

Computer Science and Software Engineering Fast Track Program

In response to the need for advanced education in computer science and software engineering, a *Fast Track* program is available to well-qualified UT Dallas undergraduate students. The *Fast Track* 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. The *Fast Track* program in Computer Science and Software Engineering enables exceptionally 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 Records Exam (GRE). Qualified students 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 better¹. So, for example, a *Fast Track* undergraduate who passed 15 semester credit hours of well-chosen graduate coursework with grades of B or better would have only 18 semester credit hours of graduate coursework still needed 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.

Admission Requirements

An undergraduate student in Computer Science and Software Engineering qualifies to be admitted to the Computer Science and Software 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 3.0.
- Has completed at least *six* of the following benchmark courses (including CS 3345), corresponding to the student's major, with an average six course GPA of at least 3.33. The combined GPA in all benchmark courses should be at least 3.0:

| Computer Science | | Software Engineering | |
|------------------|-------------------------------|----------------------|--------------------------|
| CS 2305 | Discrete Math I | CS 2305 | Discrete Math I |
| CS 3305 | Discrete Math II | SE 3306 | Math Foundations for SE |
| CS/SE 3345 | Algorithms and Data Str. | CS/SE 3345 | Algorithms and Data Str. |
| CS/CE 4337 | Programming Languages | CS/SE 3354 | Software Engineering |
| CS/CE 3340 | Computer Architecture | CS/SE 3340 | Computer Architecture |
| CS/CE 4348 | Operating Systems | CS/SE 4348 | Operating Systems |
| CS 4349 | Adv. Algorithms and Data Str. | SE 4351 | Software Requirements |
| CS 4384 | Automata Theory | SE 4352 | Software Architecture |

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.

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 Graduate Director or Associate Department Head for Graduate Studies related to the intended MS degree, the ECS Associate Dean for Academic Affairs, and the Dean of Graduate Studies. After the review is complete, you will receive an e-mail indicating the decision of the Graduate Program and a signed copy of the decision will be inserted in your file.

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:

Summer and Fall Terms – March 21

Spring Term – October 21

Choice of MS Degree and Cross-Tracking

Undergraduate students who are enrolled in one BS program within the Jonsson School may request admission to a different MS program within the school. For example, CS(SE) seniors may elect to *Fast Track* into other MS programs in the school: BMEN, EE, CE, CS, SE, MSEN, SEM or TE.

Since cross-tracking from a different program requires additional courses that might not be required by the student's BS major, careful and advanced planning is pertinent. The student should initiate an appointment with the Graduate Director or Associate Department Head of the CS(SE) program to understand the MS requirements. Students must complete the necessary CS(SE) benchmark course requirements in order to be eligible for admission into the CS(SE) *Fast Track* program. If a student is accepted into a *Fast Track* program but decides to change the program, he/she must reapply for admission to the new program. Students planning to cross-track should select MS courses from the list of prerequisites and core courses for their intended MS major. Note that these graduate prerequisites or core courses may also have prerequisites. A complete list of these dependencies must be considered before the student can be sure of the cost of cross-tracking. This research can easily be completed by studying the online catalog at <http://www.utdallas.edu/student/catalog/>.

It may also be possible to cross-track to an MS degree in another school at UT Dallas. See the appropriate graduate advisor for details and advice. Note that *Fast Track* courses can only be applied to one approved MS degree program.

Choice of Graduate Courses

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 (note that many of the MS programs have tracks or concentration areas with different core requirements).

Prior to registration in master's level courses, all newly admitted *Fast Track* students must attend a New *Fast Track* Student Orientation session organized by the chosen graduate program. Notice of the orientation dates will be emailed to newly admitted *Fast Track* students by the graduate program upon admission to the *Fast Track* program. The department will conduct two fast track graduate student orientations. In Spring for students entering the fast track program in Summer and Fall terms and in Fall for students entering the fast track program in Spring term.

Each semester thereafter, *Fast Track* undergraduate students must consult the ECS ADU and the Graduate Director or Associate Department Head of the graduate program 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 are used for credit towards the MS degree can be used as *Fast Track* courses. An organized course is one that is posted in the schedule for classroom (or online) delivery. Independent study courses do not qualify.

Fast Track students may, with the advice of the ADU, fulfill some of their major course requirements, their undergraduate guided electives and/or their free electives by taking graduate-level courses. Those graduate courses should also be core or elective courses for the intended MS major.

Students should not take more than one 5000-level course because of limits on the number of 5000-level courses that can be used to satisfy the requirements of the corresponding MS degree (consult with Graduate Director as some of the degree plans may not allow the use of 5000 level course as an elective). *Fast Track* students cannot take the following 5000-level classes because they cannot be used for credit toward the MS degree or overlap with lower-level degree requirements:

CANNOT TAKE THESE COURSES

CS 5301 Advanced Professional and Technical Communication
CS 5303 Computer Science I
CS 5330 Computer Science II
CS 5333 Discrete Structures
CS 5336 Programming Projects in Java

In addition, students should not take pairs of equivalent courses as listed below; you can take the graduate version on the right instead of the undergraduate version listed on the left, but you cannot take both.

FORBIDDEN PAIRS (5000 level)

| | | |
|--------------------------------|---------------|---------|
| Algorithms and Data Structures | CS/SE 3345 | CS 5343 |
| Software Engineering | CS/SE 3354 | CS 5354 |
| Unix | CS 3376 | CS 5375 |
| Operating Systems | CS/SE/TE 4348 | CS 5348 |
| Automata Theory | CS 4384 | CS 5349 |
| Networks | CS/TE 4390 | CS 5390 |

FORBIDDEN PAIRS (6000 level)

| | | |
|-----------------------------|------------|---------|
| Object Oriented Design | CS/SE 4376 | CS 6359 |
| Data Base | CS/SE 4347 | CS 6360 |
| Artificial Intelligence | CS 4364 | CS 6364 |
| Computer Graphics | CS 4361 | CS 6366 |
| Software Project Management | SE 4381 | SE 6388 |
| Information Security | CS 4393 | CS 6324 |

Since the academic departments continually strive to improve the content of graduate classes, the above list is tentative and incomplete. The Director of Graduate Studies/ADU will make final decisions at the time of registration.

Some graduate classes that overlap in content with undergraduate classes can be used as substitutes for the undergraduate class but require prior permission of the instructor of the graduate class to enroll. (These classes are at a significantly higher level in content and/or expectation, and the instructor will determine if you are able to take them; obtain the instructor's approval prior to that of the ADU.) If you have taken the undergraduate class, you do not need permission of the instructor to take the graduate class (which can be used as a guided elective or free elective). These classes are listed below:

GRAD COURSES REQUIRING PERMISSION OF INSTRUCTOR

| <i>Subject</i> | <i>Undergrad class</i> | <i>Grad class</i> |
|---------------------------------|------------------------|-------------------|
| Algorithms | CS 4349 | CS 6363 |
| Requirements Engineering | SE 4351 | SE 6361 |
| Software Architecture | SE 4352 | SE 6362 |
| Testing, Quality Assurance | SE 4367 | SE 6367 |
| Programming Languages | CS 4337 | CS 6371 |
| Project Planning and Management | SE 4381 | SE 6388 |

Remaining in the *Fast Track* Program

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

1. Must maintain a GPA of at least 3.0 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.
4. Grades received for Option C courses count only towards the graduate degree plan.

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 adviser and complete any necessary degree plan requirements by the end of the first semester in graduate school.

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 long semesters (or more - 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.

Taking Breaks During Graduate Studies; Minimum Course Load

Once you are a graduate student, you are governed by the rules for all graduate students. There is no minimum course load, and you can take breaks, as outlined in the graduate catalog, but you must complete your MS degree within six years. Consult a graduate advisor for more details.