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Department of Computer Science

Fast Track Info Session
April 2024

What is Fast Track?

The Fast Track MSCS program offers an accelerated path for qualified and motivated students to obtain both bachelor's and master's degrees in computer science in five years.

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Why Get a Masters Degree?

- More employment opportunities

- Higher starting pay

- Can be used to pursue a PhD

- Better equipped to be successful in industry

How Does Fast Track Work?

- Students can take two 5000-level electives (10 credits) as part of their undergraduate studies. They will count as 4000-level electives.

- The 10 credits will double count towards the undergraduate BS degree and graduate MS degree.
  - With 10 credits already accounted for, the remaining requirements (36-38 credits) for the MS can be completed in the fifth year.

Eligibility Requirements

- Students must be enrolled in BS in Computer Science.
- Students must have a 3.0 cumulative and major GPA.
  - Students consistently earning grades below a B in 3000-level CPSC courses should be aware that a 3.0 graduate GPA is necessary to complete the MSCS.
- Students must have completed the required 3000-level computer science courses.
- Transfer students are eligible for fast track.

Entering the Fast Track

Entering the Fast Track Program has two steps:

1. Declare intent to enter Fast Track.

2. Apply to the MSCS program.

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Declare Intent

- Students can declare intent once they meet eligibility requirements.
  - Students may declare intent in the quarter they are finishing the required 3000-level courses.
- To declare intent, fill out the Fast Track Intent Form (available on course website).
- Declaring intent does two things:
  - Your academic advisor will be switched to a fast track advisor within the department.
  - You will be permitted to register for 5000-level CPSC courses (more later).
- Declaring intent does not lock you into the graduate program.
  - You can still graduate with your undergraduate degree and not pursue the MSCS degree.

MSCS Degree

- The MSCS degree has three variants:
  - General option
  - Software engineering specialization
  - Data science specialization
- When you apply, you should know which variation you want to pursue.
  - It is possible to switch but it will likely delay graduation time.
  - It also impacts which 5000-level courses you select as a senior.

MSCS General Option

- Required Courses:
  - CPSC 5200 SW Arch & Design
  - CPSC 5800 Ethics
  - ==Applied Algorithms: CPSC 5600 or CPSC 5610==
  - ==Systems: CPSC 5510 or CPSC 5520==
  - ==Software Development: one of five courses==
- Electives:
  - 15 credits (3 courses)
- Research option or Course Option:
  - Research option: CPSC 5990 (8 credits, two quarter research project)
  - Course option: CPSC 5890 Seminar (3 credits) + elective (5 credits)
- Total credits: 45

> Senior year: Take two of the highlighted courses (Recommended)

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MSCS – Software Engineering

- Required Courses:
  - CPSC 5200 SW Arch & Design (WINTER or SPRING)
  - CPSC 5800 Ethics
  - Applied Algorithms: CPSC 5600 or CPSC 5610
  - Systems: CPSC 5510 or CPSC 5520
  - Software Development: one of five courses
- Electives:
  - 10 credits (2 courses)
- Software Engineering Specialization Courses:
  - CPSC 5120 SW Project Management (WINTER, 3 credits)
  - CPSC 5210 SW Testing and Debugging (SPRING)
  - CPSC 5810 / 5820 SW Engineering Project (8 credits, 2 quarters)
- Total credits: 48

Senior year: Take the three highlighted courses (13 credits) **REQUIRED!!**

MSCS – Data Science

- Required Courses:
  - CPSC 5200 SW Arch & Design
  - CPSC 5800 Ethics
  - Applied Algorithms: CPSC 5610 AI (only choice)
  - Systems: CPSC 5520 Distributed Systems (only choice)
  - Software Development: one of five courses
- Data Science Specialization Courses:
  - CPSC 5305 Introduction to Data Science (FALL, 3 credits)
  - CPSC 5310 Machine Learning (WINTER, 5 credits)
  - CPSC 5320 Visual Analytics (SPRING, 3 credits)
  - CPSC 5330 Big Data Analytics (SPRING, 3 credits)
  - Data Science elective (5 credits)
  - CPSC 5830 Data Science Capstone Project (5 credits, 1 quarter)
- Total credits: 46

Senior year: Take the four highlighted courses (14 credits) **REQUIRED!!**

Important Notes about Specializations

- You must take the highlighted courses in order to finish the specializations in one additional year.

- Both the SE and DS specializations require more than 10 credits in senior year.
  - The excess credits will carry over to the MSCS – you will need to take fewer credits in the 5th year.
  - The excess credits cannot be part of the 180 credits to graduate with the undergraduate degree.

Preparatory / Waiver Courses

- Fast-track students are waived from:
    - Preparatory courses (CPSC 5005-5042)
        - Exception: Business specialization students are not waived from the systems courses unless they took CPSC 2500 & 3500.
    - CPSC 5110
        - Students in general and MSCS-SE take another elective instead.
        - Students in MSCS-DS take CPSC 5200 instead.
        - This waiver is automatic, students in the fast-track program are not permitted to take CPSC 5110.
    - MATH 5315 if they have taken MATH 2310 and MATH 2320
        - Only needed for data science specialization, the number of credits is reduced to 46.
        - Students must take MATH 2310 and MATH 2320 prior to taking CPSC 5310 (winter of senior year).

Deadlines

- Must declare intent by these deadlines for timely completion.
  - MSCS – data science specialization: April 26 of junior year
  - Other tracks: October 8 of senior year
  - If you plan to take 5000-level courses earlier, you must declare intent at least three weeks before registration starts.
  - The department does not process fast track intent forms during registration week (along with the week before and week after).
- Admission into the MSCS
  - Deadline: April 8 of senior year
  - The application process for this program is greatly simplified compared to the graduate admission process.
    - No GRE, recommendations, transcripts, or personal statement is required.

Graduation

- Still need to apply for graduation for both degrees
- Graduation for undergraduate degree
    - Deadline: Nov. 1 of senior year (assuming spring completion)
- Graduation for graduate degree
    - Deadline: Nov. 1 of 5th year

What If I am Undecided?

- You can still take 10 credits of 5000-level courses and it will count towards the BS degree (even if you decide to not pursue the MSCS).

- The 10 credits will also count towards the MSCS if you wait a year or more after completing the BS degree.

Implementation Issues

- Current university regulations require 36 credits of residency beyond the BS.
  - In the general option, one extra credit is needed in most cases. Options:
    - Summer internship (recommended)
    - Extra credit for research project (if choosing research option)
    - Independent study
    - Extra course (at least 3 credits)

Implementation Issues

- Can take extra MS courses (beyond the 10 credits that double count) as an undergraduate.
  - Necessary for SE and DS specializations
  - Useful if students have extra space in their final quarter
    - Includes cases where the undergraduate degree spills over into fall quarter of the fifth year.
- Extra courses cannot count towards the 180 credits.
- Plans require approval.

Tuition and Financial Aid

- Students are considered undergraduate students until they complete their undergraduate degree.
  - Undergraduate tuition (flat rate for full time)
- After they complete the BS degree, students are considered graduate students for the duration of their studies.
  - Graduate tuition (pay per credit)
- Financial aid varies widely and rules are complex.
- The department does not have the expertise to answer tuition / financial aid questions.

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QUESTIONS?