Material Science and Engineering Fast Track Program

In response to the need for advanced education in material science and engineering (MSEN), a *Fast Track* program is available to well-qualified UT Dallas undergraduate students. The program is designed to accelerate a student's education so that both, BS and MS degrees can be earned in approximately five years of full-time study, by enabling gifted undergraduate students in their senior year to include approved Master's level courses as part of an undergraduate degree plan. When *Fast Track* students graduate with a bachelor's degree, they are automatically admitted to graduate school at UT Dallas without need to take the Graduate Record Exam (GRE). They may take up to 15 graduate semester credit hours that may be used to complete the baccalaureate degree and also to satisfy requirements for the Master's degree if these courses are completed with grades of B or better[1]. For example, a *Fast Track* undergraduate who passed 12 semester credit hours (SCH) of graduate coursework with grades of B or better would have only 33 (total SCH required for Master's degree) – 12 (graduate SCH taken as *Fast Track*) = 21 SCH of graduate coursework left in order to complete the MS degree.

This document explains the qualifications necessary to enter the program, the requirements to successfully complete the program, and the procedures to be followed by *Fast Track* students.

Cross-Tracking into the MSEN MS Program

Undergraduate students who are enrolled in other BS programs may request admission to the *Fast Track* MS program in MSEN. The MSEN *Fast Track* program is really a *Cross Track* because MSEN does not offer an undergraduate BS degree.

Since *cross tracking* into the MSEN program requires additional courses that might not be required by the student's BS major, careful planning is critical. The student should request an appointment with the Graduate Director of the MSEN program to go over the MS and *Fast Track* requirements. The student must obtain approval from the Graduate Director of the MSEN program on the *Fast Track* application. Students should select graduate courses from the course list for the Master's degree in Materials Science and Engineering. Note that many of these courses have prerequisites. Such dependencies must be considered before the student can be sure of the cost of cross-tracking; this can be done by studying the online catalog at http://www.utdallas.edu/student/catalog/. The MSEN department also offers occasional "lunch and learn" sessions describing our graduate program which may be helpful to prospective *Fast Track* students.

If a student is accepted into the MSEN *Fast Track* program but decides to change to a different program, he/she must reapply for admission to the new program.

[1] Once a student transitions into the graduate degree program, all university and department rules and policies are applied just as for a normally admitted graduate student. *Fast Track* credits cannot be applied to more than one Master's degree program.

Admission Requirements

An undergraduate student *cross tracking* from another BS degree program qualifies for admission to the Material Science and Engineering *Fast Track* program if he or she meets *all* of the following qualifications:

- Has completed at least 15 semester credit hours at UT Dallas.
- Has repeated no more than 3 courses at UT Dallas and has repeated no course more than once.
- Has an overall GPA for all college courses of at least 3.33.
- Has completed at least six *benchmark courses*, with an average GPA in those courses of 3.5 or better. For undergraduates in the Eric Jonsson School of Engineering and Computer Science, the benchmark courses are:

MSEN 3310	Introduction to Materials Science
MSEN 3301	Introduction to Nanoscience and Nanotechnology
MSEN 3302	Microscopy, Spectroscopy and Nanotech Instrumentation
EE 3310	Electronic Devices
EE 4301	Electromagnetic Engineering
EE/MSEN 4391	Technology of Plasma
MECH 3310	Thermodynamics
MECH 4301	Intermediate Mechanics of Materials
BMEN 3360	Thermodynamics
BMEN 3315	Thermodynamics and Physical Chemistry in Biomedical Engineering
ENGR 3300	Advanced Engineering Mathematics

For undergraduates in the School of Natural Sciences and Mathematics, the benchmark courses are:

MSEN 3310	Introduction to Materials Science
MSEN 3301	Introduction to Nanoscience and Nanotechnology
MSEN 3302	Microscopy, Spectroscopy and Nanotech Instrumentation
CHEM 3321	Physical Chemistry I
CHEM 3322	Physical Chemistry II
CHEM 3472	Instrumental Analysis
CHEM 3341	Inorganic Chemistry
PHYS 3411	Theoretical Physics
PHYS 3427	Electronics with Laboratory
PHYS 3300	Numerical Methods in Physics and Comp. Techniques
PHYS 4311	Thermodynamics and Statistical Mechanics
PHYS 4301	Quantum Mechanics
PHYS 4371	Solid State Physics

Application to the *Fast Track* Program

In order to ensure that all requirements are met, admission to the *Fast Track* program is facilitated and administered by the Office of the Associate Dean for Undergraduate Education (ADU). Download the appropriate application (corresponding to your intended MS degree), or obtain the application from the ECS Office of Undergraduate Advising (OUGA); submit the completed form to your undergraduate advisor by the posted deadline of your intended start term. After the deadline, *Fast Track* applications will be circulated for review by the ECS ADU, the MSEN Graduate Director, the ECS Associate Dean for Academic Affairs, and the Dean of Graduate Education.

Students who are denied admission to the *Fast Track* program may apply to the graduate programs through the normal admission process. All necessary fees, test requirements, and any other admission criteria will apply.

Fast Track application deadlines:

Fall Term – March 21 **Spring Term** – October 21

Choice of Graduate Courses and Other Requirements

Fast Track courses taken during the undergraduate senior year must be well chosen so that they satisfy the requirements of the BS degree AND those of the intended MS degree. Once they become MS students, *Fast Track* students must attend graduate student orientation, which is offered at the beginning of the Fall and Spring semesters.

Each semester, *Fast Track* students must consult the ECS ADU and the MSEN Graduate Director before deciding on their graduate courses. Students will be permitted to take approved graduate courses that may be used to satisfy both BS and MS degree requirements. Only organized 5000 and 6000 level courses that count towards the MS degree can be used as *Fast Track* courses. An organized course is one posted in the schedule for classroom (or online) delivery. Independent study courses do not qualify.

Remaining in the *Fast Track* Program

In order to remain in good standing, a *Fast Track* student must fulfill the requirements.

1. Must maintain a GPA of at least 3.33 overall and at least 3.0 for graduate courses taken as an undergraduate *Fast Track* student.
2. Must earn a grade of B or better in all graduate courses. Courses in which a student earns a passing grade below B shall only count towards the BS degree and will not count for the MS degree.
3. Must not repeat more than three courses, and must not repeat any course more than once.

If, at any time these requirements are not fulfilled, the student will be dropped from the *Fast Track* program. Any graduate credits successfully earned can be applied to the BS degree only, and the benefits of the *Fast Track* program will not apply. A student dropped from the *Fast Track* program shall not use these graduate courses towards a future graduate degree.

Matriculating to the Master's Degree

Upon successful completion of the BS degree, a *Fast Track* student will transition to the appropriate MS degree program if they are in good standing. A graduate matriculation will be created for these students so that they can continue their studies towards their MS degree without any additional documentation or fees. Subsequently, students must meet with an MS degree graduate advisor and complete any necessary degree plan requirements by the end of the first semester in graduate school.

Once you are a graduate student, you are governed by the rules for all graduate students. There is no minimum course load, but you must complete your MS degree within six years.

Taking a Break Between the Two Degrees

The rules for re-admission apply to students that wish to take a break between their completion of the BS degree and continuation of their graduate studies. Students that take off three or more long semesters (not counting summers) need to reapply for admission to the graduate program and will lose their *Fast Track* privileges (including waiver of the GRE requirement). As per the UT Dallas Graduate Catalog, a new review will be made to determine eligibility of enrollment under current standards for admission. If accepted, the readmitted student will be bound by all conditions of the catalog in force at the time of readmission. For instances in which students must reapply, their graduate course requirements must be discussed and approved by the corresponding graduate program.