

COMPUTER AND INFORMATION SYSTEMS (MS)

Department website (<https://www.uwp.edu/learn/programs/mscis.cfm>)

The master of science in computer and information systems (MSCIS) program is intended to increase the supply of high quality information technology professionals and contribute to the professional advancement of employees in the information technology workforce. The degree program draws on the strengths of UW-Parkside's faculty and computing resources in both computer science (CS) and management information systems (MIS). Graduates of this program will advance in their careers with up-to-date information technology knowledge and skills, and practical experience with information systems development and deployment.

Disruption of Studies

Students are expected to complete MSCIS degree requirements in two to three years, depending on preparation. An MSCIS degree candidate who fails to complete the degree within five years after admission will be dropped from the program. A degree candidate who does not enroll in an MSCIS course within a period of 12 months must apply for readmission.

Program Learning Outcomes

1. Analyze an IT/IS or business system using data science techniques.
2. Work with computing technology through: Design, develop, test, and implement software using industry leading practices and/or Develop information technology technical solutions. Lead and manage IT projects using project management principles. Design and implement organizational and IT control mechanisms that lead to a reliable and secure information system. Use research methods to investigate a problem from a technical, management, and ethical perspective. Communicate Information Systems principles and practices effectively and professionally within an enterprise.

Program-Specific Policies

Transfer Students

Students may transfer up to 12 credits of graduate work taken at another accredited institution, with a maximum of 3 transfer credits applied toward their concentration. Transferability is subject to equivalence with MSCIS courses. Only courses with a grade of B (3.0 on a 4.0 scale) or better will be accepted. Transfer courses are not counted toward the UW-Parkside GPA requirement of 3.0 in MSCIS course work.

Additional Program Policies

A maximum of two 500-level courses and/or a maximum of three credits in independent study courses will be accepted for the graduate degree. Additionally, independent study courses will only be approved in extenuating circumstances in which other regular needed CIS graduate courses are not available in that particular academic term, and waiting for their offering would impact the expected student graduation date. The classes must be approved by the MSCIS advisor.

Requirements for the Master of Science in Computer and Information Systems

Students must maintain a minimum GPA of 3.0 in all course work required for the MSCIS degree to continue and complete in the degree program.

To achieve the goals, MSCIS students must complete prerequisite requirements (up to 20 credits that can be waived with undergraduate equivalent courses) and a minimum of 30 credits distributed as follows: 15 credits of required course work, 9 credit hours in a concentration and 6 credit hours as electives.

Concentrations enable students to specialize in their education toward a particular career goal. Concentrations include cyber-security, data science, information technology management and software development. A thesis option is available for those students who would like to eventually pursue a doctoral degree. The requirements and the classes in each concentration area are specified below.

Code	Title	Credits
Prerequisites		
0 to 15 credits, depending on background and selected concentration area		0-15
<i>Database Management</i> ¹		
CSCI 380	Database Management Systems	
or MIS 328	Database Management Systems	
<i>Computer Systems/Data Communications</i> ¹		
Select one of the following:		
CSCI 370	Operating Systems	
CSCI 477	Computer Communications and Networks	
MIS 327	Cloud Computing in Business	
<i>Programming Proficiency Requirements</i> ²		
The normal path to ensure programming proficiency includes the following courses:		
CSCI 241	Computer Science I	
CSCI 242	Computer Science II	
Required Program Core Courses		
MBA 716	Project Management	2
CIS 710	Data Science for Computer Information Systems	3
CIS 774	Programming Paradigms	3
CIS 779	Information System Security	3
CIS 795	Research Methods in Computer and Information Systems	3
CIS 798	Computer and Information Systems Seminar	1
Concentration Courses		
Students must select a concentration area ³		9
Elective Courses ⁴		6
Total Credits		30-45

¹ Waived with a grade of C or better in an undergraduate or graduate equivalent course.

² For the software development concentration only, programming proficiency is a required prerequisite. A programming proficiency exam is available to determine placement into required prerequisites or to waive the requirement.

³ Students must select a concentration and complete a minimum of nine credits within that area. A maximum of three credits of independent study related to a project or thesis may be used to satisfy this requirement.

A student may complete a maximum of two concentrations as part of the degree program. A course cannot be used to satisfy the requirements in more than one concentration.

⁴ Students must also complete six credits of electives to ensure 30 credits overall are completed for the degree. These credits may be chosen from any of the concentration areas, may include internship or independent studies, or may choose courses from other graduate programs, with advisor approval.

Concentration Areas

MSCIS courses are divided into four concentration areas: cyber-security, data science, information technology management and software development.

CyberSecurity

Code	Title	Credits
CIS 624	Advanced Business Data Communications	
or CIS 635	Linux System Administration	
or CIS 677	Computer Communications and Networks	
CIS 645	Web Application Security	
CIS 678	Network Security	
CIS 681	Security Risk	

Special Topics courses CIS 690 and CIS 790 can be used when the topic is related to the concentration. An Executive Action form will need to be submitted by the department.

Data Science

Code	Title	Credits
CIS 605	Artificial Intelligence	
CIS 611	Data Science Programming and Visualization	
CIS 612	Data Mining and Machine Learning	
CIS 614	Deep Learning	
CIS 615	Data Science/Machine Learning Project	
MBA 729	Technologies For Data Analytics	
MBA 761	Optimization Techniques	
MBA 762	Supply Chain Analytics	

Special Topics courses CIS 690 and CIS 790 can be used when the topic is related to the concentration. An Executive Action form will need to be submitted by the department.

Information Technology Management

Code	Title	Credits
CIS 624	Advanced Business Data Communications	
CIS 625	Systems Analysis and Design	
CIS 641	Advanced Project Management Tools and Techniques	
CIS 642	Project Management Simulation	
CIS 645	Web Application Security	
CIS 678	Network Security	
CIS 681	Security Risk	
MBA 502	Accounting and Finance Fundamentals For Business	
MBA 715	Advanced Operations Management	

MBA 718	Global Supply Chain Management
MBA 720	Information Technology for Business Decision Making
MBA 729	Technologies For Data Analytics
MBA 761	Optimization Techniques
MBA 762	Supply Chain Analytics

Special Topics courses CIS 690 and CIS 790 can be used when the topic is related to the concentration. An Executive Action form will need to be submitted by the department.

Software Development

Code	Title	Credits
CIS 523	Mobile Development in Android	
CIS 524	Mobile Development in iOS	
CIS 540	Data Structures and Algorithm Design	
CIS 570	Operating Systems	
CIS 605	Artificial Intelligence	
CIS 620	Computer Graphics	
CIS 621	Computer Vision	
CIS 640	Compiler Design and Implementation	
CIS 645	Web Application Security	
CIS 674	Client/Server Development	
CIS 675	Software Engineering Principles and Practice I	
CIS 676	Software Engineering/Project Management	
CIS 677	Computer Communications and Networks	
CIS 680	Advanced Databases	

Special Topics courses CIS 690 and CIS 790 can be used when the topic is related to the concentration. An Executive Action form will need to be submitted by the department.

University Requirements for Master's Degree Programs

To receive a master's degree from UW-Parkside, students must meet the following minimum requirements (note that individual programs may impose more stringent requirements):

1. Complete at least 30 graduate credits, of which no more than 12 may be transferred from another institution.
2. Have an overall GPA of at least 3.00 for all graduate work taken at UW-Parkside that is applicable to the degree program.
3. Satisfy all requirements of the graduate degree program.

Students may take no more than seven years to complete a degree, beginning with the semester in which they complete their first course as a UW-Parkside degree-seeking graduate student, unless they apply for and receive an extension through the appropriate graduate program. Some programs may impose a shorter time limit. To graduate, students must file a request for graduation. The request form, signed by the student's advisor and filed in the appropriate graduate program office, initiates the final review of the candidate's records. Students also need to apply to graduate with the Office of the Registrar.

To qualify for admission into the MSCIS program, an applicant must apply to the MSCIS Program online as indicated below, and submit all required documents to the Admissions Office.

Admissions Office
University of Wisconsin-Parkside

900 Wood Road
P.O. Box 2000
Kenosha WI 53141-2000

Admission requirements include those listed below.

1. A completed application form, along with the application fee payment. The application form can be found online at: <https://apply.wisconsin.edu/>
2. Official transcripts of all undergraduate and graduate course work, sent directly to the Admissions Office. A bachelor's degree from an accredited institution with an undergraduate GPA of at least 3.0 on a 4.0 scale is required. Applicants with undergraduate degrees from international universities must also submit a WES or ECE transcript analysis.
3. GRE or GMAT scores sent directly to the Computer Science department office. The GRE or GMAT can be waived for students from U.S. regionally accredited universities with computer science, engineering, or management information systems majors, or others with undergraduate GPA above 3.2.
4. A resume that details the applicant's education and work history (recommended, not required).
5. Two letters of recommendation sent directly to the Admissions Office (recommended, not required).
6. International students must also submit a sponsorship form and an ECE or WES transcript evaluation. International students whose native language is not English must submit evidence of English proficiency, normally by presenting a satisfactory score on the TOEFL or IELTS exam. The TOEFL/IELTS is waived for graduates of universities from English-speaking countries.
7. Additional materials in support of the applicant, as appropriate.

Contact the computer science department office for information about application deadlines.

At the discretion of the MSCIS program faculty, students with minor deficiencies in items 2 and 3 may be conditionally accepted into the program if they can otherwise demonstrate significant potential for success.