

Fall 2018 - Spring 2019 Technical Tracks

This page describes various options for technical tracks. However, you must consult with your advisor before filling in your technical-track declaration form.

Note: BA degree students must choose either (1) the Software Engineering and Design technical track or (2) a technical track, complete a significant project or senior thesis in their non-technical or technical tracks and take a WID course in their second major.

Note: For a course to count towards the technical track requirement, it must have a pre-requisite of at least CSCI 2113.

Artificial Intelligence (AI): for students interested in artificial intelligence and its applications, take at least three courses from the following list: [CSCI 4525: Autonomous Robots: Manipulation](#), [CSCI 4527: Introduction to Computer Vision](#), [CSCI 4364: Machine Learning](#), [CSCI 4511: Introduction to Artificial Intelligence](#), [CSCI 4572: Computational Biology](#), [CSCI 4314: Continuous Algorithms](#), [CSCI 6351: Data Compression](#), [CSCI 6443: Data Mining](#), [CSCI 6515: NLU](#).

Computational Mathematics and Sciences: Take at least three courses from the following list: [CSCI 4331: Crypto](#), [CSCI 4341: Continuous Algorithms](#), [CSCI 4342: Computational Linear Algebra and Applications](#), [CSCI 4572: Computational Bio](#), [CSCI 6313: Advanced Discrete Structures](#).

Computer Graphics and Digital Media: For students interested in computer graphics, visualization, animation and digital media. Take three courses from the following list: [CSCI 6561: Design of Human-Computer Interface](#), [CSCI 4554: Computer Graphics I](#), [CSCI 6554: Computer Graphics II](#), [CSCI 6555: Computer Animation](#)

Computer Security and Information Assurance: For students interested in the design and implementation of secure computing infrastructures.

- **BS degree:** Take at least three courses from the following list:
[CSCI 4331](#), [CSCI 4531](#), [CSCI 4541](#).
Graduate level courses may be substituted with advisor approval.
 - **BA degree:** [CSCI 4331](#), [CSCI 4531](#), [CSCI 4541](#).
Graduate level courses may be substituted with advisor approval.
-

Data Science: Take at least three courses from the following list: [CSCI 4364: Machine Learning](#), [CSCI 6515: NLU](#), [CSCI 6351: Data Compression](#), [CSCI 6443: Data Mining](#), [CSCI 4341: Continuous Algorithms](#).

Foundations and Theory: for students interested in exploring theory or developing strong foundations, perhaps in preparation for graduate work in Computer Science. Take three courses from [CSCI 4331](#), [CSCI 4341](#), [CSCI 4342](#), [CSCI 6212](#), [CSCI 6311](#), [CSCI 6312](#), [CSCI 6351](#), [CSCI 6313](#), [CSCI 6318](#).

Software engineering and Application Development (BS program): for students interested in the software engineering concepts and techniques required for the design and implementation of large software systems and applications. Take three courses from [CSCI 4561](#), [CSCI 4235](#), [CSCI 6234](#), [CSCI 6231](#), [CSCI 6232](#), [CSCI 6233](#), [CSCI 6561](#).

Software engineering and Design (BA program): Take one course from [CSCI 5461](#), [CSCI 4235](#), [CSCI 6234](#), [CSCI 6231](#), [CSCI 6232](#), [CSCI 6233](#), [CSCI 6561](#), together with the three-course senior design sequence. In this case your track may be titled **Software engineering and Design**.

Systems: for students interested in the design, implementation and management of hardware and software systems. Take three courses from [CSCI 4431](#), [CSCI 4237](#), [CSCI 4541](#), [CSCI 4235](#), [CSCI 6431](#), [CSCI 6433](#), [CSCI 6441](#), [CSCI 6421](#), [CSCI 6411](#).

Individually designed technical track: This track is designed by you with the agreement of your advisor. It will comprise at least three courses, not necessarily with CSci designations, *but the content must meet a broad technical requirement that it be closely related to the disciplines of computing.*