

Graduate Student Handbook

Masters Programs for Aerospace Engineering

(Revision 3/2/2018)

DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING

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WELCOME!

The faculty, staff and students in the Aerospace Engineering Program would like to welcome you to the doctoral program in Aerospace Engineering. This handbook is designed to help you get acquainted with the workings of our program. The information in this handbook will let you know what needs to be done, when it needs to be done, where you need to go to get information, and who can help you with problems that may occur. This handbook, the UTA Student Handbook, and the Graduate Catalog will serve as sources of information for you as you progress through our program. In case of any discrepancy between this document and the graduate catalog, the graduate catalog should prevail. In the case that there is a discrepancy between this document and the graduate catalog, the graduate catalog takes precedence over anything on this document.

NAMES YOU SHOULD KNOW

Graduate Advisor

Associate Professor Kamesh Subbarao
315G Woolf Hall
817-272-7467
subbarao@uta.edu

Most of the decisions you make concerning your academic program will be made with the assistance of the graduate advisor. This includes curriculum, registration, adding and dropping courses, and completing the necessary paperwork as you pursue your degree. The graduate advisor is your first point of contact for all of these matters.

Associate Chair for Aerospace Engineering

Professor Don Wilson
202 Woolf Hall
817-272-2072
wilson@uta.edu

The Associate Chair is responsible for all decisions concerning the operations of the program including the funding of all teaching and research assistantships as well as scholarships.

Chairman, Committee on Graduate Studies

Professor Brian Dennis
316C Woolf Hall
817-272-7379
dennisb@uta.edu

Many decisions concerning the requirements of the graduate program are made by the AE committee on Graduate Studies. This committee also handles student petitions and reviews the progress of all students in the program periodically.

Graduate Advising Support

Wendy Ryan
204 Woolf Hall
817-272-2500
wendy.ryan@uta.edu

GETTING STARTED IN THE PROGRAM

Department Check-in

Upon arrival at the university, please come to the departmental office in Room 204 Woolf Hall. A staff assistant will assist you in getting started at UT Arlington.

Orientation for International Students

All international students must attend a university orientation for foreign students, most often given a week or two before school starts. You will receive a letter directly from the International Office regarding this orientation. This orientation is required before you can be advised and register for classes.

Students Requiring GESP

Those students who were admitted to the AE Program with an English deficiency must go to the GESP Office and be tested prior to meeting with the AE Graduate Advisor. The AE Graduate Advisor will not advise such students until the GESP Office has provided the results of the GESP tests.

Meeting with the AE Graduate Advisor

All new graduate students must meet with the AE Graduate Advisor prior to registering for courses for their first semester. During this visit the program requirements for the Ph.D. degree program will be discussed and you will be advised on course selection for your first semester. Prior to meeting with the AE Graduate Advisor, please review this handbook, the semester AE course offerings, the AE section of the Graduate Catalog, and the MAE Department website, and have a plan for which courses you wish to take. The current semester' schedule of classes gives the exact days and times for registration and should be consulted each semester, not only for registration information, but for advising instructions, as well. The spring schedule is available in mid-October; the summer/fall schedule is available in mid-March. If you have graduate course work from another university, the graduate advisor (with the consent of the chair of the Committee on Graduate Studies) is empowered to waive course requirements if the student can show previous course work which is equivalent to that offered at UTA. This is handled on a case-by-case basis at the time of your initial advisement.

Registration

Once you have met with the AE Graduate Advisor, you will be cleared for registration. In order to attend any given semester, a student must register and pay fees. ALL REGISTRATION at UTA is done on the UTA website, www.uta.edu/mymav. New students register the week before classes begin. **All students must be advised by the Graduate Advisor prior to registration.**

UTA Identification (ID) Card

You will be required to obtain a MAV EXPRESS card from the Mav Express Office, Main Level of the University Center. This card will allow you access to various campus events, the library, and the health center, as well as being a source of identification to verify that you are a UTA student.

Graduate Teaching and Research Assistants - Payment Procedures

Criteria for Award of Assistantships

Award of financial assistance is based solely on merit. A number of graduate teaching assistantships (GTA), graduate research assistantships (GRA), and fellowships are awarded each year. Applicants who demonstrate skills, experience or interests that meet the needs of the AE Graduate Program will be considered for fellowships or assistantships. A typical GTA requires that the assistant spend a up to 20 hours per week helping in undergraduate laboratories, grading undergraduate students' homework assignments, and other duties specified by the course instructor. A typical GRA requires that the assistant work on the research projects assigned by the professor who is providing the GRA support.

U.S. Students

U.S. students must also attend an orientation session for all new employees. You will need to bring your social security card and your Texas driver's license or some other I.D. **THIS SESSION IS MANDATORY AND YOU WILL NOT GET PAID UNLESS YOU ATTEND.** The session takes about one and one half hours to complete.

International Students

You will first need to go to the International Office with your visa to obtain an Identity and Employment Authorization letter. This letter certifies that you have a visa and that you are allowed to work in the U.S. You must take this letter to the Office of Human Resources (J.D. Wetsel Service Bldg. (corner of Mitchell & Davis Streets) along with your passport and social security card (if you have one) to set up an orientation session given to all new employees. This session is mandatory, and you will not get paid unless you attend. This session takes about one hour. If you do not have a social security card, you must return to personnel after you receive your card and show it to them. ALL students that will be paid in any way must have a social security number. Most international students will have to apply for a card and this should be done as soon as possible. Applications must be delivered in person to the Tarrant County Court House in Fort Worth (819 Taylor Street) or to the Arlington office of the Social Security Administration. At the international student orientation session held by the International Office, you can fill out an application for a social security number and that office may arrange to take students to Fort Worth to submit the form. If you are unable to go at that time, you can go any time on your own. It takes about 2 weeks to get your card, but you can call, after several days, and receive your number only; you **cannot** be paid until you get your social security number.

English Proficiency. Before being appointed to an assistantship at UT Arlington, a student whose native language is not English must demonstrate acceptable skill with spoken English. An applicant who is a non-native speaker of English must submit a TOEFL iBT score of at least 23, or a score of at least 7 on the Speaking section of the IELTS, or take and pass the UTA Developmental English course to meet this requirement. Only official scores provided directly to UT Arlington by ETS or IELTS are acceptable. The English proficiency requirement will be waived for non-native speakers of English who possess a bachelor's degree from an accredited U.S. institution.

UNIVERSITY FACILITIES

A campus map can be found in the University Catalog. Some of the more important facilities are listed below.

Office of Research and Graduate Studies (Graduate School)

The Graduate School is located in Davis Hall Room 333. The staff in that office can answer questions and supply the forms that you will need while you are enrolled here.

Libraries

The University has three libraries, the Central Library, the Science and Technology Library, and the Architecture and Fine Arts Library. A full description of the library system is given in the graduate catalog. Library contact for the Science & Engineering Librarian: Marin Wallace, marin.wallace@uta.edu, 817-272-3924.

Computer Labs

Computer Labs for student use can be found on campus in the following locations:

- Central Library (5th floor)
- Carlisle Hall (in the writing center-5th floor)
- Nedderman Hall (basement)
- Science Learning Center, Life Science Building
- MAE CADLAB, 320 Woolf Hall

Keys

A Key Request Form should be obtained from Danette Stille in Room 204-Woolf Hall. The form should be signed by the person authorizing your key. The Department Chairman will approve the request. After all signatures are obtained, the form will be forwarded to the Key Control office.

Mailboxes

AE graduate student (with TA appointments) mailboxes are located in Room 204 Woolf Hall. Please check your mailbox **daily** since you will be notified of important happenings by notice in your mailbox.

Health Center

A health center is available to meet your medical needs. A full description of the services offered by the health center can be found in the graduate catalog.

University Center

The University Center has numerous facilities and offices of interest to all students. In it are private dining-meeting rooms, lounges, ballrooms, food service areas, bowling and billiards, a post office, general store, bank, gallery, and video room. The center is also home to campus student organizations, the Student Congress, and the Student Activities Board. The Housing Office is also located in the Center.

International Office

The International Office is located in the Swift Center at 1022 UTA Blvd.

<http://www.uta.edu/oie/>

Hours of Operation: Monday - Friday from 8:00am - 5:00pm

Phone: 817-272-2355

Email: international@uta.edu

REQUIREMENTS OF THE MASTER'S PROGRAM

As in any Master's program, you will be required to accomplish a number of tasks before being awarded your degree. In this section the entire process will be outlined step by step. PLEASE read this carefully and refer to it often: The deadlines stipulated here are not to be taken lightly and the responsibility for adhering to them lies primarily with you. The following describes the expected course of events for a typical full-time student.

Core Areas in the Aerospace Engineering Program

The four core areas in the Aerospace Engineering program along with the recommended courses in each core area are listed below:

1. Fluid Mechanics, Aerodynamics and Propulsion

- AE 5313 Fluid Dynamics
- AE 5326 Air-Breathing Propulsion
- AE 5342 Gas Dynamics

2. Solid Mechanics and Structures

- AE 5310 Finite Element Methods
- AE 5311 Structural Dynamics
- AE 5339 Structural Aspects of Design

3. Flight Mechanics and Controls

- AE 5302 Advanced Flight Mechanics
- AE 5362 Guidance, Navigation and Control of Aerospace Vehicles

4. Flight Vehicle Design

- AE 5368 Flight Vehicle Synthesis and Systems Engineering

The First Year

All students must be advised by the Graduate Advisor prior to being cleared for registration. First semester, all students must attend the AE Graduate Student Orientation. Every semester, advising is done through email. All students must visit <http://www.uta.edu/mae/current-students/index.php> for downloading the instruction for online advising procedure and the advising form for the coming semester. Once the advising form is approved by the graduate advisor, the advising hold will be removed and students can enroll in the approved courses.

Full-time students will enroll in a minimum of 9 hours of course work/research per semester in the fall and spring semesters, and 6 hours of course work/research in the summer semester. The courses must be approved by the graduate advisor prior to registration. ***Students are strongly encouraged to discuss the selection of courses with their supervising professor.*** The details of the course offerings are listed in the Graduate Catalog, and the requirements that pertain to you are those listed in the catalog current at the time you enter the Graduate School. The Graduate Catalog section of the University Catalog is now accessible on-line at <http://catalog.uta.edu/engineering/mechanical/>. Unless you have deficiencies to be made up, you

will normally take AE courses in the first semester. The Graduate School requires that you maintain a 3.0 GPA (on a 4 point scale) in all course work taken as a graduate student.

If you have chosen the M.S. degree program, you should select a research advisor in your first year. You are recommended to talk to a large number of faculty members about potential research projects. Faculty profiles are provided on the MAE web site <http://www.uta.edu/mae/>.

Forms

The Graduate School maintains a complete list of downloadable forms at the following website: <http://grad.pci.uta.edu/students/forms/masters/>

DEGREE REQUIREMENTS

The Master of Science (M.S.) Degree in Aerospace Engineering is a research-oriented program in which completion of a thesis is mandatory. A minimum of 30 credit hours is required as follows:

- Two core courses
 - One course each from at least two core areas
- Two math or engineering analysis courses (six credit hours)
 - AE 5331 Analytical Methods in Engineering
 - AE 5332 Engineering Analysis
- Four courses (twelve credit hours) related to a specialty in Aerospace Engineering. Three of the four electives must be AE courses.
- Six credit hours of thesis. The student must enroll in AE 5197, 5297, 5397 or 5398 every semester in which the student is actively involved in thesis preparation or research, except that the student must enroll in AE 5698 in the semester of graduation.

A summary of the course requirements for M.S. students is given below.

Master of Science Degree		
Description	# of courses	# of credits
Core Courses	2	6
Math/Engineering Analysis Courses	2	6
Elective Courses	4	12
AE5698 (Thesis) in the last semester	1	6
Credit Total		30

The Master of Engineering (M.Eng.) Degree in Aerospace Engineering is an engineering practice- oriented program. A minimum of 30 credit hours is required as follows:

- Three core courses
 - One course each from three core areas.
- Two math/engineering analysis courses.
 - AE 5331 Analytical Methods in Engineering
 - AE 5332 Engineering Analysis

- Five elective courses
 - At least 4 of them must be aerospace engineering courses – AE {5,6}xxx)

A summary of the course requirements for M.Eng. students is given below.

Master of Engineering Degree		
Description	# of courses	# of credits
Core Courses	3	9
Math/Engineering Analysis Courses	2	6
Elective Courses	5	15
	Credit Total	30

For both the M.S. and the M. Eng. degrees, the balance of the required coursework hours may be chosen in consultation with the Supervising Professor and/or Graduate Advisor to meet the student's needs and interests.

Formal Admission to the Masters Degree Program

A student will be admitted to candidacy for the Masters Degree only when the requirements listed previously have been met. The student must file an Application for Candidacy and Final Program of Work as well as an Application for Graduation no later than 30 days after the first day of classes for the semester in which the candidate plans to receive his degree. A student planning to receive a degree at the end of the summer session must file Application for Candidacy and Final Program Work, as well as the Application for Graduation no less than 30 days after the first day of class of the 11 week summer session.

Final Semester

Prior to your graduating semester, download the Degree Plan Worksheet from the Graduate School website: <http://grad.uta.edu/students/forms/masters/>. A copy of this form is also available in the MAE Academic Program Office. This form will be used to form your Supervising Master's Committee and identify your coursework that is being applied to the degree. If you are pursuing a thesis-based M.S. degree, form your thesis committee with the assistance of your research advisor. If you are pursuing a non-thesis-based M.Eng. degree, ask an AE faculty member to be chair of your Supervising Master's Committee. Once that faculty member agrees to serve, you will form the rest of your committee. Remember that you must ask faculty to serve on your committee and they have to agree to serve. Once your committee has been formed and they have signed approval of your coursework, the Degree Plan Worksheet form is submitted to the Graduate Advisor for final approval processing. Requirements for being a Supervising Master's Committee member are detailed below.

Master Thesis Committee

The Master Thesis Committee must be composed of at least three members but not more than four, of whom three must be faculty members of the Mechanical and Aerospace Engineering (MAE) Department. The chair of the committee must be a member of the Aerospace Engineering (AE) Faculty and is usually the research advisor of the student. As such, the chair

of the committee is a full-time faculty member of the MAE Department, including tenure-track, tenured and Professors in Practice, who participate substantially in the aerospace engineering program. Should there be an External or Special Member, that person will be the fourth member of the committee and should have prior approval from AECAP (Aerospace Engineering Committee on Academic Programs).

Graduation Procedure

In the graduating semester there are several important deadlines that you must meet and fees that are to be paid. You should check the Office of Graduate Studies (OGS) website given above for these deadlines and fees and all forms that must be filed this last semester. Graduation Checklists (for thesis and non-thesis degrees) are provided at this website and provide a handy guide to all of the items requiring attention prior to graduation. The first important deadline is filing for graduation, which requires filling out the Application for Graduation form. The next significant date is that of the final master's exam (which applies to both thesis and non-thesis degrees). The final date to hold this exam is late November (in the fall semester) and mid-April (in the spring semester). The student must prepare a Request for Scheduling of the Final Master's Examination form, which must be submitted to the OGS no later than two weeks before the proposed exam date. Subsequent to the exam, the Final Master's Examination Report form must be filed with the OGS. Students must be enrolled in the graduate program for the semester in which they complete all graduate degree requirements and apply for graduation Enrollment in courses outside the major and minor fields will not satisfy final semester enrollment requirements.

Master's Thesis (for Master of Science Degree)

The final copies of the Master's thesis must be prepared according to format and styles required by the Office of Graduate Studies for thesis. (<http://grad.pci.uta.edu/students/forms/thesis/>).

The Office of the Graduate Studies examines each thesis and report and determines whether or not it meets the requirements for format and mechanical presentation. After the Office of the Graduate Studies is given the master copy of the final draft, the student will be given a written formal evaluation 72 hours later (excluding weekends, holidays and graduate registration periods). The master copy must be received no later than ten working days in advance of the final deadline to allow at least three days for the Office of the Graduate Studies exams, time for the student to make corrections, and time to have final copies made.

Time Limit

The master's degree must be completed within six years (time in military service excluded) from initial registration into the Graduate School.

Research (for Master of Science Degree)

Research for the Master's Degree will begin usually by the end of the first year of course work (or earlier). It will continue until your advisor and advisory committee determine that you are ready to defend your work. In or before the last semester (no later than 30 days after the start of the last semester) you must file the Application for Candidacy and Final Program Work, as well as an Application for Graduation.

Final Master's Exam

A final program examination is required for all master's degree candidates. The final master's exam can result in:

- Pass with a recommendation to the Dean of the Graduate School that the candidate be certified to receive the earned degree.
- A conditional pass with the requirement that additional conditions be met which may include further work on the thesis (M.S.) or the research project (M.Engr.), additional course work with a minimum GPA specified, and within a specified time period.
- Failure, with permission to be re-examined after a specified period; or
- Failure and recommendation to the Office of Graduate Studies that the candidate be dismissed from the program.

The AE program limits the number of repeats of the final master's exam to two times. Additional repeats require the written permission of the Office of the Graduate Studies.

If the student chooses the exam date past the deadline, the student will be considered to graduate in the following semester.

Thesis Degree Plan (Master of Science Degree)

For thesis degree plan candidates, the examination will be an oral defense of the thesis. The examination will be conducted by all members of the student's supervising committee but will be open to all members of the faculty. The thesis examining committee must have copies of the thesis at least two weeks prior to the thesis defense.

Non-Thesis Degree Plan (Master of Engineering Degree)

For students in the M.Eng. degree plan, taking special project (AE5191, 5291 and 5391), the final exam will consist of an oral presentation of the results of the research project to the members of the student's supervising committee. A written report may also be required by the examining committee. Note that up to six hours of special project courses are allowed for the non-thesis degree programs.

The student must prepare a Request for Scheduling of the Final Master's Examination. The form must be submitted to the Office of Graduate Studies no later than two weeks before the proposed exam date. The exam must indicate the time, place, and form (oral and/or written).

The Final Master's Examination Report must be filed in the Graduate School no less than three weeks before the date on which the candidate expects the degree to be conferred.

In the semester that you plan to graduate, there are several important deadlines that you must meet. You should consult the Graduate Catalog for these deadlines.

Miscellaneous

Academic Probation

A graduate student whose cumulative grade point average falls below a 3.00 in all graduate courses, be they graduate or undergraduate level, taken while enrolled as a UT Arlington graduate student will be placed on academic probation. The student must attain a grade point average of at least 3.00 in the next semester he or she is enrolled or be subject to dismissal. Undergraduate courses or graduate courses graded P, R, I or W or courses that do not provide graduate credit (see Courses Not Providing Graduate Credit) cannot be used to remove the condition of academic probation.

Dismissal

Students have the initial responsibility to recognize when they are having academic difficulties and are expected to initiate steps to resolve the problem. When a student is in academic difficulty, and dependent upon the severity of the problem, the student may receive an oral warning and/or written statement of the problem and required corrective actions from his or her program. Failure to take these corrective actions can result in termination from the degree program.

A student who has been dismissed from the Graduate School for failure to remove the condition of academic probation by meeting the 3.0 grade-point average requirement may be readmitted for further graduate study in the same or in a different program only if a Petition to the Graduate Faculty has been approved by the appropriate Committee on Graduate Studies and the Dean of Graduate Studies.

A student can be dismissed from a degree program not only for failure to maintain an adequate grade point average, but also for such reasons as unsatisfactory progress toward a degree as defined by the department or program, inability to pass a comprehensive examination, failure to prepare or to defend a thesis or dissertation in a satisfactory manner or complete thesis or dissertation work in an acceptable amount of time. Termination due to inadequate academic progress is a decision made by the program's or department's Graduate Advisor and Graduate Studies Committee. A student's thesis/dissertation committee may recommend termination for failure to prepare a thesis/dissertation proposal, prospectus or final draft in a satisfactory manner or failure to complete work in an acceptable amount of time to the program's Graduate Advisor and Graduate Studies Committee. Such decisions to terminate a student must be communicated to the Dean of Graduate Studies by the Chairman of the Graduate Studies Committee with required justification. The Graduate Dean will review the case make the final decision. The student may continue enrollment until the Dean finalizes the termination decision.

Students failing to pass a comprehensive examination or thesis/dissertation defense may be terminated upon the recommendation of the examining committee. Such decisions are indicated on the Comprehensive Examination Report or Final Defense Report which are returned to the Dean of Graduate Studies. The Graduate Dean will notify the student formally of the program's or department's decision.