Master of Science in Management Information Systems with Information Assurance Concentration

Overview

The Master of Science in Management Information Systems with Information Assurance concentration (**MSIA**) is designed to develop skilled and principled information technology professionals who can add value to the systems problem solving process and advance the information technology practice. The curriculum prepares students for professional careers in information security and other related information technology fields. In particular, students are equipped to be information systems security analysts, designers, auditors or managers, with an appropriate range of knowledge and skills to develop and manage a company's or institution's security architectures, standards, policies and programs.

The courses in this curriculum are certified by Committee on National Security Systems (**CNSS**): **CNSS 4011 and CNSS 4013** certifications. Moreover, this program is one of the major reasons why BSU is designated as a **National Center of Academic Excellence in IA Education (CAE/IAE) by National Security Agency (NSA) and the Department of Homeland Security (DHS)**. As a result, students enrolled in this program are eligible to apply for **scholarships and grants** through the Department of Defense Information Assurance Scholarship Program and the Federal Cyber Service Scholarship for Service Program.

The MSIA curriculum requires **nine** (9) credit hours of **Foundation** Courses, **eighteen** (18) credit hours of **Core** courses, and **nine** (9) credit hours of **Elective** courses**.** The elective courses can be chosen from one of the three tracks: *Database and Web Security*, *Information Assets Protection*, and *Network Security.*

The MSIA curriculum is designed to provide students with learning experience through case studies and hands-on security projects using virtual laboratories that mimic the work environment of security professionals.

Admission Requirements:

Students must submit evidence of completion of a baccalaureate degree in any business-related field, computer information systems, computer science, engineering or other disciplines, from an accredited institution, have a minimum cumulative GPA of 2.5, and satisfy other general admission requirements established by the Graduate School. The undergraduate degree coursework should include the College Algebra, Statistics or Quantitative Methods, a Programming Language, Management, and Computer Applications.

Students who do not meet the all the basic admission requirements may be granted conditional admission and may be required to complete some or all of the following **prerequisite courses (not included in the degree coursework):**

- MGMT 241 – Principles of Management
- BUIS 360 – Information Systems for Management
- BUIS 362 – Database for Business
- INSS 505 – Object-Oriented Programming or other computer programming course
- ECON 351 – Business and Economic Statistics or ECON 483 – Quantitative Methods for Decision Making
- INSS 510 – Computer Concepts

Students who have some work experience in the information systems or information technology field, but do not have the requisite academic background may qualify for qualify for admission to the MSMIS program.

Students who have industry experience in the information systems or information technology field, but do not have the required academic background may still qualify for the MSIA concentration. GRE or GMAT is not required for admission.

Degree Requirements:

A minimum of **36 credit hours** consisting of **9** credit hours of **Foundation, 18** credit hours of **Core,** and **9** credit hours of **elective courses.** Some courses will have equivalent face-to-face and online sections to maximize flexibility.

Foundation Courses (9 credits):

INSS 615 - Principles & Practices of Information Systems Development[*]
INSS 640 - Information Systems Analysis & Design[*]
INSS 650 - Database Management & Decision Systems[*]

Those who have completed these courses from other accredited institutions within the last 5 years prior to registration can transfer up to six (6) credit hours. Those who have relevant IT experience can test out of these courses and substitute them with other approved courses needed to satisfy the 36-credit program requirement.

Core Courses (18 Credits):

INSS 735 – Information Systems Security*
INSS 783 – Internet and Network Security*
INSS 781 – Computer and Cyber Forensics*
INSS 789 – Applied Cryptography*
INSS 790 – Applied Research Project in Information Assurance
INSS 887 – Emerging Issues in Information Security Management

*Courses recommended to be completed before attempting the comprehensive examination in IA Concentration (INSS 799).

Electives Courses (9 credits):

Database and Web Security track
INSS 750 – Database and Distributed Systems Security
INSS 773 – Digital Business Security
INSS 786 – Information Privacy and Security

Information Assets track
INSS 765 – Information Measures
INSS 778 – Information Security Risk Management
INSS 779 – Advanced Information Assurance

Network Security track
INSS 777 – Advanced Information and Network Security
INSS 770 – Auditing, Monitoring, and Intrusion Detection
INSS 787– Wireless Security

A virtual security laboratory, which is LAN accessible by any students with Internet access and valid account, is established for the MSIA concentration. Once authenticated and authorized into the virtual lab, students can access any of the lab sections and complete their hands-on exercises and projects that correspond to problems in the workplace.

Curriculum Sequence

The following sequence represents a typical selection of courses. The recommended course sequence is:

First and Second Semesters
INSS 615 – Principles and Practices of Information
  Systems Development
INSS 640 – Information Systems Analysis & Design
INSS 650 – Database Management and Decision
  Systems
INSS 735– Information Systems Security
INSS 783 – Internet and Network Security
Elective (1 course)

Third and Fourth Semesters
INSS 781– Computer and Cyber Forensics
INSS 789 – Applied Cryptography
INSS 790 – Applied Research Project in Information
  Assurance
INSS 887 – Emerging Issues in Information Security
  Management
Electives (2 courses)
Comprehensive Examination

Program of Study

Each student is required to complete a Program of Study form in consultation with his/her advisor, during the first semester of enrollment. The program of study designates the student's concentration / track selection and is required for advancement to candidacy. Students are strongly encouraged to discuss with their assigned Academic Advisor or the Program Coordinator for advisement concerning a program of study.

Advancement to Candidacy

Upon completion of **nine (9)** credit hours of **Foundation** courses and **twelve (12)** credit hours of **Core** courses **(INSS 735, INSS 781, INSS 783, and INSS 789)**, the student should apply for advancement to candidacy. The minimum GPA for advancement to candidacy **is 3.25**.

Comprehensive Examination

To qualify to take the Comprehensive Examination for MSIA concentration, a student must have completed at *least 24 hours* of coursework taken at Bowie State University, including INSS 615, INSS 640, INSS 650, INSS 735, INSS 781, INSS 783 and INSS 789, and must have been advanced to candidacy.

Students enrolled in coursework that would result in the completion of the minimum 24-credit hour requirement may, with the permission of the Program Coordinator, be allowed to take the comprehensive examination during the same semester. Students are strongly encouraged to take the comprehensive examination after the completion of all the five core courses covered by the examination and *at least one semester prior to the date they expect to graduate*. The MIS faculty offers comprehensive examination orientation session prior to the examination.
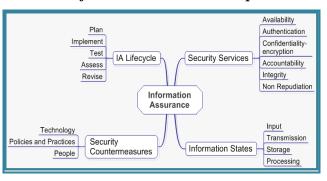
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BOWIE
STATE UNIVERSITY
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College of Business
Department of Management
Information Systems
14000 Jericho Park Road, CBGS 3319
Bowie, MD 20715
Telephone: (301)-860-4020
Fax: (301)-860-3593
http://www.bowiestate.edu/academics/departments/mis/academic/msia/

CNSS
SYSTEMS SECURITY FOR THE 21st CENTURY
COMMITTEE ON NATIONAL SECURITY SYSTEMS

NIETP
National IA Education and Training Programs

Information Assurance Map