

# Department of Computer Science and Information Systems

## Computational Science (CPSI) Master's Degree Plan

Non-Thesis Option: 10 courses and 6 hrs of CSCI 507. Thesis Option: 8 courses and 6 hrs of CSCI 518.

Name: \_\_\_\_\_ CWID: \_\_\_\_\_  
(Last Name) (First Name)

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.

\_\_ 515 Fundamentals of Programming C/C++    \_\_ 502 Statistics for Scientific Computation & Analysis

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

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

#### Core Courses (required)

- \_\_ 509 Intro Computational Science
- \_\_ 530 Operating Systems
- \_\_ 532 Algorithm Design
- \_\_ 549 Automata Theory

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

##### Track 1: Information Visualization and Data Analytics (IVDA)

(9 Semester Hours)

- \_\_ CSCI 526 Database Systems
- \_\_ CSCI 527 Advanced Databases
- \_\_ CSCI 556 Data Analysis and Visualization

##### Track 2: Intelligent Information Systems (IIS)

(9 Semester Hours)

- \_\_ CSCI 560 Neural Networks
- \_\_ CSCI 567/Math 563 Image Processing w. Applic.
- \_\_ CSCI 574 Machine Learning

##### Track 3: Computational Security (CMS)

(9 Semester Hours)

- \_\_ CSCI 563 Information Security
- \_\_ CSCI 581 Computer and Network Security
- \_\_ CSCI 587 Secure Protocols

#### Required – one of the following

- \_\_ 507 CPSI Internship (6 hrs)
- \_\_ 518 Master's Thesis (6 hrs)

#### Electives

*Any regular graduate CSCI course can also be taken as electives.*

- \_\_ BSC 519 Advanced Gene Regulation
- \_\_ BSC 526 Developmental Biology
- \_\_ BUSA 501 Intro Business Analytics
- \_\_ BUSA 501 Business Analytics Programming
- \_\_ BUSA 501 Advanced Analytics
- \_\_ BUSA 501 Applied Decision Modeling
- \_\_ ECO 578 Statistical Methods
- \_\_ ENG 555 General Linguistics
- \_\_ ENG 685 Computational Linguistics
- \_\_ ENG 686 Quant. Methods for Linguists
- \_\_ ENG 697 Special Topic
- \_\_ MATH 536 Cryptography
- \_\_ MATH 561 Stat. Computing & Design of Exper.
- \_\_ PHYS 572 Parallel Computing
- \_\_ PSY 515 Neuro./Bio. Bases of Behavior
- \_\_ PSY 573 Principles of Cognitive Assessment
- \_\_ PSY 620 Introduction to Human Cognition
- \_\_ PSY 626 Cognition and Instruction II

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. *Maximum number of credits:* The department advises the maximum number of credits to be 10 credits/semester (or 3 courses/semester) during the first semester of studies in the program, and 13 credits/semester (or 4 courses/semester) for the other semesters.
2. *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.
3. *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 "3<sup>rd</sup> attempt" form. The department reveals the overall exam scores only to those who fail the exam. One can appeal and request re-evaluating the test only once during one's study. The student needs to fill and submit the "third attempt form" to the graduate adviser by the end (Friday) of the first week of the semester that the student intends to take the comprehensive exam.