MS in Computing

Admission

The program admits students with a four-year bachelor's degree earned in a STEM (science, technology, engineering and mathematics) field. Students who have taken courses in programming, object oriented programming, data structures and algorithms during their bachelor's degree will be admitted unconditionally (e.g., students with a computer science background). Students who do not have these classes will need to take two prerequisite courses: CS 581 and CS 582 prior to entry into the degree program. Applicants needing prerequisite coursework must take it through Wichita State University. Those needing to take prerequisite courses may be admitted simultaneously to nondegree Category A status and this degree program (conditionally). Upon successful completion (*C* or better) of this coursework, the student will be considered full standing in the degree program. If the prerequisite coursework is not successful, the degree-seeking admission may be deferred until courses are successfully completed (up to one year).

To be considered for admission to the program the minimum requirements are:

- Student must have earned a GPA of at least 3.000 (or an equivalent score from another country) in the bachelor's degree.
- Students whose bachelor's degree is from an institution outside the U.S. are required to submit official scores of the GRE General Test along with the admission application. While we do not set a minimum score, we would like the quantitative portion of the GRE be above average.

The MS in computing enables students to obtain a master's degree in the computing field. This degree also utilizes stackable graduate certificates that the department offers. This means that students can earn graduate certificates in areas such as cybersecurity, data science, computer networking and software engineering that can be used to earn this master's degree. A typical student can easily stack two certificates and with a little extra work, even three certificates. More details and examples are available at the department website. This is a coursework-only degree, i.e., does not require a project or thesis.

Program Requirements

Course	Title	Hours
Common Core Requirements		
Students must take three of the four classes listed below.		9
CS 665	Introduction to Database Systems [1]	
CS 771	Artificial Intelligence	
CS 664	Computer Networks [1]	
CS 580	Introduction to Software Engineering [1]	
Concentration Electives		
Select up to 15 credit hours of 600-level or higher CS/ECE courses. Students are encouraged to see what courses would apply to the department's graduate certificates and take those courses. If a student decides to take all four common core courses, the fourth one can apply in this category.		15
CS 656	Introduction to Cybersecurity	
CS 711	Web Programming	
CS 731	Mathematical Foundations for Computer Networking	
CS 737	Wireless Networking	
CS 746	Perspectives on Data Science	
CS 764	Routing and Switching I	
CS 767	Foundations of Network Security	
CS 770	Machine Learning	
CS 780	Advanced Software Engineering	
CS 797	Special Topics in Computer Science (any letter suffixed CS 797 courses)	
CS 869	Multi-Service Over IP	
CS 898BA	Image Analysis and Computer Vision	
CS 898BD	Deep Learning	
CS 898AW	Artificial Intelligence for Robotics	
CS 898AE	Software Analysis Methodologies	
Technical Electives		
Select up to 6 credit hours of 600-level or higher CS/ECE courses. Students are encouraged to see what courses would apply to the department's graduate certificates and take those courses. If a student decides to take all four common core courses, the fourth one can apply in this category. Students can also take related courses from outside the department with prior authorization by the program's graduate coordinator.		6
Total Credit Hours		**30**

[1] If a student has taken any of the courses that are indexed with this footnote during their previous undergraduate or graduate studies, then they cannot take these courses but they will have to substitute them with elective courses. Students should consult their graduate coordinator.

Applied Learning

Students in the MS in computing program are required to complete an applied learning or research experience to graduate from the program. The requirement can be met by:

Completing at least 3 credit hours of major courses with a research writing and presentation component that is applied to the plan of study with a *C* or better grade. Currently approved courses are:

- ECE 694 High Performance Computer Systems
- CS 770 Machine Learning
- CS 798 Individual Projects
- ECE 794 Parallel Computing
- CS 834 Advanced Routing and Switching
- CS 898AZ Accessible Computing
- CS 898AE Software Analysis Methodologies
- ECE 875 Computer Systems in Data Analytics
- CS 898AM Cyberphysical System Security
- CS 797V Artificial Intelligence for Cybersecurity
- CS 898AW Artificial Intelligence for Robotics
- CS 898CE Human Computer Interaction
- CS 898AZ Accessible Computing
- CS 898BA Image Analysis and Computer Vision
- CS 898BG Reinforcement Learning
- CS 898CE Human Computer Interaction
- CS 898CA Introduction to Intelligent Robotics
- CS 898CD Trusted Execution for Embedded Systems
- ECE 826 Digital Communication Systems II
- ECE 836 5G and Beyond Wireless Communications
- ECE 886 Error Control Coding

- CS 865 Principles of DBMS Implementation
- CS 898 Special Topics