APPLIED COMPUTER SCIENCE (MS)

Program of Study

The Master of Science in Applied Computer Science program requires students to complete 30 hours of computer science coursework and an exit course, CPSC 6000 Graduate Exit Examination. The students must select one of the following three concentrations:

- 1. Software Development
- 2. Al and Data Science
- 3. General

Software Development

Code	Titl

Area 1 Program Core

CPSC 6119 Object-Oriented Development CYBR 6126 Introduction to Cybersecurity CPSC 6185 Intelligent Systems Area 1 Total 1 Area 2 Program Concentration 1 CPSC 6127 Contemporary Issues in Database Management Systems CPSC 6127 Contemporary Issues in Database Management Systems CPSC 6175 Web Engineering and Technologies CPSC 6177 Software Design and Development CPSC 6179 Software Project Planning and Management Area 2 Total 1 Area 3: Program Electives 1 Select either of the following options: 6 credits of 6000-level CPSC or CYBR courses (including an internship) ¹ 1 6 credits of Thesis (CPSC 6985, and CPSC 6986) 4 Area 4: Graduate Exit Examination 2	Total Credit Hour	s	30
CPSC 6119 Object-Oriented Development CYBR 6126 Introduction to Cybersecurity CPSC 6185 Intelligent Systems Area 1 Total 1 Area 2 Program Concentration 1 CPSC 6127 Contemporary Issues in Database Management Systems CPSC 6175 Web Engineering and Technologies CPSC 6175 Web Engineering and Development CPSC 6179 Software Design and Development Area 2 Total 1 Area 3: Program Electives 1 Select either of the following options: 6 credits of 6000-level CPSC or CYBR courses (including an internship) ¹ 1 6 credits of Thesis (CPSC 6985, and CPSC 6986) 4rea 4: Graduate Exit Examination	CPSC 6000	Graduate Exit Examination ²	0
CPSC 6119Object-Oriented DevelopmentCYBR 6126Introduction to CybersecurityCPSC 6185Intelligent SystemsArea 1 Total1Area 2 Program ConcentrationCPSC 6127Contemporary Issues in Database Management SystemsCPSC 6175Web Engineering and TechnologiesCPSC 6177Software Design and DevelopmentCPSC 6179Software Project Planning and ManagementArea 2 Total1Area 3: Program ElectivesSelect either of the following options: 6 credits of 6000-level CPSC or CYBR courses (including an internship) 1	Area 4: Graduate	Exit Examination	
CPSC 6119Object-Oriented DevelopmentCYBR 6126Introduction to CybersecurityCPSC 6185Intelligent SystemsArea 1 Total1Area 2 Program Concentration1CPSC 6127Contemporary Issues in Database Management SystemsCPSC 6175Web Engineering and TechnologiesCPSC 6177Software Design and DevelopmentCPSC 6179Software Project Planning and ManagementArea 2 Total1Area 3: Program Electives1Select either of the following options: 6 credits of 6000-level CPSC or CYBR courses (including an	6 credits of Th	esis (CPSC 6985, and CPSC 6986)	
CPSC 6119Object-Oriented DevelopmentCYBR 6126Introduction to CybersecurityCPSC 6185Intelligent SystemsArea 1 Total1Area 2 Program ConcentrationCPSC 6127Contemporary Issues in Database Management SystemsCPSC 6175Web Engineering and TechnologiesCPSC 6177Software Design and DevelopmentCPSC 6179Software Project Planning and Management Area 2 TotalArea 3: Program Electives1		00-level CPSC or CYBR courses (including an	
CPSC 6119Object-Oriented DevelopmentCYBR 6126Introduction to CybersecurityCPSC 6185Intelligent SystemsArea 1 Total1Area 2 Program ConcentrationCPSC 6127Contemporary Issues in Database Management SystemsCPSC 6175Web Engineering and TechnologiesCPSC 6177Software Design and DevelopmentCPSC 6179Software Project Planning and Management Area 2 Total	Select either of th	ne following options:	
CPSC 6119Object-Oriented DevelopmentCYBR 6126Introduction to CybersecurityCPSC 6185Intelligent SystemsArea 1 Total1Area 2 Program ConcentrationCPSC 6127Contemporary Issues in Database Management SystemsCPSC 6175Web Engineering and TechnologiesCPSC 6177Software Design and DevelopmentCPSC 6179Software Project Planning and Management	Area 3: Program	Electives	6
CPSC 6119Object-Oriented DevelopmentCYBR 6126Introduction to CybersecurityCPSC 6185Intelligent SystemsArea 1 Total1Area 2 Program ConcentrationCPSC 6127Contemporary Issues in Database Management SystemsCPSC 6175Web Engineering and TechnologiesCPSC 6177Software Design and Development	Area 2 Total		12
CPSC 6119Object-Oriented DevelopmentCYBR 6126Introduction to CybersecurityCPSC 6185Intelligent SystemsArea 1 Total1Area 2 Program ConcentrationCPSC 6127Contemporary Issues in Database Management SystemsCPSC 6175Web Engineering and Technologies	CPSC 6179	Software Project Planning and Management	3
CPSC 6119Object-Oriented DevelopmentCYBR 6126Introduction to CybersecurityCPSC 6185Intelligent SystemsArea 1 Total1Area 2 Program ConcentrationCPSC 6127Contemporary Issues in Database Management Systems	CPSC 6177	Software Design and Development	3
CPSC 6119 Object-Oriented Development CYBR 6126 Introduction to Cybersecurity CPSC 6185 Intelligent Systems Area 1 Total 1 Area 2 Program Concentration CPSC 6127 Contemporary Issues in Database Management	CPSC 6175	Web Engineering and Technologies	3
CPSC 6119Object-Oriented DevelopmentCYBR 6126Introduction to CybersecurityCPSC 6185Intelligent SystemsArea 1 Total1	CPSC 6127		3
CPSC 6119Object-Oriented DevelopmentCYBR 6126Introduction to CybersecurityCPSC 6185Intelligent Systems	Area 2 Program C	Concentration	
CPSC 6119Object-Oriented DevelopmentCYBR 6126Introduction to Cybersecurity	Area 1 Total		12
CPSC 6119 Object-Oriented Development	CPSC 6185	Intelligent Systems	3
5,5	CYBR 6126	Introduction to Cybersecurity	3
CPSC 6109 Algorithms Analysis and Design	CPSC 6119	Object-Oriented Development	3
	CPSC 6109	Algorithms Analysis and Design	3

¹ With the exception of CPSC 6105 Fundamental Principles of Computer Science, CPSC 6103 Computer Science Principles for Teachers, and CPSC 6106 Fundamentals of Computer Programming and Data Structures.

² Graduating students must successfully complete CPSC 6000 Graduate Exit Examination which will require the student to complete an exit survey, an exit interview, and a comprehensive exam.

AI and Data Science

Code	Title
------	-------

Area 1 Program Core		
CPSC 6109	Algorithms Analysis and Design	3
CPSC 6119	Object-Oriented Development	3
CYBR 6126	Introduction to Cybersecurity	3

Total Credit Ho	urs	30
CPSC 6000	Graduate Exit Examination ²	0
Area 4: Graduate Exit Examination		
6 credits of 7	Thesis (CPSC 6985, and CPSC 6986)	
6 credits of 6 internship)	5000-level CPSC or CYBR courses (including an	
Select either of	the following options:	6
Area 3: Program	n Electives	
Area 2 Total		12
CPSC 6147	Data Visualization and Presentation	3
CPSC 6124	Advanced Machine Learning	3
CPSC 6121	Data Science and Big Data Analytics	3
CPSC 6114	Fundamentals of Machine Learning	3
Area 2 Program	Concentration	
Area 1 Total		12
CPSC 6185	Intelligent Systems	3

¹ With the exception of CPSC 6105 Fundamental Principles of Computer Science, CPSC 6103 Computer Science Principles for Teachers, and CPSC 6106 Fundamentals of Computer Programming and Data Structures. Recommended elective: CPSC 6127 Contemporary Issues in Database Management Systems.

² Graduating students must successfully complete CPSC 6000 Graduate Exit Examination which will require the student to complete an exit survey, an exit interview, and a comprehensive exam.

General

Credit Hours

Credit Hours

Code	Title	Credit Hours	
Area 1 Program Core			
CPSC 6109	Algorithms Analysis and Design	3	
CPSC 6119	Object-Oriented Development	3	
CYBR 6126	Introduction to Cybersecurity	3	
CPSC 6185	Intelligent Systems	3	
Area 1 Total		12	
Area 2 Program C	Concentration		
CPSC 6125	Operating Systems Design and Implementation	3	
CPSC 6127	Contemporary Issues in Database Management Systems	3	
CPSC 6157	Network and Cloud Management	3	
CPSC 6177	Software Design and Development	3	
Area 2 Total		12	
Area 3: Program	Electives	6	
Select either of th	ne following options:		
6 credits of 60 internship)	00-level CPSC or CYBR courses (including an		
6 credits of Th	esis (CPSC 6985, and CPSC 6986)		
Area 4: Graduate Exit Examination			
CPSC 6000	Graduate Exit Examination ²	0	
Total Credit Hour	S	30	

¹ With the exception of CPSC 6105 Fundamental Principles of Computer Science, CPSC 6103 Computer Science Principles for Teachers,

2 Applied Computer Science (MS)

and CPSC 6106 Fundamentals of Computer Programming and Data Structures.

² Graduating students must successfully complete CPSC 6000 Graduate Exit Examination which will require the student to complete an exit survey, an exit interview, and a comprehensive exam.