

M.S. in Business and Information Systems

These degree requirements apply to on campus and online programs.

(30 Credits)

M.S. in Business and Information Systems

| Code | Title | Credits |
|---|---|-----------|
| Business Core (2 courses) | | |
| IS 677 | Information System Principles | 3 |
| or MIS 645 | Information Technology and Competitive Advantage | |
| Select one of the following: | | 3 |
| ACCT 615 | Management Accounting ¹ | |
| FIN 600 | Corporate Finance I ¹ | |
| HRM 601 | Managing Organizational Behavior in Technology-Based Organizations ¹ | |
| Information Systems Core (6 courses) | | |
| IS 601 | Web Systems Development | 3 |
| IS 631 | Enterprise Database Management | 3 |
| IS 663 | System Analysis and Design | 3 |
| IS 665 | Data Analytics for Info System | 3 |
| IS 684 | Business Process Innovation | 3 |
| Select one of the following: | | 3 |
| IS 685 | Enterprise Architecture and Integration | |
| IS 678 | IT Service Management | |
| Total Credits | | 24 |

Electives and Specialization Areas

We strongly encourage students to design and conduct a Masters Project or 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. IS 700 can substitute for one elective and IS 701 for two electives, and be considered part of a specialization with the MS Advisor's permission.

| Code | Title | Credits |
|---|-------|---------|
| Select two of the following electives or ² | | 6 |
| Select IS 700B and one of the following electives or | | |
| Select IS 701 to substitute for both of your electives: | | |

| Code | Title | Credits |
|------------------------|--|---------|
| Data Analytics | | |
| Recommended Electives: | | |
| IS 634 | Information Retrieval | 3 |
| IS 687 | Transaction Mining and Fraud Detection | 3 |
| IS 688 | Web Mining | 3 |
| Additional Electives: | | |
| CS 602 | Java Programming | 3 |
| CS 632 | Advanced Database System Design | 3 |
| CS 634 | Data Mining | 3 |
| CS 636 | Data Analytics with R Program | 3 |
| CS 644 | Introduction to Big Data | 3 |
| CS 675 | Machine Learning | 3 |
| CS 676 | Cognitive Computing | 3 |
| CS 731 | Applications of Database Systems | 3 |
| CS 732 | Advanced Machine Learning | 3 |
| CE 602 | Geographic Information System | 3 |

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| MATH 644 | Regression Analysis Methods | 3 |
| MATH 660 | Introduction to statistical Computing with SAS and R | 3 |
| MATH 678 | Stat Methods in Data Science | 3 |
| MGMT 635 | Data Mining and Analysis | 3 |
| MGMT 682 | Business Research Methods I | 3 |
| PTC 628 | Analyzing Social Networks | 3 |
| Business Decision Making | | |
| IS 678 | IT Service Management | 3 |
| ACCT 615 | Management Accounting | 3 |
| FIN 600 | Corporate Finance I | 3 |
| HRM 601 | Managing Organizational Behavior in Technology-Based Organizations | 3 |
| MIS 648 | Decision Support Systems for Managers | 3 |
| MIS 680 | Management Science | 3 |
| MGMT 620 | Management of Technology | 3 |
| MGMT 630 | Decision Analysis with Quantitative Modeling | 3 |
| MGMT 650 | Knowledge Management | 3 |
| MGMT 685 | Operations Research and Decision Making | 3 |
| MGMT 688 | Internet Law and Policy Issues | 3 |
| MRKT 620 | Global Marketing Management | 3 |
| MRKT 645 | Digital Marketing Strategy | 3 |
| Healthcare Informatics | | |
| CS 639 | Elec. Medical Records: Med Terminologies and Comp. Imp. | 3 |
| IE 686 | Intro to Healthcare Systems | 3 |
| IE 687 | Healthcare Enterprise Systems | 3 |
| IE 688 | Healthcare Sys Perfor Modeling | 3 |
| PTC 640 | Health Communications | 3 |
| R834 581 | Health Systems and Policy | 3 |
| R834 582 | Health Care Management | 3 |
| R834 659 | Healthcare Finance | 3 |
| User Experience Design | | |
| Recommended Electives: | | |
| IS 661 | User Experience Design ⁴ | 3 |
| IS 664 | Customer Discovery ⁴ | 3 |
| IS 686 | Pervasive Computing: An HCI Perspective | 3 |
| IS 735 | Social Media | 3 |
| IE 661 | Man-Machine Systems | 3 |
| IE 662 | Cognitive Engineering | 3 |
| IE 664 | Advanced Ergonomics | 3 |
| PTC 605 | Elements of Visual Design | 3 |
| PTC 606 | Advanced Information Design | 3 |
| PTC 629 | Theory and Practice of Social Media | 3 |
| PTC 650 | eLearning Design for Mobile | 3 |
| Security and Network Management | | |
| IS 680 | Information Systems Auditing | 3 |
| IS 681 | Computer Security Auditing | 3 |
| IS 682 | Forensic Auditing for Computing Security | 3 |
| CS 608 | Cryptography and Security | 3 |
| CS 645 | Security and Privacy in Computer Systems | 3 |
| CS 646 | Network Protocols Security | 3 |
| CS 647 | Counter Hacking Techniques | 3 |
| CS 652 | Network-Arch & Protocols | 3 |
| CS 656 | Internet and Higher-Layer Protocols | 3 |

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| CS 696 | Network Management and Security | 3 |
| CS 708 | Advanced Data Security and Privacy | 3 |
| CS 755 | Security and Privacy in Wireless Networks | 3 |
| CS 756 | Mobile Computing and Sensor Networks | 3 |
| IT 620 | Wireless Networks Security and Administration | 3 |
| IT 640 | Network Services Administration | 3 |
| Systems Analysis and Design | | |
| IS 676 | Requirement Engineering | 3 |
| IS 683 | Web Systems Development | 3 |
| IS 685 | Enterprise Architecture and Integration | 3 |
| IS 661 | User Experience Design | 3 |
| IS 664 | Customer Discovery | 3 |
| CS 673 | Software Design and Production Methodology | 3 |
| CS 683 | Software Project Management | 3 |
| CS 684 | Software Testing and Quality Assurance | 3 |
| CS 685 | Software Architecture | 3 |
| EM 636 | Project Management | 3 |
| EM 637 | Project Control | 3 |
| MRKT 636 | Design and Development of High Technology Products | 3 |
| Web Systems | | |
| IS 634 | Information Retrieval | 3 |
| IS 661 | User Experience Design | 3 |
| IS 664 | Customer Discovery | 3 |
| IS 688 | Web Mining | 3 |
| IS 690 | Web Services and Middleware | 3 |
| PTC 605 | Elements of Visual Design | 3 |
| PTC 628 | Analyzing Social Networks | 3 |
| PTC 632 | Content Management and Information Architecture | 3 |
| Build Your Own Specialization | | |

Students may propose a coherent set of courses that have a common thread related to an area that you are interested in. The MS BIS advisor approves the proposed specialization.

- ¹ Students who have taken an undergraduate equivalent of one of these courses may substitute up to one business core course with an additional elective.
- ² Students may optionally choose 2 or more courses from a single area, which will constitute a specialization.
- ⁴ 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 as electives.