

CSCI-MS

Graduate Track/Specialty Area

Worksheet

Name of Track: Computational Life Science

Faculty Member(s) using track: Qunfeng Dong, Armin Mikler, JungHwan Oh, Phil Sweany, Xiaohui Yuan

Required Courses for all Tracks: 4 credits (Algorithms and 1-hour seminar course) are required for all tracks.

Course Number	Course Name	Credits	Semester Taken
CSC 5020	Current Research in CSE	1	
CSC 5150	Analysis of Computer Algorithms	3	

Track Core Courses: Each track will require a minimum of 9 credits to be chosen from a list of at least 3 courses. This list may include specific courses that students must take, provide a choice between a short list of courses, or any combination thereof.

Core Courses Required: 3

Course Number	Course Name	Credits	Semester Taken
CSC 5200	Information Retrieval and Web Search	3	
CSC 5210	Artificial Intelligence	3	
CSC 5380	Data Mining	3	
CSC 5810	Bio Computing	3	
CSC 5820	Computational Epidemiology / Life Science	3	
CSC 6810	Advanced Topics in Computational Life Sciences	3	

Track Supporting Courses: Tracks are expected to provide a list of supporting courses. Tracks may require a student to take courses from the supplemental list based on the following:

- *for thesis option:* The maximum number of required courses across the track (**core and supporting**) should not exceed 15 credits (not including thesis). For MS with thesis, the total number of hours required is 31. This leaves a minimum of 6 credit hours free for the student to choose. One 6000 level course must be included on your degree plan.
- *for course option:* The maximum number of required courses across the track (**core and supporting**) should not exceed 21 credits. For MS without thesis, the total number of hours required is 37. This leaves a minimum of 12 credit hours free for the student to choose. One 6000 level course must be included on your degree plan.

Supporting Courses Required: 2/4 (may include core courses not selected)

Course Number	Course Name	Credits	Semester Taken
CSC 5160	Parallel Processing and Algorithms	3	
CSC 5170	Graph Theory for Computer Scientists	3	
CSC 5213	Modeling and Simulation	3	
CSC 5230	Methods of Numerical Computation	3	
CSC 5350	Database Systems I	3	
CSC 5215	Machine Learning	3	
CSC 6100	Theory of Computation	3	
CSC 6230	Advanced Scientific Computing	3	
CSC 6280	Advanced Artificial Intelligence	3	
CSC xxxx	Image Processing	3	

Total Required Courses for Track/Specialty Area: 5/7