

Cybersecurity, MS Interdisciplinary - Management Track

Purpose

The MS-CBS degree is a unique program in that it is an interdisciplinary program of study among three colleges: Business, Engineering, and 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 Cybersecurity Analysis of vulnerabilities and threats to network environments, Network Penetration Testing, Auditing for Certification & Accreditation, and Technical Project Management in Information Technology. Students will also be able to integrate the business and scientific underpinnings of information technology trends related to the System Development Life Cycle and understand the federal, state & local statutory requirements associated with Information and cybersecurity through the Information Assurance Technical Framework (IATF).

Program prerequisites are kept to a minimum and the program is designed to meet the needs of students with a wide variety of educational backgrounds. The admission and program requirements for those pursuing the Management track are described below.

Degree Requirements

Prerequisites

Program prerequisites include a bachelor's degree in any field and demonstration of competency in each of the following three areas:

1. Computer Applications Competency. Students must demonstrate this competency by passing an on-line computer applications competency exam or by successful completion of the IS 146 or its equivalent. IS 146 or its equivalent will not count towards the requirements of the MS-CBS degree.
2. Computer Programming Competency. Students must demonstrate this competency by passing an on-line computer programming competency exam or by successful completion of the IS 210 or its equivalent. IS 210 or its equivalent will not count towards the requirements of the MS-CBS degree.
3. Computer Science and Networks competencies. Students must be competent to be enrolled in graduate level core courses including those in computer science and networks. If a student does not have these competencies, s/he may be required to either self-prepare by reviewing online tutorials and passing a competency exam or to register for additional courses which will not count towards the 30 credit hours required for this degree.

The MS-CBS program consists of 30 semester hours of graduate coursework. The coursework includes a five-course core that is required of all students, 9 credit hours of management track required courses, and 6 credit hours of electives. The directed elective choices are designed to provide students a broader understanding of multiple cybersecurity functions normally expected in an organization.

IS 692/CPE 692/CS 692 is the capstone course and should be taken toward the end of the student's program. Students must earn a grade of B or better in the capstone course.

Code	Title	Semester Hours
Cybersecurity Core Courses		15
IS 660	CYBERSECURITY MANAGEMENT	
IS 663	COMPUTER FORENSICS	
CPE 549	INTRO TO CYBERSECURITY ENGINRG	
CS 585	INTRO TO COMPUTER SECURITY	
IS 692 or CPE 692 or CS 692	CYBERSECURITY PRACTICUM CYBERSECURITY CAPSTONE CYBERSECURITY CAPSTONE	
Management Track-required Courses ¹		9
IS 560	TELECOMMUNICATIONS & NETWRK'G	
IS 577	NETWORK DEFENSE & OPERATING SY	
IS 670	BUSINESS CONTINGENCY PLANNING	
Elective, select two courses from the following: ²		6
IS 571	BUSINESS INTELLIGENCE & ANALYT	
IS 640	DATA MGT AND DATA MINING	
IS 691	INFORMATION SYS STRATEGY & APP	
CPE 534	OPERATING SYSTEMS	

CPE 647	UBIQUITOUS COMPUTING
CPE 648	ADVANCED COMPUTER NETWORKS
CS 687	DATA BASE SYSTEMS
CS 553	CLIENT/SERVER ARCHITECTURES
CS 617	DES & ANALY OF ALGORITHM
CS 650	SOFT'W ENGINEERING PROC
CS 670	COMPUTER NETWORKS
CS 690	ADVANCED OPERATING SYSTEMS
CPE 649	ADV CYBERSECURITY ENGINEERING
CPE 645	COMPUTER NETWORK SECURITY
CPE 646	MOBILE & WIRELESS NETWORKS
CS 565	NETWORK SECURITY
CS 570	INTRO TO COMPUTER NETWORKS
CS 685	COMPUTER SECURITY

Total Semester Hours

30

- ¹ MS-CBS students whose previous studies include the undergraduate equivalents of IS 560 and IS 577 must substitute a 3-credit-hour graduate-level IS course for each of the latter.
- ² Students are required to satisfy the prerequisites for any elective they choose. Students who wish to substitute some other courses as directed electives may seek prior approval for such a substitution by contacting the Director of Graduate Programs in UAH College of Business.

Additional Information

Thesis Option

A thesis option is available. Students interested in this option should contact the both the faculty member who the student wants to serve as the thesis advisor and the Director of Graduate Programs in the College of Business before completing 12 hours of graduate study. If selected, the student will register for the IS 699 Master's Thesis course for 6 credit hours in lieu of 6 credit hours of electives.

Transfer Credit

Up to 12 semester hours of graduate credit taken at other universities may be transferred to meet MS-CBS degree requirement. Inquiries about the transferability of specific courses should be directed to the College of Business Director of Graduate Programs, who will consult with the IS faculty to determine whether the content of the class will be accepted for transfer credit.