

Master of Science in Information Assurance & Security

The MSIAS degree is a unique program in that it is an interdisciplinary program of study among three colleges; Business Administration, Engineering and Computer Science. Due to this collaboration between the colleges, students will be exposed to a diversified core curriculum with a choice of 3 different elective tracks; having in-depth curriculum in their track while gaining familiarity in the other two. Upon graduation students will be able to perform: Cyber Security Analysis of vulnerabilities & threats to network environments, Network Penetration Testing, Auditing for Certification & Accreditation, Technical Project Management in Information Technology. Students will also be able to integrate the business & scientific underpinnings of information technology trends related to the System Development Life Cycle and understand the federal, state & local statutory requirements associated with Information Security through the Information Assurance Technical Framework (IATF).

MSIAS is a 33 graduate level credit program, 18 of the credits are part of the core classes while the other 15 are focused on the specific track.

Core Classes:

IS 501-Introduction to Information Assurance: Overview of information security from a technical project management and risk management perspective.

IS 563-Computer Forensics: Looks at problems and concerns related to computer investigations blending traditional methods with classic systems analysis technique.

CPE 549-Introduction to Information Assurance Engineering: Introduction to information security requirements and hardening techniques such as cryptography, Network O/S, and file structures.

CPE 649-Advanced Information Assurance Engineering: Advanced concepts of network vulnerability analysis and attack vector development with mitigation strategies.

CS 570-Introduction to Computer Networks: Introduction to the organization, secure architecture and operation of computer networks.

CS 670-Computer Networks: Detailed analysis of the organization and operation of computer networks focusing on algorithms and organizations for the Transport Layer, Network Layer and Data Link.

Admission Requirements

Unconditional Admission:

Unconditional admission requires a GPA of 3.0 (4.0 scale), a minimum of a 1000 on the GRE verbal and quantitative sections and a minimum of a 3.0 on the analytical and writing portions; or a minimum of 500 on the GMAT. Also, international students must have an acceptable score on the TOEFL or IELTS. Applicants for MSIAS need to have a bachelor's degree in a curriculum related to one of the following: Management in Computer Information Systems, Computer Science, Electrical Engineering, Computer Engineering or Information Systems Security Engineering.

The program is offered in three different disciplines (tracks). Additional requirements for each track are as follows:

Business: Bachelor's degree in a business or related field; students with a bachelor's in an unrelated field will be required to take the following prerequisites - Economics /microeconomics, Calculus and Statistics

Computer Science: Bachelor's degree in computer science or a related field; student's with a bachelor's in an unrelated field will be required to take the following prerequisites-Data Structure, Operating Systems, Algorithm Design and Analysis, Computer Architecture and Probability and Statistics

Engineering: Bachelor's degree in engineering from an ABET accredited program; students with a bachelor's in an unrelated field will be required to take the following prerequisites-Data Structure, Operating Systems, Algorithm Design and Analysis, Computer Architecture, Probability and Statistics

Conditional Admission:

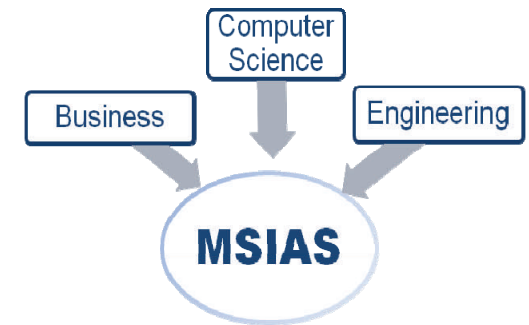
For those who do not satisfy the unconditional requirements, applications will be considered for conditional admission.

UAHuntsville is an approved institution with the National Security Agency (NSA) Center of Excellence in Information Assurance Education.

University of Alabama in Huntsville
301 Sparkman Drive
Huntsville, AL 35899
1 800 UAH CALL

University of Alabama In Huntsville

Master of Science in Information Assurance & Security (MSIAS)



For additional information contact:
256-824-6002

<http://www.ece.uah.edu/MSIAS.htm>



Business Track

The Business track looks at the security requirements mandated by statutory authority and analysis of business impact as it relates to the System Development Life Cycle. This track introduces tools and techniques for proven methodologies in technical project management related to integrating information security best practices into system development while minimizing associated risks.

Business Track Courses (15 hours):

IS 577 (3 hours)-Network defense and Operation Systems

IS 560 (3 hours)-Telecommunications and Networking

IS 660 (3 hours)-Information Security Management

IS 670 (3 hours)-Business Continuity Planning (capstone course of the Business track)

600 level elective (3 hours) in IS, CS, or ECE.

Computer Science Track

The Computer Science track involves developing, documenting and maintaining secure coding practices for scripts and applications. Also included are the design aspects of networks ensuring a risk mitigated network in relation to confidentiality, integrity and the availability of data and devices.

Computer Science Track Courses (15 hours):

CS 585 (3 hours)-Introduction to Computer Security

CS 685 (3 hours)-Computer Security

CS 553 (3 hours)-Client/Server Architectures

Two courses in Computer Science at the 600 level which must be approved by the department (6 hours)

All students must pass a written comprehensive final examination

Engineering Track

The Engineering track takes existing and proven practices and enhances them with an education in the National Institute of Standards and Technology (NIST) and the Defense Information Assurance Certification And Accreditation Process (DIACAP). This approach will address security issues in future technologies during the concept & requirements stages of system design and the formulation of the hardware design. This type of forward thinking security design is a void in the industry today.

Engineering Track Courses (15 hours):

EE693 (3 hours)-ECE capstone (required)

Choose 4 of the following:

CPE 645 (3 hours)-Advanced Computer Network Security

CPE 551 (3 hours)-Software Design and Engineering

CPE 645 (3 hours)-Ubiquitous Computing

CPE 748 (3 hours)-Mobile and Wireless Networks

CPE 648 (3 hours)-Advanced Computer Networks

