MS in Information Systems
(30 credit hours)

Name: _____   **Student Number:** _____

Graduate Business School Policies:

- A grade of "C" or higher is passing and required for all coursework. Cumulative GPA must be 3.0 or higher to graduate.
- Prerequisite ("prereq") = must be completed prior to boldface course.
   Corequisite ("coreq") = must be completed prior to or during same semester as boldface course.
- Track your progress with the online Degree Audit tool. For questions about your degree plan or for other program assistance, please call 303-315-8110 or email grad.advising@ucdenver.edu.

Information Systems Core *(9 credit hours)*

1. **ISMG 6080** Database Management Systems   _____

2. **ISMG 6180** Information Systems Strategy   _____

3. **ISMG 6430** Information Systems Security and Privacy   _____

Additional Core: **Choose 2 of the following** *(6 credit hours)*

- **ISMG 6020** Programming Fundamentals with Python*+
     Recommended prior coursework: ISMG 6080
- **ISMG 6060** Analysis, Modeling and Design
- **ISMG 6120** Network Design and Analysis*
- **ISMG 6220** Business Intelligence, Machine Learning, and AI+
     Recommended prior coursework: ISMG 6080
- **ISMG 6450** IT Project Management or **BANA 6650** Project Management
     Recommended prior coursework for ISMG 6450: ISMG 6180
- **ISMG 6830** IT Governance and Service Management
     Recommended prior coursework: ISMG 6180

   * required for Cybersecurity Specialization
   \+ required for Business Intelligence Specialization

4. _____   _____

5. _____   _____

Information Systems Electives or Specialization *(15 credit hours)*

- Any **ISMG** courses numbered 5000 or higher. NOTE: Intensive courses offered the week before the semester starts are 1 credit.
- Up to 6 credits can be fulfilled with approved graduate courses from the Business School, Computer Science, or GIS programs. Find options on the Information Systems approved specialization/electives sheet.
- May choose to use electives toward an optional specialization in **Cybersecurity/Information Assurance** or **Business Intelligence**. Specializations appear on the transcript but not the diploma. Find specific requirements on the Information Systems approved specialization/electives sheet.

6. _____   _____

7. _____   _____

8. _____   _____

9. _____   _____

10. _____   _____

Graduate Business School Specialization Policies:

- Specialization courses may be offered only once per year; hence, careful planning is required to complete a specialization.
- Students are responsible for knowing and meeting course prerequisites. Please see the course description in UCDAccess or the University catalog for prerequisite information. If you would like to petition to waive a prerequisite based on prior coursework, consult a graduate business advisor.
- Once the degree is completed, a declared specialization will appear on the transcript but not the diploma.
- CMDT/ENTP/GEMM/RISK courses are found under the Campus "Extended Studies" in UCDAccess and may charge different tuition rates. These courses are not eligible for the CU Employee Tuition Assistance Benefit (TAB).
- Contact a graduate business advisor at grad.advising@ucdenver.edu with any questions, or to declare or change a specialization.

Cybersecurity and Information Assurance Specialization (CNP) - Students must complete ALL courses

Designated as a Center of Academic Excellence in Cyber Defense (CAE-CD) by the National Security Agency (NSA).
Requires students to complete the following core courses:
- **ISMG 6020** Programming Fundamentals with Python
- **ISMG 6120** Network Design and Analysis

Complete all of the following courses:
- **ISMG 6340** Cloud Computing Concepts, Tools, and Security
- **ISMG 6860** Ethical Hacking Concepts and Methodologies
- **ISMG 6865** Digital Forensics Analysis
- **ISMG 6890** IT Risk Management
- **ISMG 6910** Design Science Practicum or approved Internship with required paper and presentation to be completed during the final 9 credit hours of the program

Business Intelligence Specialization (BIT)

Requires students to complete the following core courses:
- **ISMG 6020** Programming Fundamentals with Python
- **ISMG 6220** Business Intelligence, Machine Learning, and AI

Choose 4 of the following:
- **BUSN 6530** Data Analytics for Managers (Students may substitute with **BANA 6610;** requires petition to enroll.)
- **ISMG 6470** Text Data Analytics (Recommended prior coursework: **ISMG 6020** or programming experience.)
- **ISMG 6480** Data Warehouse and Administration (Prerequisite: **ISMG 6080**)
- **ISMG 6810** Integration of AI and Business Intelligence in Healthcare
- **ISMG 6820** Business Intelligence for Financial Modeling

*Fifth elective can be any **ISMG** course numbered 6000 or higher OR any approved elective course listed below.

Approved Electives to Fulfill Up To 6 Elective Credits – No Specialization

ACCT 6020 Auditing Theory
ACCT 6031 Intermediate Financial Accounting I
ACCT 6054 Accounting Information Systems
Any **BANA** course that is numbered 6000 or higher.
(Some **BANA** courses have **BANA 6610** as prerequisite. Evidence of quantitative ability and a petition are required for enrollment in BANA 6610.)
BUSN 6530 Data Analytics for Managers
ENTP 6620 New Venture Operations and Project Management (cannot receive credit for both ENTP 6620 and ISMG 6450)
ENTP 6822 Legal and Ethical Issues of Entrepreneurship
ENTP 6824 Entrepreneurial Financial Management
ENTP 6826 International Entrepreneurship
ENTP 6848 Leadership for New and Innovative Ventures
HLTH 6071 Introduction to Health Information Technology
RISK 6129 Practical Enterprise Risk Management
RISK 6209 Cyber Risk Management
RISK 6309 Strategic Risk Management
RISK 6509 Global Risk Management

Additional Approved Electives:

(*Please see engineering for assistance with these courses*)

CSCI 5211 Mobile Computing and Programming
CSCI 5455 Data Mining
CSCI 5580 Data Science
CSCI 5582 Artificial Intelligence
CVEN 5381 Introduction to Geographic Information Systems
CVEN 5382 Geospatial Data Development
CVEN 5383 GIS Analysis
CVEN 5384 GIS Project Management
CVEN 5385 GIS Relational Database Systems
CVEN 5387 Advanced Remote Sensing
CVEN 5390 Interactive Web Mapping GIS
CVEN 5391 Introduction to Geomatics
CVEN 5392 Unmanned Aerial Systems
CVEN 5395 GPS/GNSS