

Department of Computer Science and Information Systems

Computational Science (CPSI) Master's Degree Plan (effective starting Fall'19)

Non-Thesis Option: 30 SCH course work and 3 SCH of CSCI 507 and 3 SCH of CSCI 508
 Thesis Option: 24 SCH course work and 6 SCH of CSCI 518.

Name: _____
(Last Name) (First Name)

CWID: _____

Email: _____

Advisor: _____

Computational Science Prerequisites

Prerequisites do not count towards hours to complete degree. Fill in your grades next to the course, sign, and give to your advisor.

__ CSCI 515 Fundamentals of Programming C/C++

(Passed/Waived? Semester)
(Advisor signature required)

Core Courses (required)

- __ CSCI 509 Intro Computational Science and Statistics
- __ CSCI 532 Algorithm Design
- __ CSCI 549 Automata Theory
- __ CSCI 574 Machine Learning

Required (one of the following)

- __ CSCI 507 (3 hrs) and CSCI 508 (3 hrs) CPSI Internships
- __ CSCI 518 Master's Thesis (6 hrs)

Recommended Electives*

Track Emphasis (must complete at least one track) Track courses can be taken as electives.

Track 1: Computational Linguistics

(6 Semester Hours) See also Comp. Ling. Certificate

- __ ENG 555 General Linguistics
- __ ENG 685 Computational Linguistics

Track 2: Computational Business Analytics

(6 Semester Hours)

- __ BUSA 501 Intro Business Analytics
- __ BUSA 542 Applied Decision Modeling

Track 3: Computational Biology

(6 Semester Hours)

- __ BSC 504 Quantitative Biology
- __ CSCI 570 Bioinformatics Algorithms

- __ BSC 513 Molecular Genetics
- __ BSC 519 Advanced Gene Regulation
- __ BSC 526 Developmental Biology
- __ BUSA 523 Business Analytics Programming
- __ BUSA 537 Advanced Analytics
- __ ECO 578 Statistical Methods
- __ ENG 686 Quant. Methods for Linguists
- __ ENG 697 Special Topic
- __ MATH 536 Cryptography
- __ MATH 546 Numerical Analysis
- __ MATH 561 Regression Analysis & Design of Exper.
- __ PHYS 513 Computational Physics
- __ PHYS 517 Mathematical Methods in Physics
- __ PHYS 572 Parallel Computing
- __ PSY 511 Cognitive Science
- __ PSY 620 Introduction to Human Cognition
- __ PSY 626 Cognition and Instruction II
- __ PSY 645 Introduction to Learning Technology
- __ CSCI 556 Data Analytics and Visualization
- __ CSCI 560 Neural Networks and Deep Learning
- __ CSCI 567/Math 563 Image Processing with Elements of Learning
- __ CSCI 569/Math 569 Image Analysis and Recognition with Learning
- __ CSCI 571 Statistics for Scientific Computation and Analysis
- __ CSCI 573 Big Data Computing & Analysis
- __ CSCI 575 Cyber-physical Systems and Industrial IOT

**Any regular graduate CSCI course can also be taken as electives with faculty advisor approval*

Master's Comprehensive Exam: Each student must pass the Master's Comprehensive Exam. This exam is given during the Fall and Spring semesters and it is the responsibility of the student to register for the test with the department. For students who are doing the MS thesis option, the final thesis defense before the faculty committee constitutes the student's comprehensive exam.

Comprehensive Exam: (1) Coordinator: _____ Semester: _____ (Pass/Fail)
 (2) Coordinator: _____ Semester: _____ (Pass/Fail)
 (3) Coordinator: _____ Semester: _____ (Pass/Fail)

Student: _____

Date: _____

Advisor: _____

Date: _____

Notes:

1. *Clearance of prerequisite courses:* The prerequisite courses of CSCI 515 and CSCI 502 may be waived if one passes the prerequisite deficiency tests/exams that are usually held on and/or before during the orientation week (i.e., the weeks prior to the first week of classes). The first semester of studies is a student's only chance to take the deficiency exams. The prerequisite courses are required for any student who are not waived during the first semester in the program, and the student is not allowed to drop the prerequisite courses.
2. *Comprehensive exam:* To complete the degree, one pursuing the non-thesis option should pass the comprehensive exam that is offered twice a year in Fall and Spring semesters. Officially there are two chances to take the comprehensive exam; the third attempt may be given upon the department consent by processing the "3rd attempt" form.