



The Department of Computer Science will start offering a Master of Science degree in Computer Science in Fall-2014. The program will provide college graduates an opportunity to enhance their careers and work on cutting-edge areas of computer science. The program offers two high-demand concentrations: (1) ***High-Performance Computing and Bioinformatics***, and (2) ***Cyber-Security and Networking***.

To be admitted to the program, students should demonstrate readiness to succeed in the graduate program. To do this, students should meet the following criteria:

1. Applicants must have an academic background that covers certain prerequisite knowledge in mathematics, software systems and computer programming, data structures, computer architectures, and computer networks. Student transcript should present evidence of the following courses with a grade of "C" or better:
 - a. Mathematical background: 8 credit hours of calculus and 3 credit hours of linear algebra.
 - b. Completion of undergraduate computer science prerequisites courses (or their equivalents): Computer Programming, Computer Organization, Data Structures, Data Communications and Computer Networks, and Operating Systems.
2. The applicant must have a Bachelor's degree in Computer Science or a related area with a minimum cumulative grade point average (GPA) of 2.75 on a 4.0 scale.
3. The applicant must submit two letters of recommendation.

Students who meet some but not all of those requirements may be considered for conditional admission, which may require completion of some prerequisite courses.

An applicant whose Bachelor's degree is not in Computer Science or a related area and who has experience in Computer Science may also be considered for conditional admission on an individual basis. Such applicants must have a minimum GPA of 2.75 and provide a written technical summary for evaluation of their technical experience. This summary should emphasize the applicant's experience with software systems and methodology, computer organization and architecture, and theory and mathematical background.

**For more information or to apply, contact
Dr. Tamara Rogers at trogers3@tnstate.edu
615.963.1520**

MS in Computer Science with a Concentration in High-Performance Computing and Bioinformatics

MAJOR FIELD CORE (9 Credits)		
Course Number	Course Title	Credit Hours
COMP 5100	Software Engineering	3
COMP 5200	Advanced Algorithms Design and Analysis	3
COMP 5300	Advanced Computer Architectures	3
CONCENTRATION (12 Credits)		
COMP 5520	Introduction to High Performance Computing	3
COMP 5800	Introduction to Bioinformatics	3
COMP 6100	Bioinformatics and Computational Biology	3
CISE 6360	Distributed Computing and Design	3
ELECTIVES (6 Credits From List Below)		
COMP 5400	Hybrid and Relational Databases	3
COMP 5700	Fundamentals of Computer Networks	3
COMP 5720	Cryptography and Computer Security	3
COMP 5750	Computer Network Management and Security	3
COMP 5440	Mobile Robotics	3
COMP 5600	Mobile Applications Development	3
COMP 5900	Special Topics	3
COMP 6200	Machine Learning	3
COMP 6280	Advanced Web Applications Development	3
COMP 6300	Advanced Software Engineering	3
COMP 6800	Introduction to Computer Vision	3
COMP 6900	Embedded Systems Programming	3
ENGR 6150	Advanced Software Architectures	3
ENGR 5070	Object-Oriented Programming for Engineering	3
CISE 5110	Introduction to Artificial Intelligence	3
CISE 5220	Computer Aided Systems Design	3
CISE 6000	Database Management Systems	3
CISE 7300	Network Programming	3
NON-THESIS OPTION DESIGN COURSES (6 Credits From List Below)		
COMP 5400	Hybrid and Relational Databases	3
COMP 5440	Mobile Robotics	3
COMP 5600	Mobile Applications Development	3
COMP 6200	Machine Learning	3
COMP 6280	Advanced Web Applications Development	3
COMP 6300	Advanced Software Engineering	3
COMP 6900	Embedded Systems Programming	3
ENGR 6150	Advanced Software Architectures	3
CISE 5110	Introduction to Artificial Intelligence	3
CISE 5220	Computer Aided Systems Design	3
CISE 6000	Database Management Systems	3
THESIS OPTION (6 Credits)		
COMP 5910	Master of Science Thesis I	3
COMP 5920	Master of Science Thesis II	3
Requires completion of a 2-semester long thesis work in high-performance computing and bioinformatics.		
TOTAL (33 Credits)		

MS in Computer Science with a Concentration in Cyber-Security and Networking

MAJOR FIELD CORE (9 Credits)		
Course Number	Course Title	Credit Hours
COMP 5100	Software Engineering	3
COMP 5200	Advanced Algorithms Design and Analysis	3
COMP 5300	Advanced Computer Architectures	3
CONCENTRATION (12 Credits)		
COMP 5700	Fundamentals of Computer Networks	3
COMP 5720	Cryptography and Computer Security	3
COMP 5750	Computer Network Management and Security	3
CISE 7300	Network Programming	3
ELECTIVES (6 Credits From List Below)		
COMP 5400	Hybrid and Relational Databases	3
COMP 5440	Mobile Robotics	3
COMP 5520	Introduction to High Performance Computing	3
COMP 5600	Mobile Applications Development	3
COMP 5800	Introduction to Bioinformatics	3
COMP 5900	Special Topics	3
COMP 6100	Bioinformatics and Computational Biology	3
COMP 6200	Machine Learning	3
COMP 6280	Advanced Web Applications Development	3
COMP 6300	Advanced Software Engineering	3
COMP 6800	Introduction to Computer Vision	3
COMP 6900	Embedded Systems Programming	3
ENGR 6150	Advanced Software Architectures	3
ENGR 5070	Object-Oriented Programming for Engineering	3
CISE 5110	Introduction to Artificial Intelligence	3
CISE 5220	Computer Aided Systems Design	3
CISE 6000	Database Management Systems	3
CISE 6360	Distributed Computing and Design	3
NON-THESIS OPTION DESIGN COURSES (6 Credits From List Below)		
COMP 5400	Hybrid and Relational Databases	3
COMP 5440	Mobile Robotics	3
COMP 5600	Mobile Applications Development	3
COMP 6200	Machine Learning	3
COMP 6280	Advanced Web Applications Development	3
COMP 6300	Advanced Software Engineering	3
COMP 6900	Embedded Systems Programming	3
ENGR 6150	Advanced Software Architectures	3
CISE 5110	Introduction to Artificial Intelligence	3
CISE 5220	Computer Aided Systems Design	3
CISE 6000	Database Management Systems	3
CISE 6360	Distributed Computing and Design	3
THESIS OPTION (6 Credits)		
COMP 5910	Master of Science Thesis I	3
COMP 5920	Master of Science Thesis II	3
Requires completion of a 2-semester long thesis work in networking and cyber-security.		
TOTAL (33 Credits)		