Dissertation Committee and by the Graduate Council before a doctoral degree is recommended.

On the Advancement to Candidacy Form, the student proposes a dissertation Committee of three members. The Committee Chairperson (usually the Major Professor) should determine the desires of the individual members regarding assistance with the research and dissertation review at the time the dissertation committee is constituted. The majority of the committee should be from MAE.

Exit Seminar/Dissertation Presentation

The department requires that each student give a formal Exit Seminar of his/her research to the department faculty and students. It is recommended that this presentation take place during the MAE 297 seminar. Please see the Graduate Program Coordinator for additional information.

Filing of Dissertation

Filing of a dissertation with the Office of Graduate Studies is normally the last requirement satisfied by candidates for doctoral degrees. The deadlines for completing this requirement are listed each quarter in the campus General Catalog (available from the Bookstore or online at the website of the Office of the Registrar). A candidate must be a registered student or in Filing Fee status at the time of filing a dissertation or taking a comprehensive examination with the exception of the period between the end of the Spring Quarter and the beginning of Fall Quarter. If a student was registered the previous quarter, the student has until the last day of late registration of the following quarter to file his/her dissertation.

Upon completion of degree requirements, each graduate student must submit one copy of his/her dissertation to the Major Professor and one copy to the department. The signature page of all dissertations should have the names of the committee members typewritten under the signature lines. For more information on the preparation of the dissertation, please refer to the following website: <http://www.gradstudies.ucdavis.edu/students/filing.html>.

H. Transfer of Credit from Other Institutions

Coursework taken at other academic institutions is not transferred to a student's UC Davis graduate record, although that coursework may be applied to the student's doctoral Program of Study with approval from the Graduate Adviser for Continuing Students and the Dean of Graduate Studies. A minimum of 24 units of coursework listed on the Program of Study must be taken at UC Davis. In addition, there is an 8-year "age" limit on courses that can be used towards a graduate degree in MAE. Exceptions to this rule may be requested from the Graduate Adviser for Continuing Students.

I. Time to Degree Policy

University regulations require Ph.D. students to submit their dissertations within 4 calendar years of the date on which they pass the Qualifying Examination. Students exceeding this deadline are placed on probation and are subject to dismissal if they do not submit the dissertation within 1 year of being placed on probation.

The Graduate Study Committee of the MAE Department will conduct a mandatory progress review of any Ph.D. student who has not submitted the dissertation within 4 years of passing the Qualifying Examination. This review will comprise independent consultations with the student, the Major Professor and the Dissertation Committee, with the intent of identifying the cause for the delay and remedies that can ensure a timely completion of the dissertation to avoid dismissal. Ph.D. students may also request an optional review of this nature when 3 years have elapsed since passing the Qualifying Examination.

J. Commencement

The Office of Graduate Studies, together with the Graduate Council and the Graduate Student Association, hosts graduate commencement. The ceremony is held the evening of the last Thursday of spring quarter at the Activities and Recreation Center (ARC). A reception is held immediately following the ceremony for the degree recipients, faculty, family, and friends.

Students receiving graduate degrees in September, December, March or June are eligible and are welcome to participate in commencement. Students may participate in ceremonies only one time (note: a student who will graduate in September may participate in the ceremony in June, but cannot also participate the following year's ceremony).

K. Departmental Exit Form

This form, signed by appropriate personnel, certifies that keys, library books, laboratory equipment, etc. have been returned prior to a student's departure from the MAE Department. The forms are available from the Graduate Program Coordinator.

L. Degree Program Timeline

The expectation is that full-time students in the doctoral program will broadly adhere to the following timeline:

	Academic Quarter
Select a Faculty Research Advisor	2
Complete the Ph.D. Preliminary Examination the first time it is offered (if entering with a MS degree)	2
Complete the Ph.D. Preliminary Examination the first time it is offered in the 2 nd year (if entering with a BS degree).	5
Select a Doctoral Guidance Committee	3
Develop a Ph.D. Program of Study (coursework plan) with Doctoral Guidance Committee within one quarter of passing the Ph.D. Preliminary Examination	3
Select a Qualifying Examination Committee	5
Submit a research proposal to the Qualifying Examination Committee and an application for the Qualifying Examination to the Graduate Program Coordinator	6
Select a dissertation committee	7
File an application to Advance to Candidacy after passing the Qualifying Examination	7
Complete the dissertation, receive approval from committee and submit to the Office of Graduate Studies	12
Schedule an exit seminar	12

V. REQUIREMENTS FOR THE MASTER'S DEGREE

At the master's level, the MAE department offers the Master of Science (M.S.) degree plan 1 (thesis) and plan 2 (technical report or examination) degrees as well as the master of engineering (M.Eng.) degree. (Note: Admission to the M.Eng. program is closed until further notice). Students should decide, in consultation with their Major Professor, which plan best suits their individual goals.

A. General Requirements

The master's degree will be awarded upon completion of the requirements described below. The program is nominally a 2-year program. Candidates must be in residence for a minimum of three quarters. A student is considered in academic residence when he/she is enrolled in at least 4 units

of approved upper division or graduate courses, including research. Students must enroll in a minimum of 12 units per quarter to be considered in full-time status. Two six-week summer sessions may be counted as the equivalent of one regular quarter for purposes of satisfying the residency requirement if a minimum of two units are taken in each summer session. Arrangements can be made to satisfy part of a residency requirement by study on another campus of the University of California.

Master's students in the MAE department must maintain an overall GPA of 3.0 to be considered in good standing. Courses required for the B.S. degree may not be used towards the Master's degree.

B. Master of Science, Plan 1 (Thesis)

A minimum of 36 units of course work and a thesis are required. Of these 36 units, 24 must come from coursework with a letter grade. The 24 units of graded coursework must include at least 20 units of graduate coursework in engineering, with a minimum of 12 units coming from MAE courses. Up to 4 units of upper division undergraduate coursework in engineering or any other field that is relevant to the student's research (e.g. mathematics, biology, etc.) may be used towards the M.S. unit requirement. The remainder of the 36 unit requirement is usually made up with thesis research (MAE 299, 290C series) units and/or additional coursework. A thesis must be submitted to the Office of Graduate Studies.

Although work for the Master of Science degree can be completed in three quarters of full-time study, at least one calendar year to six quarters of full-time study is usually required to complete the M.S. thesis.

Thesis Committee

The three-member M.S. thesis committee is chaired by the student's Major Professor who must be a member of the MAE Graduate Program. The committee membership is proposed by the student and is included in the Application for Candidacy. The other committee members may come from any department in Engineering, and one member may come from outside Engineering if he or she has a special interest and expertise in the thesis topic. It is possible, under some circumstances, to suggest a committee member from outside UC Davis. Typically, this individual would have special expertise and/or qualifications that cannot be duplicated on campus. In this case, an External Committee Membership form must be submitted for approval.

Filing of Thesis

Filing of an M.S. thesis with the Office of Graduate Studies is normally the last requirement satisfied by the candidate. The deadlines for completing this requirement are listed each quarter in the campus General Catalog (available online at the website of the Office of the Registrar or from the Bookstore). A candidate must be a registered student or in Filing Fee status at the time of filing a thesis, with the exception of the period between the end of the Spring Quarter and the beginning of Fall Quarter. If a student was registered the previous quarter, the student has until the last day of late registration of the following quarter to file his/her thesis.

For information on the preparation of the thesis, please refer to the following website: <http://gradstudies.ucdavis.edu/continuing/filingprint.htm>.

C. Master of Science, Plan 2 (Report or Exam)

A minimum of 36 units of coursework must be completed, and an examination is required. The examination can take the form of either a technical report or the successful completion of the department Ph.D. Preliminary Examination. All 36 units must be taken for a letter grade. In addition, 32 of these units must be from graduate coursework in engineering, with at least 18 of the 32 units coming from MAE courses. Up to 4 units of upper division undergraduate coursework in engineering or any other field that is relevant to the student's research (e.g. mathematics, biology, etc.) may be used towards the 36 unit requirement. The 36 unit requirement is exclusive of seminar and research units.

D. Master of Engineering

A minimum of 36 units and a project report are required for graduation. Of these 36 units, 24 must come from coursework with a letter grade. The 24 units of graded coursework must include at least 20 units of graduate coursework in engineering, with a minimum of 12 units coming from MAE courses. Up to 4 units of upper division undergraduate coursework in engineering or any other field that is relevant to the student's research (e.g. mathematics, biology, etc.) may also be used toward the 24 unit coursework. In addition to the 24 unit course requirement, at least 8 units of design project (MAE 299) are required. The remainder of the 36 unit requirement is usually made up with research (MAE 299, 290C series) units and/or additional coursework. The Master of Engineering report must be prepared in accordance with the instructions for preparing and submitting theses and dissertations for higher degrees, available on the Office of Graduate Studies webpage.

Committee

The three-member M.Eng. committee is chaired by the student's Major Professor who must be a member of the MAE Graduate Program. The committee membership is proposed by the student and is included in the Application for Candidacy. The other committee members may come from any department in Engineering, and one member may come from outside Engineering if he/she has a special interest and expertise in the research topic. It is possible, under some circumstances, to suggest a committee member from outside UC Davis. Typically, this individual would have special expertise and/or qualifications that cannot be duplicated on campus. In this case, an External Committee Membership form must be submitted for approval.

Filing of Report

Filing of a M.Eng. Report with the Office of Graduate Studies is normally the last requirement satisfied by the candidate. The deadlines for completing this requirement are listed each quarter in the campus General Catalog (available online at the website of the Office of the Registrar or from the Bookstore). A candidate must be a registered student or in Filing Fee status at the time of filing a M.Eng. Report, with the exception of the period between the end of the Spring Quarter and the beginning of Fall Quarter. If a student was registered the previous quarter, the student has until the last day of late registration of the following quarter to file his/her M.Eng. Report.

For information on the preparation of the Master of Eng. Report, please refer to the following website: <http://gradstudies.ucdavis.edu/continuing/filingprint.htm>.

E. Seminar Requirement

In addition to coursework, master's students are required to enroll in the MAE 297 Seminar course. This 1-unit seminar, in which faculty, students, and visitors present their research on a variety of topics in mechanical and aeronautical engineering. is graded on a satisfactory/unsatisfactory (S/U) basis. Master's students are required to complete a minimum of 2 seminar units (i.e. to enroll in MAE 297 for 2 separate quarters) for graduation.

The above requirements are minimum requirements. The MAE faculty feels that continuous exposure to the latest developments in the engineering and scientific fields is critical for graduate education. Hence, the faculty strongly encourages all current students to continue to attend the seminars even if they are not officially registered for the seminar course.

F. Advancement to Candidacy

All master's students must file an Application for Advancement to Candidacy with the Office of Graduate Studies after completion of at least one-half of the degree requirements and at least one quarter before completion of all requirements. For students with an overall GPA below 3.0 at the time of application for advancement to candidacy, the application may only be made if the GPA is sufficiently close to 3.0 so that successful completion of coursework at the end of the quarter during which the application is filed will bring the student above the required GPA minimum of 3.0. A student on academic probation may not advance to candidacy. See the Graduate Program Coordinator for application and details.

G. Transfer of Credit from Other Institutions

Ordinarily, all work for the Master's degree is done in residence on the Davis Campus. However, with the consent of the Graduate Adviser for Continuing Students and the Dean of Graduate Studies, coursework taken elsewhere may be credited toward the degree. The limit for such transfer credit is six units from another institution or up to one-half of the unit requirements if earned from UC Davis or another campus of the University of California system, provided the units were not used in satisfaction of degree requirements at the institution. Petitions for transfer of credit are available from the Graduate Program Coordinator. Below are additional transfer credit regulations:

- Units taken elsewhere than at the University of California may not be used to reduce the minimum residence requirements (3 quarters) or the Office of Graduate Studies 12-unit minimum requirement in the 200 series courses taken at the University.
- Students who have been accepted into a double major program may share a total of 12 units overall between academic programs with the approval of the Graduate Adviser for Continuing Students and the Dean of Graduate Studies.
- Requests for transfer credit must be filed and approved prior to Advancement to Candidacy.
- There is an 8-year "age" limit on courses that can be used towards a graduate degree in MAE. Exceptions to this rule may be requested from the Graduate Adviser for Continuing Students.
- A new student must be registered at full time status for a minimum of one quarter before a transfer of coursework petition will be considered.

H. Commencement

Graduate Studies, together with the Graduate Council and the Graduate Student Association hosts graduate commencement. The ceremony is held the evening of the last Thursday of spring quarter at the Activities and Recreation Center (ARC). A reception is held immediately following the ceremony for the degree recipients, faculty, family, and friends.

Students receiving graduate degrees in September, December, March or June are eligible and are welcome to participate in commencement. Students may participate in ceremonies only one time (note: a student who will graduate in September may participate in the ceremony in June, but cannot also participate in the following year's ceremony).

I. Departmental Exit Form

This form, signed by appropriate personnel, certifies that keys, library books, laboratory equipment, etc. have been returned prior to a student's departure from the MAE Department. The forms are available from the Graduate Program Coordinator.

J. Degree Program Timeline

The expectation is that full-time students in the M.S. program will broadly adhere to the following timeline:

	MS Plan 1	MS Plan 2
Select Faculty Research Advisor	2	2
Select a Master's Thesis committee (Plan 1)	2	n/a
File an Application for Candidacy which includes a plan of study	3	3
Pass the Ph.D. Preliminary Examination <i>or</i> Submit a Technical Report to adviser (Plan 2)	n/a	4
File an Application Form for Master of Science Plan 2 Comprehensive Examination (Plan 2)	n/a	4
Complete the thesis, gain approval from the committee and submit to the Office of Graduate Studies (Plan 1)	6	n/a

VI. REGISTRATION REQUIREMENTS AND PROCEDURES

A. University Requirements

Upon matriculation in a particular program, students are expected to register continuously from the first quarter to completion of the degree. Full-time students must be enrolled in a minimum of 12 units per quarter. The only exceptions to this rule are Planned Education Leave Program (PELP) and Filing Fee Status. Students failing to register in a quarter are not guaranteed readmission for a later quarter. Students failing to register will be regarded as having withdrawn from the University, unless they are in PELP or Filing Fee status.

Students must be registered to be eligible to:

- Be employed as a Teaching Assistant, Associate In ___, Reader, or Graduate Student Researcher. Regardless of employment, students holding these titles must be enrolled in at least 12 units. The units can be a combination of research units, TA apprentice units and academic coursework.
- Hold graduate fellowships or scholarships.
- Take the Master's Comprehensive Examination or the Ph.D. Qualifying Examination.
- Use university facilities or faculty time for research or other studies except for final reading of thesis or dissertation.

B. Academic Residence

Students working towards a Ph.D. degree must be registered and in University residence for a minimum of six regular quarters of full time enrollment (12 units/quarter minimum). Two consecutive regular summer sessions may be counted as the equivalent of one regular quarter.

Students working towards a Master's degree must be registered and in University residence for a minimum of three regular quarters of full time enrollment (12 units/quarter minimum).

C. Part-time status

Part-time status is available only to students who are unable to pursue their studies full-time because of health conditions or family obligations. Part-time graduate students are required to complete a minimum of three units and a maximum of six units of upper division or graduate level units (including 290 and 299) per quarter of residency. If a student in part-time status enrolls in more than 6 units, he/she will automatically be assessed full-time fees and will need to reapply for part-time status.

Students in part-time status are not eligible for employment as either teaching assistants or a graduate student researchers. Students on F-1 or J-1 visas are not eligible for part-time status. A Ph.D. student cannot be on part-time status once he/she has advanced to candidacy. Part-time status must be approved by the Graduate Adviser for Continuing Students.

D. Registration Procedures

Registered students can use SISWEB (<http://sisweb.ucdavis.edu>) to enroll in classes, adjust class schedules, view and print class schedules, print unofficial academic records, notify the University of a change of address, view financial aid status, and much more.

Students wishing to add courses which require instructor approval (290C, 299 and 396) must see the Graduate Program Coordinator to obtain the appropriate course reference number (CRN) before adding the units in SISWEB.

Students must receive instructor approval before changing the number of 299 (research) units in which they are registered. Failure to secure instructor approval before registering for a variable-unit course or changing units may result in disciplinary action, academic penalty, or both.

E. Adding/Dropping

Adding or dropping courses is done online via SISWEB. Students may drop courses through the second week of instruction and may continue to add courses through the third week of instruction. Some upper-division undergraduate courses have an early 10-day drop deadline. Please refer to the Class Schedule and Directory for drop deadlines. Other courses are on a 20-day drop deadline. The 10 day drop courses are marked with an “^” in the Class Schedule and Registration Guide.

After the third week of instruction, students wishing to add or drop a course must file a late drop petition from Graduate Studies. On this petition the student must state a legitimate reason for why he/she wishes to drop the class, obtain approval of the Graduate Adviser for Continuing Students, and submit to the Dean of Graduate Studies for approval. This may be done until the time of the final examination.

A student wishing to either add or drop a course after the final examination must submit a petition to the Registrar’s Office for consideration by the Grade Change Committee. Such petitions are approved only in unusual and compelling circumstances.

VII. GRADING AND COURSE CREDIT

A. Satisfactory/Unsatisfactory (S/U)

The purpose of the S/U option is to encourage students to explore academic coursework in areas unrelated to their academic discipline. Courses that are offered by the student’s academic major may **not** be taken on an S/U basis. With the approval of the Graduate Adviser for Continuing Students, a student may petition to take one graded upper division or graduate course per quarter on an S/U basis.

Under the S/U grading option, a student is assigned a letter grade by the instructor on the same basis as other students in the class. To receive a grade of S in lower or upper division work, a student must earn a C or better in the course. To receive a grade of S in a graduate course, the student must earn a B or better. When a program permits a student to take a course under S/U grading, only the officially recorded S or U (not the original letter grade) can be used to determine satisfactory academic progress. A student who has advanced to candidacy for the Ph.D. may, with the approval of the Graduate Adviser for Continuing Students, take an unlimited number of courses on an S/U basis.

Petitions for any course(s) to be taken on an S/U basis must be filed with the Dean of Graduate Studies by the end of the fifth week of instruction. After the fifth week, students must also provide compelling justification explaining the reason for missing the deadline to request optional S/U grading. Late petitions are not normally granted, and no petitions will be approved after the final day of instruction for the term. The S/U grading option petition may be obtained from the Graduate Program Coordinator.

B. Repetition of Courses

The College of Engineering policy does not permit graduate students to repeat a course for credit. In unusual circumstances a student may be permitted to repeat a course for credit in accordance with campus regulations, which allow graduate students to repeat up to nine units of courses in which a grade of C, D, F, or U was received. Approval to repeat a course for credit may only be obtained by petition.

C. Incompletes

The grade of incomplete shall be assigned only when the student’s work is of passing quality but incomplete for good cause as determined by the instructor. Students must remove the Incomplete grade before the end of the third succeeding quarter of academic residence. If not removed by the specified time, it will revert to an “F”.

D. Course Grading and Grade Point Average Requirements

Students are required to take all courses to be applied towards a graduate degree on a letter grade basis (A, B, C, etc.), except for seminar, research and conference units (297, 290C, 299, 396).

A graduate student is required to maintain a grade point average of at least 3.0 in all courses taken after admission to graduate status. The MAE department expects its doctoral students to maintain an average GPA of 3.5. Graduate credit is not allowed for courses in which a grade below "C" is received. Grades received in lower division undergraduate (numbered 1 to 99) courses are not counted in determining grade-point averages. However, all upper-division undergraduate (100 series) course grades are included.

VIII. WITHDRAWALS, LEAVES, CHANGE OF MAJOR AND READMISSION

A. Withdrawal from the University

If a student has enrolled for classes but later decides not to attend UC Davis, the student must request a Withdrawal Form from the Registrar's Office. Failure to withdraw may result in being held liable for fees according to the University Refund Policy and may result in an "F" grade given for each course in which the student is enrolled.

B. Planned Educational Leave Program (PELP)

The Planned Educational Leave Program is designed to allow students to suspend their programs of study for good cause (i.e. illness, temporary departure from the University for employment or research away from campus, preparing for examinations if doing so at a distance from campus, financial problems, personal problems), leave the campus, and be guaranteed the right to return later to resume academic work with a minimum of procedural difficulty.

PELP is recommended for those students who are certain of the quarter in which they plan to return and who plan to be away no longer than three quarters. If a student is not certain of the return date, it is suggested that the Readmission Application be used.

The minimum Planned Educational Leave is one full quarter; the maximum is three quarters. Readmission is guaranteed assuming the student resumes regular academic work at the agreed-upon date and removes any holds that may have been placed on registration. Students who do not return at the agreed-upon date and who do not officially extend their leave will be automatically withdrawn from the University. International students should consult with SISS concerning VISA issues.

PELP applications are processed via email through the Graduate Program Coordinator. Once the Graduate Adviser for Continuing Students approves the petition, it will be forwarded to The Office of Graduate Studies for final approval. The e-mail chain will be sent to the Office of the Registrar and the student will be charged a \$60.00 fee. Applications for PELP should be filed no later than the first day of instruction for a full refund of any tuition paid. Applications filed after the tenth day will not be approved. If a PELP is filed 2-7 days late, and if the student has already paid fees, a 90% refund on fees will be paid back. If the PELP application is 8-18 days late, a 50% refund is given and for 19-35 days late, the refund is only 25%. After 35 days, no refund will be issued.

Students are ineligible for PELP if they are using University facilities to perform their research. A student on PELP shall not be eligible to receive normal University services except as follows:

- Placement and Student Employment Services
- Advising and counseling
- Housing - check with the Housing Office for stipulations
- Financial Aid - grants and other financial aid are discontinued for the period of leave, but financial aid counseling is available
- Optional Health Services - the student may not purchase a Health card which will entitle him/her to full student health benefits

- Academic Credit - students on PELP are not eligible to enroll in concurrent courses on the Davis campus and shall not earn academic credit at Davis during the period of leave
- Employment - a student on PELP may only be employed on the Davis campus for one quarter of the PELP leave time

A student on PELP cannot Advance to Candidacy (for either the M.S. or Ph.D.) until he/she has returned from PELP to registered status.

C. Filing Fee Status

Normally, candidates for the MS and Ph.D. degrees will file a final approved copy of their thesis or dissertation with the Office of Graduate Studies during their final quarter of residence on campus. Filing Fee status is designed for MS or PhD students who have completed all other requirements (coursework, laboratory work/research, preparation of the thesis or dissertation, and have Advanced to Candidacy) and who may not require an additional quarter in residence to prepare the final thesis or dissertation manuscript. In this case, filing fee would replace regular registration. It is expected that students on filing fee will make no demands upon faculty time other than the time involved in reading the thesis or dissertation or in holding exit seminars.

A student must have been in full time residence for a minimum of 3 quarters to be eligible. A student will be allowed to stay on filing fee for a maximum of 2 quarters. An extension to a third quarter is possible. In order to be a registered student again after being on filing fee status, it will be necessary to file a Readmission application. Please note that it is expected that a student will graduate once the filing fee period has elapsed. Students in non-registered status, such as Filing Fee, will be allowed one quarter of employment without request for exception. Exceptions beyond this one-quarter period are rarely granted.

Students on Filing Fee are not eligible for the privileges accorded regularly enrolled students. In particular, students on Filing Fee:

- May not make use of University educational facilities (such as libraries, laboratories, or computers) or possess keys to University space
- Are not eligible for the services of the University Health Center or for University Housing
- May not take coursework of any kind
- May not make use of faculty time except as noted above

Filing Fee application

To apply for filing fee status, a student must submit the filing fee request form with the Major Professor's signature to the Graduate Program Coordinator. Accompanying this form must be the College of Engineering Supplemental Filing Fee signature form with signatures of all members of the committee stating that they have read a draft of the thesis or dissertation. The student will be charged a one-time fee (currently \$119.00). The completed form, with appropriate signatures and payment, must be submitted to the Office of Graduate Studies by no later than the first day of the quarter filing fee is to become effective. A student who has not enrolled in any coursework or has not in any way incurred registration fees has until the last day of late registration to submit the filing fee application.

D. PELP/Filing Fee & the Graduate Student Health Insurance Program (GSHIP)

The Cowell Student Health Center provides the Student Health Insurance Program (SHIP) to all students as part of their student fees (in-state or out-of-state) payment. Registered students may opt out of SHIP if they have access to an independent health insurance plan. Since students on PELP or Filing Fee do not pay fees and tuition, they are not automatically entitled to SHIP and are eligible to purchase SHIP for only one quarter of PELP or Filing Fee status.

Students on PELP or Filing Fee who intend to purchase SHIP for their one quarter of eligibility are required to bring their approved PELP or Filing Fee form to the Cowell Health Center as notification

of the change in registration status within five days of the beginning of the quarter in which the change is to be effective. Students on PELP or Filing Fee who do not wish to continue their SHIP must file a registration status change before the start of the quarter in order to receive a full refund of the SHIP fee. If the change of registration status is filed on or after the first day of the quarter, the SHIP fee will not be refunded.

To review the Cowell Student Health Center full policy on PELP and Filing Fee, go to their web site at: <http://healthcenter.ucdavis.edu/insurance/>.

G. Readmission

It is necessary for a student to submit an Application for Readmission to return to the MAE graduate program if any of the following occurs:

- The student neglected to register for a quarter and has consequently lost student status.
- The student has exceeded the filing fee limit or has failed to file the thesis or dissertation and must return to the MAE program.
- The student has NOT Advanced to Candidacy and registration is broken. If a student HAS Advanced to Candidacy, is not on filing fee or PELP, and registration is broken, the student must file an Application for Admission with Graduate Studies in order to return to the MAE graduate program.

IX. EMPLOYMENT

A. Employment Regulations

Teaching Assistants (TA's), Graduate Student Researchers (GSR's), and Readers must meet the eligibility for employment requirements as described below in order to be considered for any of these student positions. These appointments do not require submission of time sheets. Only GSRs accrue vacation and vacation slips must be turned in each month for any vacation time taken during that month. The normal payday for TA's, GSR's, and Readers is on the first day of each month.

A student is expected to complete and sign all relevant forms (also known as IDOC) each time an employment status changes. This typically occurs on or before the first day of the quarter. The student must complete a new Graduate Student Eligibility Form each quarter. For notification of address changes, students should see the Payroll Administrator and complete for a new Personal Data Form for tax purposes.

The total length of service rendered in any one or any combination of the following titles may not exceed four years (12 quarters) prior to passing the Ph.D. Qualifying Examination and Advancement to Candidacy.

B. Fee Remission Policy

UC Davis policy provides for payment (from the funding source) of full in-state fees for GSRs appointed at 25% time or higher for the entire quarter. TAs and Readers who are appointed for at least 25% time for an entire quarter are eligible for remission of all in-state fees, except for local campus fees which include GSA fees, Memorial Union fees, facility and campus enhancement fees, and student facilities fees. In any of these titles, the student must also be registered in a minimum of 12 units by the fee deadline date to avoid paying a late fee. The 12-unit registration must be maintained for the entire quarter. For a current fee schedule and breakdown of fees: <http://www.ormp.ucdavis.edu/studentfees>.

IMPORTANT REMINDER: REGISTER FOR 12 UNITS AND SIGN EMPLOYMENT PAPERWORK ON or BEFORE the first day of the quarter to be granted fee remission, including health insurance coverage and other applicable benefits.

C. Teaching Assistantship (TA)

Definition of Teaching Assistantship

A Teaching Assistant is a registered full-time graduate student chosen for excellent scholarship and for promise as a teacher, and serving as student teacher under the active tutelage and supervision of a regular faculty member.

Eligibility for Appointments

An appointee to the title of Teaching Assistant must be a registered graduate student in full-time residence. Each proposed appointment or reappointment is subject to certification by the MAE Department that the following conditions have been met:

- Student must be enrolled in a minimum of 12 units.
- Student must maintain a minimum overall GPA of 3.0.
- Student must have received a grade of "B" or better in the course for which he/she is applying to TA.
- Student must be in full compliance with all equal opportunity, affirmative action policies and Union Contract rules.
- International students are required to take the SPEAK test

All new Teaching Assistants are expected to attend a campus-wide training orientation prior to beginning their duties at UC Davis. All students are required to attend this workshop at least once during their time as a TA. Students will receive additional information on the orientation schedule from the Teaching Resources Center.

Selection of Teaching Assistants

Teaching Assistants are selected by a committee that currently consists of the Department Chair, the Vice Chair, the Graduate Adviser for Continuing Students, and the Graduate Adviser for Admissions. Due to the limited TA budget and in an attempt to fund as many students as possible, TA positions will usually not be awarded to a student with a fellowship or GSR position for the quarter. Instructor input is also factored into the selection process. Teaching Assistant positions are normally limited to a maximum of 6 quarters for a Ph.D. student or 3 quarters for a Master's student. If a Ph.D. student obtained his/her M.S. degree at UC Davis, he/she will normally be allowed a total of 9 quarters of student teacher service. In general, the TA committee uses the following order of priority in the selection of TA's:

- PhD students who have advanced to candidacy
- PhD students who have not advanced to candidacy and have a GPA of at least 3.5
- MS students with a GPA of at least 3.5

Normally, international students are expected to obtain a minimum score of 45 on the SPEAK test in order to be eligible for a TA appointment.

Terms of Appointment

- Student teachers are appointed quarterly; the appointment is self-terminating unless the appointee is otherwise notified.
- During the academic year, appointment to the title of Teaching Assistant (in sole or in combination with other employment with the University) may not exceed 50% time. Exception to this policy may be granted by the Office of Graduate Studies, in extenuating circumstances only.
- Student teachers employed 50% time are expected to devote 20 hours per week during instructional and examination periods to their TA duties. This includes time spent in preparation, classroom and laboratory teaching, office consultation and reading student papers. If appointed at 25% time, a total of 10 hours of work per week is expected. In the majority of cases, TA appointments are at 25% time.

- A TA commitment cannot be changed to another appointment the two weeks prior to the beginning of the quarter. If a student cannot accept a TA offer, the student is expected to inform the department at least two weeks before the beginning of the academic quarter.

General Duties of Teaching Assistant

Teaching Assistants are not responsible for the instructional content of a course, for selection of student assignments, for the planning of examinations, or for determining the term grade for students. The Teaching Assistant is responsible for the conduct of recitation, laboratory, or quiz discussion sections as well as grading. The Teaching Assistant performs these duties under the active direction and supervision of the regular member of the faculty to whom final responsibility for the course's entire instruction, including the performance of Teaching Assistants, has been assigned.

Teaching Assistant Job Descriptions and Applications

Job descriptions for all available TA positions within the MAE department may be found at: http://mae.ucdavis.edu/general/employment_TA.html. All other job descriptions can be found through the homepage of the Office of Graduate Studies. Hard copies of the MAE job descriptions can also be reviewed in the MAE Main office, 2132 Bainer Hall.

Applications for TA positions are normally submitted two to three months prior to the beginning of the quarter. Preference will be given to those students who apply by the deadline. A TA application must be submitted each quarter in order for a student to be considered for a TA position for that quarter. TA applications can be downloaded from the MAE homepage at http://mae.ucdavis.edu/general/TA_Application.pdf or can be obtained from 2132C Bainer Hall. All applications should be returned to 2132C Bainer.

D. Graduate Student Researcher (GSR)

Definition of a Graduate Student Researcher

A Graduate Student Researcher (GSR) is a graduate student who performs research in an academic department or research unit under the direction of a faculty member or authorized Principal Investigator. The GSR duties are typically closely related to the student's research within the degree program. GSR appointments are the purview of individual Principal Investigators and not of the MAE Department.

Eligibility for Appointments

Hiring departments are responsible for certifying that appropriate conditions relating to student status have been met before graduate students are appointed to academic positions.

- Appointee must be a registered, full-time (minimum of 12 units) graduate student during the period of appointment.
- The minimum overall GPA for graduate student academic appointees is 3.0.
- Students on PELP or Filing Fee status may be appointed for only one quarter while in that status. Otherwise, graduate students holding academic titles must be registered full-time.

Terms of Appointments

Appointment to the title of Graduate Student Researcher (in sole or in combination with other employment with the University) may not exceed 50% time during the academic year but may be up to 100% during the summer or inter-session breaks. Exception to this policy may be granted by the Office of Graduate Studies in extenuating circumstances only.

E. Reader

Definition of a Reader

Readers are employed to provide diverse services as course assistants. Most commonly, these

services involve grading of student assignments. Customary responsibilities of a Teaching Assistant will not be assigned to a Reader. Only specific courses, determined by the TA committee, require Readers.

Reader positions are typically assigned to graduate students; however, undergraduate students who are in good academic standing may be hired in exceptional cases.

Eligibility for Appointments

Minimum qualifications for being employed as a Reader are:

- Full-time registered student in good academic standing (minimum overall GPA of 3.00)
- Student must have received a grade of B or better in the course for which they apply.
- Student may not serve as a Reader in a course in which he/she is enrolled.

Selection of Readers

Applications for Reader positions are submitted each quarter. A "Call for Reader Applications" e-mail is distributed to all continuing MAE graduate students approximately one month before the beginning of each quarter. Applications are due to Bainer 2132 by the specified deadline. Preference will be given to those students who apply by the deadline. Readers are selected by the instructor of the course.

Terms of Appointments

Appointment to the title of Reader (in sole or in combination with other employment with the University) may not exceed 50% time during the academic year. Exception to this policy may be granted by the Office of Graduate Studies, in extenuating circumstances only.

F. SPEAK Test Requirements

The MAE Department requires all international graduate students to take the SPEAK test of oral English proficiency before they will be considered for a TA position. It is required that students pre-register in person at the Teaching Resources Center (TRC), 17 Wellman Hall, in order to take the test. TRC schedules several dates throughout the year for the SPEAK tests. Test location will be provided upon registration.

The test takes approximately 30 minutes and requires no preparation on the part of the student. The testing procedure is explained and a sample test booklet is provided when the student pre-registers. Exam scores are sent to departments for consideration in making TA hiring and assignment decisions; therefore, the earlier the test is taken, the more useful it can be. A low test score does not necessarily indicate that an international student will not make a successful TA, but it does suggest that the individual may need additional support from the department or might benefit from some of the campus language programs available to international graduate students.

The SPEAK test is scored from 20-60 in increments of 5. The TA selection committee generally expects a score of 45 or better. Students receiving a score of 40 or below will receive lower priority in TA assignments.

International students who complete the exam will be given "International TA PAF Attachment" vouchers that must be submitted with their Personnel Action Forms (PAFs) to verify that they have completed the SPEAK test requirement. Please be aware that the Office of Graduate Studies may hold the processing of PAFs for ITAs lacking the attachment.

If you have questions regarding the SPEAK test, please contact the TRC at 752-6050 or trc@ucdavis.edu. Schedules and additional information about the SPEAK test are available on the TRC website at <http://trc.ucdavis.edu/trc/ta/international.html>

X. USE OF DEPARTMENT FACILITIES

A. Graduate Student Mailboxes and Department Correspondence

Graduate student mail slots are available in 2015A Bainer Hall. This mailroom is open 24 hours a day. Every student will be assigned a mailbox that should be used exclusively for school-related matters. Campus mail service cannot be used for personal business. Check your mailbox daily for departmental notices, messages, etc. FAX messages may be picked up in the MAE Main Office, 2132 Bainer Hall. Like the campus mail service, the department FAX machine is also for official university business only.

General notifications from MAE are typically sent by e-mail and graduate students are expected to check their e-mail regularly. Occasionally, mail may be sent to a student's home address. Submit home address changes through SISWEB. In addition, please notify the Graduate Program Coordinator of any address or phone number changes for departmental records.

B. Keys

Keys to appropriate laboratories will be issued by the department to graduate students, with the recommendation and approval of a Faculty Supervisor (research adviser/principal investigator). See Lorraine Fairbanks in 2132 Bainer Hall for permission slips and key issue. A \$10.00 cash deposit is required for each key issued. Keys must be returned to the departmental office when work in the department is complete before filing for Planned Educational Leave or Filing Fee or when a student's employment ends. Key deposit will be refunded upon key return. Keys to the outer doors of Bainer Hall are also available for graduate students with the required \$10.00 cash deposit. **IMPORTANT: Keep All Key Receipts.**

C. Telephones

Department telephones must be used for official university business only. A student may arrange with his/her Faculty Supervisor (research adviser/principal investigator) to obtain an authorization code for placing business-related telephone calls (long distance or local). These calls should be placed from the Faculty Supervisor's office or laboratory phone. Personal calls may be made from a pay phone or a campus phone in the Bainer Hall lobby.

D. Office Supplies

Office services associated with a student's research and project should be arranged through the student's Faculty Supervisor (research adviser/principal investigator). Costs for office supplies (paper, envelopes, laboratory notebooks, etc.) for research activities are charged to the appropriate research account. See Denyse Miller in 2132 Bainer Hall.

E. Copy Machines

Two copiers located in Room 2151 Bainer Hall are available to students for research, teaching or other official departmental business only. No personal copying is permitted. If use of the copier is for research, obtain a copy card from the Faculty Supervisor. Teaching Assistants who must copy homework assignments or other class materials should check out the copy card from Lorraine Fairbanks in 2132 Bainer Hall. A card user must list on the log sheet his/her name, the course number and the number of copies made. For personal copying, self-service copier machines are available in any campus library. These machines may take coins, bills or copy cards. Copy cards may be purchased from card dispenser(s) in any campus library such as the Shields Library, the Physical Sciences & Engineering Library or the ASUCD Student Services Office at 367 Memorial Union.

F. Viewgraph Policy

Transparency supplies used for research will be charged to a funded grant or contract. Transparencies for teaching may be obtained directly from the course instructor. If transparencies are unavailable from the instructor, see Denyse Miller and provide the course # for which

transparencies will be used. The Department does not supply students with transparencies for their own use; e.g., class work or thesis presentation.

XI. PURCHASING OF LABORATORY SUPPLIES & MATERIALS

A. Procedures for Purchasing Supplies and Materials

Purchase of materials, supplies and equipment for research must be authorized by the Faculty Supervisor. Please follow the following purchasing guidelines:

1. Obtain a "Request for Purchase Order" form from Denyse Miller or one of the administrative staff in 2132 Bainer Hall.
2. Complete the form, including the initiator's contact information (phone # or email address); the vendor's address, phone and FAX numbers; item(s) description; catalog number(s); current price(s); date needed and applicable shipping requirements.

For equipment orders (\$5,000 or more), please attach a quotation from the vendor(s) and ask assistance from Denyse Miller to determine if additional specifications are required.
3. Indicate a valid billing I.D. or account number to be charged. If unsure about the account information, ask Denyse Miller or one of the account officers. Obtain your Faculty Supervisor's signature for approval.
4. Submit the form to Denyse Miller for processing. After obtaining departmental approval, Denyse will place the order on a first-come, first-served basis. It is strongly urged that you plan ahead when ordering lab supplies.
5. For store pick-up of routine items, ALLOW THREE WORKING DAYS for processing of order, except in emergency situations.
6. For equipment and large orders costing more than \$5,000, ALLOW AT LEAST THREE WEEKS for processing and delivery. These orders are processed through the Campus Purchasing Office that is responsible for final review, approval and order placement.
7. For emergency purchases of laboratory materials or supplies, see Denyse Miller for special procedures. The Campus Purchasing Office discourages out-of-pocket purchases, unless strongly justified. If necessary, Denyse will phone in an order, in case of emergency.

B. Sources of Supplies

The Central Storehouse sells a wide variety of products, including personal computers, special gases, chemicals, hardware, laboratory supplies, and office supplies. Storehouse prices are often the lowest available. A Central Storehouse catalog may be borrowed from Denyse Miller. Orders will be placed with Storehouse unless items are not available. Whenever possible, local vendors are used. For UCD Bookstore orders, please see Denyse Miller for assistance.

XII. TRAVEL AND OTHER OUT-OF-POCKET EXPENSES

A. Travel

All official travel must be pre-authorized by a Faculty Supervisor. Typical travel expenses include transportation (air, car rental), lodging, meals, conference/meeting registration fees, and tolls. Any unusual expenses (e.g., repair/damage costs) require proper justification.

Travel advances may be requested with Faculty Supervisor's approval. Students should obtain a valid billing ID or account number from their Faculty Supervisor. Any excess travel advance must be returned to the University, with a check payable to the UC Regents. See Lorraine Fairbanks in 2132 Bainer Hall for assistance. The website for travel is mytravel.ucdavis.edu.

UCD travelers must submit travel expenses within 21 days of the end of the trip. To get reimbursed, keep all original receipts, including electronic receipts. In particular for ticketless airfare provide one of the following documents: An invoice or itinerary showing the cost and form

of payment; a written receipt (requested by the traveler at the airport); or a passenger receipt coupon (requested by the traveler when making reservations). To request for reimbursement, please follow the following guidelines:

1. Complete a Travel Reimbursement form (available in 2132 Bainer Hall).
2. Itemize daily expenses on a sheet of paper and attach all original receipts. For lost receipts, obtain a "Declaration of Evidence" form from Lorraine Fairbanks.
3. Obtain Faculty Supervisor's approval and a valid billing ID or account #.
4. Submit these documents to Lorraine Fairbanks for processing.

Processing of travel reimbursements may take up to three weeks, depending on the campus Accounting Office's backlog. Pick up reimbursement check(s) from Lorraine Fairbanks (or in her absence, one of the administrative staff).

UCD travel policy & related resources: <http://manuals.ucdavis.edu/ppm/300/300-26.htm>,
<http://travel.ucdavis.edu>.

B. Other Out-of-Pocket Reimbursements

Out-of pocket reimbursements for University business (teaching or research) must be pre-authorized by a Faculty Supervisor. Typical out-of-pocket expenses may include purchase of supplies, lab items, project supplies, computer supplies, hardware, lumber, and copying (e.g., Kinko's). Although extenuating circumstances may justify or necessitate the purchase of supplies and materials, obtain pre-approval from Faculty Supervisor. Out-of-pocket purchases for supplies must not exceed \$499 on a single receipt. If an emergency purchase must be made over the weekend, do not exceed the \$499 limit. The University strictly enforces this policy on out-of-pocket expenses and may not reimburse any expense(s) over the limit.

To request reimbursement:

- 1) Complete a "Request for Reimbursement" form (pink form) which is available in the MAE main office, 2132 Bainer Hall;
- 2) Obtain Faculty Supervisor's approval and a valid billing ID or account #;
- 3) Attach all original receipts and submit relevant documents to Lorraine Fairbanks.

REMINDER: ALL PURCHASES AND REIMBURSEMENTS MUST BE PRE-AUTHORIZED BY YOUR FACULTY SUPERVISOR (RESEARCHER ADVISER/PRINCIPAL INVESTIGATOR). INDIVIDUALS WILL BE HELD RESPONSIBLE FOR UNAUTHORIZED PURCHASES OR EXPENSES.

XIII. TECHNICAL SERVICES

A. College of Engineering, Engineering Fabrication Laboratory

The College of Engineering's (COE) Engineering Fabrication Laboratory (EFL) has a machine shop in 1220 Bainer Hall (known as the Student Shop) available for "hands-on" usage by students and faculty under the supervision of the EDDS Manager. In addition there is a student project area in 1230 Bainer Hall used primarily for extra-curricular team competition projects. The EFL is a supervised facility that provides students with opportunities for hands-on manufacturing and fabrication in a safe environment. They offer instructional support to students, faculty and staff of the College of Engineering as they work on projects for classes, independent study, research, and student design competition clubs. The EFL web site (<http://engineering.ucdavis.edu/efl/>) has information on their safety policy, schedule for orientation classes, etc.

B. Biological and Agricultural Engineering Shop

Biological and Agricultural Engineering (BAE) has a well-equipped machine shop in 1329 Bainer Hall staffed by professional machinists working under the supervision of Tom Bell, 530-752-2737, twbell@ucdavis.edu. This is a recharge facility. Graduate students and faculty are not allowed to use these facilities in a "hands-on" fashion but may have work done there by the staff if funded by a research grant. With appropriate qualifications and under special circumstances, the shop will allow "hands-on" usage to accommodate certain project needs; however, this is very unusual. Visit

the BAE Shop web page for more information (<http://bae.engineering.ucdavis.edu/pages/facilities/shop/index.html>). A service request (form available online at above web site) accompanied by appropriate specifications (usually engineering drawings or sketches) is required. The Department Chair, the Department Manager, or the Principal Investigator must approve all service requests. Shop costs will be recharged to a research grant. Do not expect the shop to have all the necessary materials needed for a particular project. If research funding is not available, the shop services cannot be used. Any exception to this rule must have the Chair's approval and must be arranged through a faculty member. If the work is required as part of your role as a Teaching Assistant for a course, approval must be obtained from the department's Academic Administrator through the instructor of record.

If you have questions about either of these facilities, do not hesitate to contact Dr. J. A. Schaaf, the Department's Academic Administrator, jas@ucdavis.edu.

XIV. DEPARTMENTAL SAFETY INFORMATION

High priority should be given by all personnel to maintaining maximum safety in laboratories and all other departmental facilities. Any concerns should be brought to the attention of at least one of the following: the Major Professor, the department's Academic Administrator, Dr. J. A. Schaaf, or the Department Office. You may also discuss safety concerns with Jeff Feerer, the College of Engineering Safety Director (754-6593, jfeerer@ucdavis.edu) or Jim Aborn, the College's Safety Advisor (752-8589, jlaborn@ucdavis.edu) from the campus' Environmental Health & Safety (EH&S) unit.

For emergencies requiring immediate action (e.g., fire or severe personal injury), telephone 911 from a campus land-line phone or 530-752-1230 from a cell phone to contact on-campus emergency services.

Students will be notified by their Major Professor of safety training courses that are required before beginning any work in a laboratory. California law requires this safety training for every graduate student before work can begin. The College of Engineering provides general safety training and chemical safety in laboratories. The dates for these trainings are as follows and they do not require prior registration:

General Safety Orientation Class Offered:

- Wednesday, October 8, from 1-3 pm, Friday, October 10, from 3-5 pm, and Friday, October 17, from 9-11 am
- Location: 1065 Kemper Hall

Chemical Safety in Laboratories Class Offered:

- Wednesday, October 22, from 9-11 am and Friday, October 24, from 3-5 pm
- Location: 1065 Kemper Hall

At a minimum, all new graduate students must attend one of the General Safety Orientation classes. If you feel you will be working in a laboratory with chemicals, attend one of the second classes as well. Other training is provided either by your faculty advisor or UC Davis' EH&S unit. (See <http://safetyapps.ucdavis.edu/EHS/Training/index.cfm> for more information.)

Students must also read a copy of the laboratory's Injury and Illness Prevention Program (IIPP) that explains the health and safety policies in detail. Visit <http://mae.ucdavis.edu/safety/> for more information. Students using chemicals or hazardous materials in their research should read the Material Safety Data Sheet (MSDS) for each material used.

A. Departmental Safety Rules

1. Shoes must be worn at all times in the laboratories. When working with chemicals, machinery, or other hazards, closed-toe shoes are required.

2. Appropriate eye protection must be used for all machining operations or wet laboratory activities.
3. If you plan on working with any chemicals, you must take EH&S' Chemical/Laboratory Safety class (<http://safetyapps.ucdavis.edu/EHS/Training/index.cfm#chemsafety>) or the training offered by COE at the beginning of the year before work can begin.
4. Annual training on chemical spills is mandatory.
5. Report any hazardous chemical spills immediately to EH&S at 752-1493 or 911 from a campus land-line and to one of the Department Safety Officers as soon as possible.
6. Wearing in-line roller skates or riding bicycles and/or skateboards in the hallways is not permitted at any time. Bicycle parking is not allowed in Bainer Hall.
7. Ear protection must be used when appropriate.
8. Campus policy does not allow smoking in any building (PP 290-10) or within 20 feet of an entrance of a building or operable window.
9. Certification by Environmental Health and Safety is required for students who will be working with radiation equipment.

Should an accident occur, students should immediately receive treatment at the Cowell Health Center, notify one of the Safety Officers and/or the Department Manager, Felicia Smith and have an injury report completed in the Department Office (2132 Bainer Hall) within 24 hours. A Student who is a University employee should notify his/her supervisor immediately.

B. Departmental Safety Web Site

The department maintains a safety web page that has up-to-date information on safety-related matters. It can be found at <http://mae.ucdavis.edu/safety>.

XV. COMPUTER RESOURCES

A. Departmental Computer Resources

Graduate computer facilities are located primarily in 2121B and 2129 Bainer Hall. Operating systems include Microsoft Windows and Linux. These workstations are maintained with engineering programs, compilers, and general use applications. A Computational Fluid Dynamics computer lab is located in Academic Surge Building room 2120. Additional workstations are also typically available in faculty labs once students are working on projects with an advising professor. As well, there is undergraduate computer space located in 2071 and 2121A Bainer Hall, a Labview Measurement and Instrumentation Lab in 1071 Bainer, and additional facilities are available in the College of Engineering laboratories.

Ben Ransom handles the department's IT needs. Applications for MAE computer accounts, as well as suggestions for new software or hardware should be directed to him. Note that MAE department computer accounts are separate and additional to UC Davis accounts created for you during registration. MAE accounts have also been created for incoming students.

The Department strictly adheres to University computer policy and software licensing. We generally do not have any "site-licensed" software available for students to put on their own personal computers, although some packages can be run remotely, or may be available for use in your advising professor's lab. Obviously, copying applications to or from any Department computers is prohibited. See my.ucdavis.edu/software and the department web pages for more on software availability.

B. Academic Computing Services (ACS)

The College of Engineering Academic Computing Services provides engineering faculty, staff, and students with computing capabilities and technical support for program development in research and instructional software. ACS is located in 2160 Kemper Hall. ACS supports two laboratories of workstations totaling 60 MS Windows workstations with printers. All laboratories are connected to the campus network. Paul Hirose manages the instructional Facilities. He can be reached at 530-752-7181.

