

Computer Science: Master of Science Concentration Area Guidelines

Each student is required to take a set of at least three elective courses that constitute a concentration area.

1. Choose an area of interest.
2. Ask a professor in your area of interest to help you identify a set of courses that would constitute a concentration. See the list of professors below to help identify their areas of interest.
3. Once you choose a concentration, fill out a Concentration Approval Form. Obtain the professor's signature and submit it to the Graduate Director.
4. The Computer Science Graduate Faculty will review the concentration. You will be notified of its approval status.
5. You may choose to switch concentration areas at any time. If you choose to switch concentration areas, you must follow this approval process again.

Faculty Member	Areas of Interest
Dr. Daniel Dooly	Learning Theory, Machine Learning, Algorithms and Complexity
Dr. Dennis J Bouvier	Computer Graphics, Visualization, Software Engineering, HCI, Computing Education, Image Processing, Text Processing
Dr. Bryon Ehlmann	Object-Oriented Databases, Data Models, Software Engineering, Scientific Databases, Computer-Human Interactions
Dr. Hiroshi Fujinoki	Communication Networks, Operating Systems, Graph Theory
Dr. Jerry Weinberg	Artificial Intelligence, Machine Learning, Mobile Robotics, Robotics in Education, HCI
Dr. William White	Computer Graphics, Virtual Environments, Data Communications
Dr. Trong Wu	Petri Nets, Numeric Computation, Simulation and Modeling, Knowledge Discovery and Data Mining, Computer System Performance Evaluation, Ada Programming Language
Dr. Xudong Yu	Artificial Intelligence, Knowledge-Based Systems, Data Mining, Database Systems

Example Concentrations	
Area	Courses
Networks and Data Communications	CS 447, CS 547, CS 587
Software Engineering	CS 530, CS 535, CS 550
Artificial Intelligence	CS 438, CS 490 (e.g., Data Mining, Expert Systems), CS 584
Computer Graphics	CS 482, CS 490 (e.g., Virtual Reality, Computer Gaming), CS 582
Programming Languages	CS 407, CS 423, CS 583

Concentrations Currently Available		
Area	1st Course	2nd and 3rd Courses (Semesters currently offered)
Networks and Data Communications	CS 447 (F & S) (Fall and Spring)	2 of the following: CS 547 (F), CS 587 (S), ECE 577 – Advanced Network (S)
Software Engineering	CS 535 (F)	CS 530 (S) , CS 550 (S), CMIS540 (F & S)
Artificial Intelligence: Robotics	CS 438 (Spring)	2 of the following (1 must be Robotics): Machine Learning (F), Data Mining (F), Computer Gaming (S), CS 567 - Expert Systems (Su), Robotics (F)
Artificial Intelligence: Machine Learning	CS 438 (Spring)	2 of the following: CS 567 - Expert Systems (Su), Machine Learning (F), Data Mining (F),
Computer Graphics/ Image Processing	CS 482 (F)	2 of the followings: Virtual Reality (S), Computer Gaming (F), Image Processing (F), CS 582, ECE 438 – Digital Image Processing (S), ECE 439 – Computer Vision (F)
Database	CS 434 (S)	2 of the following (1 must be CS534): Expert Systems (Su), Machine Learning (F), Data Mining (F), CMIS 565 – Oracle Database Administration, CS534
Database: Data Mining	CS 434 (S)	2 of the following (1 must be Data Mining or Machine Learning): CS 567 - Expert Systems (Su), CMIS 565 – Oracle AB ADM Machine Learning (F), Data Mining (F),
Computation and Simulation	CS 456 (S)	2 from the following (1 must be 500 level) CS 404, CS 454, CS 525, CS 565