New Program Proposal

Undergraduate Certificate in Cybersecurity

The Undergraduate Certificate in Cybersecurity is a six-course (18 credit hours) interdisciplinary studies program. It is designed to help students from all backgrounds achieve a foundation in information security. It provides students the flexibility to focus on technical and/or managerial aspects of computer, software, network, and information security. With primary courses offered by Computer Science and Information Systems departments, the program also allows students to choose from a range of electives based on student interests. This certificate serves a broad group of managers, technical specialists, and professionals with or without a bachelor's degree. A prior background in information security is not required to enter this program. A minimum GPA of 2.5 is required for admission.

Requirements

All students must take three required courses and three electives (at least one elective must be in Computer Science)

Required		
INFSYS 3848	Introduction to Information Security	3
CMP SCI 4730	Computer Networks and Communications	3
or INFSYS 3842	Data Networks and Security	
CMP SCI 4782	Advanced Information Security	3
or INFSYS 3858	Advanced Security and Information Systems	
Electives		
Choose three of the following (at least one must be a CMP SCI course):		9
CMP SCI 4020	Developing Android Apps: Android Fundamentals	
CMP SCI 4222	Advanced iOS Apps	
CMP SCI 4700	Computer Forensics	
CMP SCI 4750	Cloud Computing	

CMP SCI 4780	Computer and Network Security	
INFSYS 3868	Secure Software Development	
INFSYS 3878	Information Security Risk Management and Business	
Total Hours		**18**

Students may substitute the above electives with other courses upon approval by the program adviser in either the Computer Science or Information Systems department. In all cases, 18 hours are needed to complete the Undergraduate Certificate in Cybersecurity. A minimum of four courses must be taken in residence at UMSL. Students may not receive both the Undergraduate and the Graduate Certificate in Cybersecurity.

For more information, students can contact the program directors at cybersecurityUMSL@umsl.edu.

Sign-offs from other departments affected by this proposal

Department	Contact Person	Phone #	Objections
S005150	Dinesh Mirchandani	7354	No
S003100	Cezary Janikow	6352	No
S003250	Finn A. Esbensen	4619	No

| Rationale | Arguably, information security is currently one of the most critical issues facing individuals, organizations, governments, and society. Media reports are replete with breaches of information security and the adverse consequences for all stakeholders involved. Thus, demand for professionals who understand the managerial and technical aspects of information security is growing. However, security is a rather broad field and includes a plethora of interconnected sub-specialties. Students or professionals seeking an entry into this field are often overwhelmed by its vastness. Further, security is both a management issue and a technological issue. Thus, it is critical that students think about it from both perspectives and develop skills at their intersection. This multidisciplinary certificate program is designed to attract students from diverse backgrounds who wish to get a foundation in information security. Given its flexible structure it allows students to pursue either more technical courses throughout their program or have a mixture of technical and non-technical courses to match their interests and skill-sets. |