INFORMATION SYSTEMS, MS

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Introduction

The Master of Science in Information Systems (MSIS) program at the Business School is a 30 semester credit hour STEM (Science, Technology, Engineering, Mathematics) degree program that provides students the fundamental knowledge necessary for a career as an IS professional. The MSIS program layers managerial training with technical concepts to help you become a leader in your chosen career path in information technology. You can choose between industry leading specializations in Business Intelligence or Cybersecurity and Information Assurance or customize your own degree to allow you to focus on topics most relevant to your interests. With hands-on software projects, each class will take you one step closer to understanding how to harness the power of technology for business.

Five core courses serve as the foundation for understanding the complex issues that occur when designing, implementing and managing information systems within an organization. Students choose five elective courses which can correspond to a declared specialization or may reflect a custom course of study.

The MSIS includes a 4+1 program that allows our current undergraduate information systems students to pursue the Master of Science degree if they achieve a cumulative GPA of 3.00 or higher without taking the GMAT test. Students are also allowed to replace two undergraduate required information systems courses with two graduate information systems courses. Interested students should contact the Business School (http://catalog.ucdenver.edu/cu-denver/graduate/schools-colleges-departments/business-school/) advising team for more information.

Program Requirements

Code	Title	Hours
Core Courses		
Required Courses		
ISMG 6080	Database Management Systems	3
ISMG 6180	Information Systems Strategy	3
ISMG 6430	Information Systems Security and Privacy	3
Select two of the following:		6
ISMG 6060	Analysis, Modeling and Design	
ISMG 6220	Business Intelligence Systems and Analytics [1]	
ISMG 6450	IT Project Management	
ISMG 6830	IT Governance and Service Management	
ISMG 6020	Programming Fundamentals with Python [2]	
ISMG 6120	Network Design and Analysis [2]	
Elective Courses		
Select 15 credits of the following:		15
Business Intelligence (p. 1)		
Cybersecurity and Information Assurance (p. 1)		
A customized degree using any course numbered 6000 or higher with an ISMG prefix [3]		
Total Hours		**30**

1. This course is required for the Business Intelligence Specialization.
2. Both of these courses are required for the Cybersecurity and Information Assurance Specialization.
3. May include core classes not used to satisfy the Core MS IS requirement. In addition, selected 6000 level Business School courses, CVEN, or CSCI courses may be used to satisfy up to 6 elective credits for a customized degree.

Information Systems Specializations

Students may select from the following two specializations:

Business Intelligence

Business Intelligence (BI) systems combine operational data with analytical tools to present complex and competitive information to planners and decision makers. The objective is to improve the timeliness and quality of inputs to the decision process. BI is used to understand the capabilities available in the firm; the state-of-the-art, trends, and future directions in the markets, the technologies, and the regulatory environment in which the firm competes; and the actions of competitors and the implications of these actions. With this specialization, you get the necessary skills and knowledge in real-time data warehousing, data visualization, data mining, online analytical processing, customer relationships management, dashboards and scorecards, corporate performance management, expert and advanced intelligent systems, and hands-on experience with leading BI tools.

Code	Title	Hours
Required Courses		
Select four of the following:		12
ISMG 6470	Text Data Analytics	
ISMG 6480	Data Warehouse and Administration	
ISMG 6810	Business Intelligence in Healthcare	
ISMG 6820	Business Intelligence and Financial Modeling	
BUSN 6530	Data Analytics for Managers [1]	
Free Elective		
Any course numbered 6000 or higher with an ISMG prefix, any 6000-level Business School, CSCI or CVEN course may be used to satisfy the free elective.		3
Total Hours		**15**

1. Students may substitute BANA 6610 for BUSN 6530 with permission of the Business Analytics program.

Students must complete the following MS IS core course:

- ISMG 6220 Business Intelligence Systems and Analytics

Cybersecurity and Information Assurance

With recent breaches in the security of many large government agencies and private corporations, cybersecurity is an issue of great importance to the global society. The Cybersecurity and Information Assurance Specialization prepares students for cybersecurity, information security, and IT risk management positions in business and critical infrastructure sectors of the economy identified by the U.S. Department of Homeland Security including enterprises such as banks, governments, retail, health care institutions, law enforcement, construction, insurance agencies, transportation and the military.

Code	Title	Hours
Required Courses		
ISMG 6340	Cloud Computing Concepts, Tools, and Security	3
ISMG 6860	Ethical Hacking Concepts and Methodologies	3
ISMG 6890	IT Risk Management	3
ISMG 6865	Digital Forensics Analysis	3
ISMG 6910	Design Science Practicum [1]	3
Total Hours		**15**

[1] Students must take ISMG 6910 **or** an approved Internship with required paper and presentation to be completed during the final 9 credit hours of the program.

Students must complete the following MS IS core courses:

Code	Title	Hours
ISMG 6020	Programming Fundamentals with Python	3
ISMG 6120	Network Design and Analysis	3

Customized Degree

Students may choose to customize their degree by taking five ISMG graduate courses and related graduate technology courses from across the Business School, Computer Science, or GIS programs. Must see an advisor to create.