

M.S. in Information Systems

These degree requirements apply to on campus and online programs.

(30 Credits)

M.S. in Information Systems

Code	Title	Credits
IS Core Courses		
IS 601	Web Systems Development	3
IS 663	System Analysis and Design	3
IS 631	Enterprise Database Management	3
IS 665	Data Analytics for Info System	3
IS 684	Business Process Innovation	3
Select one of the following User Experience courses		3
IS 661	User Experience Design	
IS 664	Customer Discovery	
Select one of the following Analytics courses:		3
IS 634	Information Retrieval	
IS 687	Transaction Mining and Fraud Detection	
IS 688	Web Mining	
DS 650	Data Visualization and Interpretation	
MGMT 630	Decision Analysis with Quantitative Modeling	
MGMT 635	Data Mining and Analysis	
Electives and Specialization Areas ¹		
Select three of the following electives or ²		9
Select IS 700B or YWCC 691 and two of the following electives or		
Select IS 701 and one of the following electives:		
Data Analytics		
IS 634	Information Retrieval	
IS 687	Transaction Mining and Fraud Detection	
IS 688	Web Mining	
CS 602	Java Programming	
CS 632	Advanced Database System Design	
CS 634	Data Mining	
CS 636	Data Analytics with R Program	
CS 644	Introduction to Big Data	
CS 675	Machine Learning	
CS 676	Cognitive Computing	
CS 731	Applications of Database Systems	
CS 732	Advanced Machine Learning	
CE 602	Geographic Information System	
MATH 644	Regression Analysis Methods	
MATH 660	Introduction to statistical Computing with SAS and R	
MATH 678	Statistical Methods in Data Science	
MGMT 635	Data Mining and Analysis	
MGMT 682	Business Research Methods I	
DS 650	Data Visualization and Interpretation	
MGMT 650	Knowledge Management	
Business Decision Making		
IS 677	Information System Principles	
IS 678	IT Service Management	

ACCT 615	Management Accounting
FIN 600	Corporate Finance I
HRM 601	Managing Organizational Behavior in Technology-Based Organizations
MIS 648	Decision Support Systems for Managers
MIS 680	Management Science
MGMT 620	Strategic Management of Technological Innovation
MGMT 630	Decision Analysis with Quantitative Modeling
MGMT 650	Knowledge Management
MGMT 685	Operations Research and Decision Making
MGMT 688	Internet Law and Policy Issues
MGMT 710	Forecasting Methods for Business Decisions
MRKT 620	Global Marketing Management
MRKT 645	Digital Marketing Strategy
Healthcare Informatics	
CS 639	Elec. Medical Records: Med Terminologies and Comp. Imp.
IE 686	Intro to Healthcare Systems
IE 687	Healthcare Enterprise Systems
IE 688	Healthcare Sys Perfor Modeling
User Experience Design	
IS 661	User Experience Design
IS 664	Customer Discovery ³
IS 686	Pervasive Computing: An HCI Perspective
IS 735	Social Media
IE 661	Man-Machine Systems
IE 662	Cognitive Engineering
IE 664	Advanced Ergonomics
MRKT 636	Design and Development of High Technology Products
Security and Network Management	
IS 680	Information Systems Auditing
IS 681	Computer Security Auditing
IS 682	Forensic Auditing for Computing Security
IS 687	Transaction Mining and Fraud Detection
CS 608	Cryptography and Security
CS 645	Security and Privacy in Computer Systems
CS 646	Network Protocols Security
CS 647	Counter Hacking Techniques
CS 651	Data Communications
CS 652	Cognitive Cloud Networking - Architectures and Applications
CS 656	Internet and Higher-Layer Protocols
CS 696	Network Management and Security
CS 708	Advanced Data Security and Privacy
CS 755	Security and Privacy in Wireless Networks
CS 756	Mobile Computing and Sensor Networks
IT 620	Wireless Networks Security and Administration
IT 640	Network Services Administration
Systems Analysis and Design	
IS 664	Customer Discovery
IS 676	Requirement Engineering
IS 685	Enterprise Architecture and Integration
CS 673	Software Design and Production Methodology
CS 683	Software Project Management
CS 684	Software Testing and Quality Assurance

CS 685	Software Architecture
EM 636	Project Management
EM 637	Project Control
MRKT 636	Design and Development of High Technology Products
Web Systems	
IS 634	Information Retrieval
IS 664	Customer Discovery
IS 688	Web Mining
IS 690	Web Services and Middleware
Build Your Own Specialization	
Students may select a coherent set of courses that have a common thread related to an area that you are interested in	

Total Credits **30**

- ¹ Please consult the professor or academic advisor early to determine the best electives to support your work.
- ² Students may optionally choose 2 or more courses from a single area, which will constitute a specialization. Students will choose 3 electives if taking the course-only option, 2 electives if taking either IS 700B Master's Project or YWCC 691 Graduate Capstone Project, or 1 elective if taking IS 701B Master's Thesis. We strongly encourage students to design and conduct a Master Project or Master Thesis with an Informatics professor. If you are considering a Project or Thesis, please consult the professor early to determine the best electives to support your work. A Master Project or Master Thesis can be considered part of a specialization.
- ³ Students considering a Master's Project or Thesis with the User Experience specialization are encouraged to take both IS 661 User Experience Design and IS 664 Customer Discovery - one as a core course and the other as an elective.

MS in Information Systems – Professional Management Option (36 credits)

- All 7 MSIS core courses (21 credits) are required.
- Experiential Aspect: A one-semester IS Capstone Project (Either IS 700B or YWCC 691 - 3 credits), two-semester MS Thesis (IS 701 – 6 credits), or Co-Op experience (YWCC 590) is required.
- Electives: To meet the 36-credit requirement, students will take 9-15 credits of electives, where each elective course is 3 credits. The electives required will depend on which Experiential Aspect is chosen.
 - Students who take the IS Capstone Project (Either IS 700B or YWCC 691 - 3 credits) must take 4 elective courses: 1 course from the list of IS electives, and 3 courses from the list of Management electives.
 - Students who take the MS Thesis (IS 701 – 6 credits) must take 3 elective courses: 3 courses from the list of Management electives
 - Students who take the Co-Op experience (YWCC 590) must take 5 elective courses: 1-2 courses from the list of IS electives, 3-4 courses from the list of Management electives.

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MS IS Core Course Requirements		21
IS 601	Web Systems Development	3
IS 663	System Analysis and Design	3
IS 631	Enterprise Database Management	3
IS 661	User Experience Design	3
IS 665	Data Analytics for Info System	3
IS 684	Business Process Innovation	3
Select one of the following Analytics courses:		3
IS 634	Information Retrieval	
IS 687	Transaction Mining and Fraud Detection	
IS 688	Web Mining	
DS 650	Data Visualization and Interpretation	3
MGMT 630	Decision Analysis with Quantitative Modeling	3
MGMT 635	Data Mining and Analysis	3

Code	Title	Credits
IS Experiential Aspect		0-6 credits

Select one of the following Capstone or Co-op options. The Co-op does not count towards the degree credits. All Experiential options will be undertaken in collaboration with industry, and evaluated by a faculty member.

IS 700B or YWCC 691	Master's Project Graduate Capstone Project	3
IS 701B & 701B or IS 701C	Master's Thesis and Master's Thesis Master's Thesis	6
YWCC 590	Graduate Co-op Work Experience I	1

Code	Title	Credits
Information System Electives		0-6 credits

Students who take the IS Capstone Project (either IS 700B or YWCC 691) choose 1 IS elective. Students who take the MS Thesis (IS 701) choose no IS electives. Students who take the Co-Op experience (YWCC 590) choose 1-2 IS electives.

IS 634	Information Retrieval
IS 664	Customer Discovery
IS 676	Requirement Engineering
IS 677	Information System Principles
IS 678	IT Service Management
IS 680	Information Systems Auditing
IS 681	Computer Security Auditing
IS 682	Forensic Auditing for Computing Security
IS 685	Enterprise Architecture and Integration
IS 686	Pervasive Computing: An HCI Perspective
IS 687	Transaction Mining and Fraud Detection
IS 688	Web Mining
IS 735	Social Media

Code	Title	Credits
Management Electives		3-9 elective credits

Students who take the IS Capstone Project choose 1-2 Management electives. Students who take the MS Thesis (IS 701) choose 1-2 Management electives. Students who take the Co-Op experience (YWCC 590) choose 1-3 Management electives.

ACCT 615	Management Accounting
EM 636	Project Management
FIN 600	Corporate Finance I
HRM 601	Managing Organizational Behavior in Technology-Based Organizations
MIS 648	Decision Support Systems for Managers
MIS 680	Management Science
MGMT 620	Strategic Management of Technological Innovation
MGMT 630	Decision Analysis with Quantitative Modeling
MGMT 641	Global Project Management
MGMT 650	Knowledge Management
MGMT 682	Business Research Methods I
MGMT 685	Operations Research and Decision Making
MGMT 688	Internet Law and Policy Issues
MGMT 691	Legal and Ethical Issues in a Digital World
MGMT 710	Forecasting Methods for Business Decisions
MRKT 620	Global Marketing Management
MRKT 636	Design and Development of High Technology Products
MRKT 645	Digital Marketing Strategy
MGMT 635	Data Mining and Analysis