SEATTLE U
Department of Computer Science

Fast Track Info Session
January 2021
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.
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.

Note: Undergraduates are not able to register for graduate courses, directions will be given as part of the “Closed-course procedures”.
Eligibility Requirements

• Students must be enrolled in BS in Computer Science (general option, math spec., business spec.).
  – Students in BA can apply to MSCS but they will need to take additional courses and it’s unlikely they would finish a fifth year.

• Students must have a 3.0 cumulative and major GPA.

• Students must have completed the required 3000-level courses before applying for the MSCS.

• Transfer students are eligible for fast track.
Application Process

• You must apply to the MSCS program.
• The application process for this program is greatly simplified compared to the graduate admission process.
  – No GRE, recommendations, transcripts, or personal statement is required.
• Can apply anytime after you complete the 3000-level courses but must meet deadlines for MSCS.
  – Recommend applying by April 1 of senior year.
• The start date of the MSCS is the first quarter after you complete the undergraduate degree.
What If I am Undecided?

• It is not necessary to be in the MSCS program to take 5000-level courses as an undergraduate.
• 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.
**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 may 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
MSCS – SW Engineering (if you have taken CPSC 5100)

- **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:**
  - 5 credits (1 course)

- **Software Engineering Specialization Courses:**
  - CPSC 5100 Agile Software Requirements
  - CPSC 5210 SW Testing and Debugging
  - CPSC 5810 / 5820 SW Engineering Project (8 credits, 2 quarters)

- **Total credits:** 45
MSCS – SW Engineering
(everyone else)

• 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:
  – 10 credits (2 courses)

• Software Engineering Specialization Courses:
  – CPSC 5120 SW Project Management (3 credits)
  – CPSC 5210 SW Testing and Debugging
  – CPSC 5810 / 5820 SW Engineering Project (8 credits, 2 quarters)

• Total credits: 48
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 (2 cr this year, 3 cr next year)
  – CPSC 5310 Machine Learning (5 credits)
  – CPSC 5320 Visual Analytics (3 credits)
  – CPSC 5330 Big Data Analytics (3 credits)
  – Data Science elective (5 credits)
  – CPSC 5830 Data Science Capstone Project (5 credits, 1 quarter)

• Total credits: 45 or 46
Notes about Specializations

• If you are a senior and want to take a specialization:
  – If you haven’t taken courses toward that specialization, you won’t be able to finish in a fifth year due to course sequencing.

• If you are not a senior and want to take a specialization, more information will be given later.
  – Data science: Take MATH 2310 and MATH 2320 before winter of senior year.
Implementation Issues

- Fast-track students are waived from:
  - Preparatory courses
    - Exception: Business specialization students are not waived from the systems courses unless they took CPSC 2500 & 3500.
  - MATH 5315 (for MATH 2310 and MATH 2320)
    - Only needed for data science specialization

- Current university regulations require 36 credits of residency beyond the BS.
  - 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)
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)
  – Must be a graduate student for at least one quarter.

• Financial aid varies widely.

• The department does not have the expertise to answer tuition / financial aid questions.
Implementation Issues

• Still need to apply for graduation in both BS and MS degrees.
  – Can attend each commencement.

• Can take extra MS courses (beyond the 10 credits that double count) as an undergraduate.
  – Cannot count towards the 180 credits.
  – Will be an extra step of transferring those courses over once you become a graduate student.
QUESTIONS?
Business Specialization → MSCS

- Two electives:
  - CPSC 3500
  - One 5000-level elective

- In addition, they these courses as general electives:
  - CPSC 2500 (pre-req to CPSC 3500)
  - One 5000-level elective

- More math is needed for data science specialization:
  - MATH 2310 and MATH 2320 as an undergraduate
  - MATH 5315 as a graduate
Math Specialization → MSCS

• One computer science elective:
  – 5000-level elective

• Take a second 5000-level elective as a general elective.
  – CPSC 2500 (pre-req to CPSC 3500)
  – One 5000-level elective