BS in Mechanical Engineering to MS or ME in Materials Science and Engineering Fast Track

About This Program

Bachelor of Science in Mechanical Engineering to Master of Science or Master of Engineering in Materials Science and Engineering Fast Track enables outstanding senior undergraduate Mechanical Engineering students to receive dual ME undergraduate / MSE graduate course credit for six or nine hours of coursework. These designated graduate courses satisfy both bachelor's and master's degree requirements if they are completed within the last 15 hours of the undergraduate degree program. Students should refer to the Materials Science and Engineering section of the graduate catalog for detailed requirements of a master's degree in Materials Science and Engineering. This program presentation includes both undergraduate and graduate requirements. The undergraduate degree will be conferred immediately upon completion of the undergraduate degree requirements.

ASSOCIATED PROGRAMS

For detailed information about the programs associated with this Fast Track, refer to their individual degree pages.

Mechanical Engineering BS (https://catalog.uta.edu/engineering/mechanical/undergraduate/mech-engr-bs/)

Materials Science and Engineering MS (https://catalog.uta.edu/engineering/materialsscience/graduate/material-science-engr-ms/)

Materials Science and Engineering ME (https://catalog.uta.edu/engineering/materialsscience/graduate/material-science-engr-me/)

Admissions Criteria

An interested undergraduate student should apply to the program when within 30 hours of completing the mechanical engineering bachelor's degree. The student must have completed at least 30 hours at UT Arlington, achieving a GPA of a least 3.0 in those courses, and have an overall GPA of 3.0 or better in all college courses. Additionally, the student must meet the following requirements.

- Complete MAE 3242, MAE 3314, MAE 3324, and MAE 3344 with a minimum GPA of 3.3 in these courses, and a grade of B or better in each course.

For automatic admission to the graduate program the student must meet the following requirements.

- Complete a minimum of 6 and maximum of 9 hours of approved materials oriented graduate coursework.
- Earn B or better in all graduate courses intended for both undergraduate and graduate credit.
- Maintain UTA undergraduate cumulative GPA of 3.0 or above.

Curriculum

Mechanical Engineering Foundations		
Complete the UTA Core curriculum and BSME pre-professional program per catalog.		86
Mechanical Engineering Professional Program (Specialization)		
MAE 3181	MATERIALS AND STRUCTURES LAB	1
MAE 3183	MEASUREMENTS LABORATORY II	1
MAE 3185	INTRODUCTION TO MECHATRONICS	1
MAE 3242	MECHANICAL DESIGN I [1]	2
MAE 3311	THERMODYNAMICS II	3
MAE 3313	FLUID MECHANICS	3
MAE 3314	HEAT TRANSFER [1]	3
MAE 3318	KINEMATICS AND DYNAMICS OF MACHINES	3
MAE 3319	DYNAMIC SYSTEMS MODELING AND SIMULATION	3
MAE 3344	INTRODUCTION TO MANUFACTURING ENGINEERING [1]	3
MAE 4188	DESIGN PROJECT LABORATORY II	1
MAE 4287	DESIGN PROJECT I	2
MAE 4342	MECHANICAL DESIGN II	3
MAE 4344	COMPUTER-AIDED ENGINEERING	3
MAE 4310	INTRODUCTION TO AUTOMATIC CONTROL	3
Technical Electives		9
Select no more than one 3000/4000-level course in engineering, science, or mathematics with prior approval of advisor.		

Select at least 2 and no more than 3 graduate courses from the list of approved courses. [2]		
ME 5315	FUNDAMENTALS OF COMPOSITES	
MSE 5312	MECHANICAL BEHAVIOR OF MATERIALS	
MSE 5320	NANOSCALE MATERIALS	
MSE 5321	PHASE TRANSFORMATIONS OF MATERIALS	
MSE 5330	CORROSION SCIENCE AND ENGINEERING	
MSE 5339	FAILURE ANALYSIS AND RELIABILITY ENGINEERING	
MSE 5343	NANOBIOTECHNOLOGY	
MSE 5347	POLYMER MATERIALS SCIENCE	
MSE 5351	CURRENT TOPICS IN NANOTECHNOLOGY	
MSE 5352	SOLAR ENERGY MATERIALS AND DEVICES	
MSE 5353	FUNDAMENTALS OF SUSTAINABLE ENERGY	
MSE 5355	MATERIALS FOR ENERGY	
Masters programs in Material Science and Engineering		
Complete requirements for Master of Science or Master of Engineering in Material Science and Engineering per catalog.		21-24
Total Hours		**151-154**

1 For admission to the fast track, students must complete these and MAE 3324 with a minimum cumulative GPA of 3.3 and a grade of B or better in each course.

2 Other appropriate materials oriented graduate courses may be used if approved by both the student's Undergraduate ME and Graduate MSE Advisors.

Program Completion

CONTINUATION

If at any time an undergraduate fast track student falls below the 3.000 GPA requirements or earns a grade below B in a graduate course intended for both undergraduate and graduate credit, the student will be obliged to leave the program immediately and will not be allowed to take additional graduate courses as an undergraduate. If a student does not complete at least two graduate courses with B or better, any graduate credits earned with a grade of C or better will be applied only to the undergraduate degree. Graduate courses used for credit in the undergraduate program cannot be applied towards a graduate degree.

BENEFITS

A student who successfully completes the BS fast track will be automatically admitted to graduate study. The student will not be required to take the Graduate Record Examination, complete an application for graduate admission, or pay an application fee. For more details about the specifics of the fast track program, contact the undergraduate advisor or graduate advisor.

COURSE ENROLLMENT CLEARANCE

Students must obtain clearance each semester from the Graduate Advisor and Undergraduate Advisor for all graduate courses that will be used to satisfy undergraduate degree requirements.

TIME LIMIT TO BEGIN GRADUATE STUDIES

A student may take off one long semester plus a summer after receiving the undergraduate degree before starting as a graduate student. An application for graduate admission must be completed and approved before post-baccalaureate studies can begin. A student returning after a longer delay will have to apply as a regular student, completing a full application, paying all fees and meeting all admission requirements.

Advising Resources

First time in college students meet with engineering advisors in the UAEC (UAECengineering@uta.edu). Transfer students are advised prior to New Maverick Orientation by the department. Students, please read all student emails carefully and consult the department advising webpage for additional contact information and answers to common questions.

Location:

204 Woolf Hall

Email:

maeundergrad@uta.edu

Phone:

817-272-2561

Web:

Additional Advising Information (https://www.uta.edu/academics/schools-colleges/engineering/academics/departments/mechanical-aerospace/students/ugadvising/)