Master of Science in Computer and Information Systems Security

Jointly offered by the Department of Computer Science in the School of Engineering and the Department of Information Systems in the School of Business, the Master of Science in Computer and Information Systems Security is designed primarily for students interested in professional roles in business, industry or government. Program graduates will serve as leaders within the computer and information systems security community and as strategic partners within the enterprises in which they work. They will stay attuned to, and anticipate changes in, the computer and information systems security environment and ensure that security solutions create a sound, competitive, cost-effective advantage for the enterprise.

Graduates of the program will be prepared to take leading roles in planning, organizing, managing, designing and configuring security solutions in public and private organizations and will be familiar with state-of-the-art security technologies and best practices. The program takes a broad interdisciplinary approach to computer and information systems security that will help students develop the ability to see the larger organization, social, political, ethical and economic aspects of information security and offers a unique graduate-level curriculum that is both technically and managerially oriented.

Students without an accredited bachelor’s degree or post-baccalaureate certificate in fields such as Computer Science or Information Systems will likely need to complete undergraduate prerequisite courses. Prerequisites are determined by the faculty adviser at the time of admission.

Prerequisite Courses
MATH 211 Mathematical Structures
or CMSC 302 Introduction to Discrete Structures
STAT 212 Concepts of Statistics
CMSC 312 Introduction to Operating Systems
or INFO 361 Systems Analysis and Design
CMSC 508 Database Theory
or INFO 364 Database Systems
CMSC 355 Software Engineering: Specification & Design
or INFO 370 Fundamentals of Data Communications
CMSC 401 Algorithm Analysis w/ Advanced Data Structures

Core Courses (18 credit hours)
CISS/CMSC 618 Database Application Security
CISS/CMSC 622 Network and Operating Systems Security
CISS 624/CMSC 620 Applied Cryptography
CISS 634 Ethical, Social and Legal Issues in CISS
CISS/INFO 644 Principles of CISS
INFO 646 Security Policy Formulation and Implementation

Elective Courses (12 credit hours)
Select four of the following courses. A minimum of one CMSC course and one INFO course must be selected.
CMSC 502 Parallel Algorithms
CMSC 506 Computer Networks and Comm.
CMSC 525 Software Testing and Verification
CMSC 612 Game Theory and Security
CMSC 691 Special Topics in Computer Science
INFO 609 Date-centric Re-engineering Analysis/Planning
INFO 611 Data Re-engineering
INFO 614 Data Mining
INFO 616 Data Warehousing
INFO 632 Business Process Engineering
INFO 641 Strategic Information Systems Planning
INFO 642 Decision Support and Intelligent Systems
INFO 691 Topics in Information Systems

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