

Cover/Signature Page - Abbreviated Template/Abbreviated Template with Curriculum

Institution Submitting Request: Utah Valley University
Proposed Title: Information Security Management (new emphasis within existing degree)
Currently Approved Title: B.S. in Information Systems (existing degree)
School or Division or Location: College of Technology and Computing
Department(s) or Area(s) Location: Information Systems and Technology
Recommended Classification of Instructional Programs (CIP) Code (for new programs): 11.1003
Current Classification of Instructional Programs (CIP) Code (for existing programs): 11.1003
Proposed Beginning Date (for new programs): 07/01/2014
Institutional Board of Trustees' Approval Date: Pending

Proposal Type (check all that apply):

Regents' General Consent Calendar Items		
<i>R401-5 OCHE Review and Recommendation; Approval on General Consent Calendar</i>		
SECTION NO.		ITEM
5.1.1	<input type="checkbox"/>	Minor*
5.1.2	<input checked="" type="checkbox"/>	Emphasis*
5.2.1	<input type="checkbox"/>	Certificate of Proficiency*
5.2.3	<input type="checkbox"/>	Graduate Certificate*
5.4.1	<input type="checkbox"/>	New Administrative Unit
	<input type="checkbox"/>	Administrative Unit Transfer
	<input type="checkbox"/>	Administrative Unit Restructure
	<input type="checkbox"/>	Administrative Unit Consolidation
5.4.2	<input type="checkbox"/>	New Center
	<input type="checkbox"/>	New Institute
	<input type="checkbox"/>	New Bureau
5.5.1	<input type="checkbox"/>	Out-of-Service Area Delivery of Programs
5.5.2	<input type="checkbox"/>	Program Transfer
	<input type="checkbox"/>	Program Restructure
	<input type="checkbox"/>	Program Consolidation
5.5.3	<input type="checkbox"/>	Name Change of Existing Programs
5.5.4	<input type="checkbox"/>	Program Discontinuation
	<input type="checkbox"/>	Program Suspension
5.5.5	<input type="checkbox"/>	Reinstatement of Previously Suspended Program
	<input type="checkbox"/>	Reinstatement of Previously Suspended Administrative Unit

Chief Academic Officer (or Designee) Signature:

I certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Signature

Date: MM/DD/YEAR

Printed Name: Ian Wilson

Program Request - Abbreviated Template
Utah Valley University
Information Security Management (new emphasis for existing B.S. in Information Systems degree)
08/08/2013

Section I: Request

The Department of Information Systems and Technology at Utah Valley University requests approval to offer an emphasis in Information Security Management as a part of the existing Bachelor of Science in Information System degree effective Fall 2014.

Section II: Need

An emphasis in Information Security Management would provide students with training in a growing field that is already critically in demand. The rising star of the regional IT industry is the field of cyber security. Utah County is now the home of or a key venue for some of the world leaders in IT Security Technology. Further, taking advantage of the area's corporate and human resources, the National Security Agency has chosen Utah Valley for the construction and implementation of a new Cyber Security Data Center, the largest security data center in the world. The facility expects to hire between 300 to 500 federal positions, with an additional 1,000 to 2,500 positions moving into the Utah Valley area to support the facility. To prepare workers for these positions and other employment deficits relevant to cyber security throughout the western United States, UVU proposes to implement several programs, including this Information Security Management emphasis to build on their existing Information Systems and Technology degrees and related programs. The timing for this type of program, in conjunction with the resources available to UVU on matters of cyber security, make this proposal a unique opportunity and more relevant to this region than perhaps any other in the United States.

The NSA facility, however, is only part of the target for the proposed training programs. As indicated earlier, some of the world leaders in IT Security Technology are headquartered or have facilities in Utah County. The section below lists key companies in this area and indicates how many people they now employ and projects the number of openings.

Symantec

A Fortune 500 company and global leader in IT Security Management and technology; employs more than 1,000 IT Security professionals at its Lindon, Utah facility. Currently has 105 job openings in the Utah/Washington/California region.

SecurityMetrics, Inc.

A leading provider of Data Security Standard (DSS) security solutions based in Orem, Utah; employs more than 400 security professionals and support staff. Plans to expand in 2013.

Solera Networks

A network forensics technology provider based in South Jordan, Utah; employs almost 500 IT Security, data analysis, and support staff globally. Currently has 15 openings.

NetIQ/Novell

NetIQ was acquired by Novell/Attachmate in an acquisition in which Novell's secure data center technology will merge with NetIQ technology in data security and secure virtualization. Their Provo facility employs about 1,300 technology & data systems professionals & support staff.

The shortage of cyber security staff is a national issue in all sectors, both public and private. According to the head of cyber security for NSA, a 30-year veteran, "anyone who has a background in information security – whether in computer science, IT, or forensics – should not be unemployed at this time. There is enough work to employ everybody, and we still need people."¹ Survey results indicate that the information security workforce continues to show signs of strong growth. Their report estimates that there are 2.28 million information security professionals worldwide, a figure that is expected to increase to nearly 4.2 million by 2015.²

This emphasis will provide students with the specific skills and knowledge needed to enter and advance in this critically understaffed field.

While two other institutions in the Utah System of High Education offer some undergraduate level courses related to cyber security, only Salt Lake Community College offers a credential, which is a Network & Cyber Security - Certificate of Proficiency that provides two specific security courses.

Utah State University offers CS 1060 Cyber Security: Threats, Analysis, and Defense; and MIS 4800/MIS 6800 Security of Information Systems. However, these are individual courses and do not lead to a specific program in Information Security Management.

Section III: Institutional Impact

The new emphasis should increase enrollments in the number of majors for the B.S. in Information Systems degree. It should attract students who are primarily interested in Information Systems but want to focus on Information Security Management to take advantage of additional career opportunities. Some existing Information Systems majors may change from their existing emphasis to the new Information Security Management emphasis. If the total number of majors increases, it would also have an effect on GE and business enrollments.

The proposed emphasis will increase the workload of the existing academic advisor. It could potentially increase workload to the IS&T department chair, associate dean, and dean for the College of T&C. No new unit will be created. The new emphasis will be housed within the existing Information Systems and Technology Department.

Faculty hired for the Cyber Security graduate certificate program could also teach the three INFO security management courses. For the 2014-2015 academic year, the grant covers the salary for two faculty members. Starting with the 2015-2016 academic year, the University needs to fund these two faculty positions and possibly a third faculty position.

¹ His remarks made at Defcon 19, in August 2011.

² 2010 survey conducted by Frost & Sullivan, on behalf of (ISC)², the International Information Systems Security Certification Consortium, which is a non-profit organization that specializes in information security education and certifications.

The Cyber Security grant covers the cost of renovation and adding a new 30-seat security computer lab. However, the University will need to be able to supplement lab fees to update equipment in about four years and every four years after that. Initial equipment for the two faculty positions is being provided by the grant. The University will need to update the faculty computers every three to four years after that. The addition of this emphasis will help meet the goals of Prosperity 2020 by providing another STEM education opportunity in the Utah Systems of Higher Education.

Section IV: Finances

The emphasis requires the addition of several new courses within the Information Systems program. UVU has a three-year grant through the Department of Labor to develop and implement Cyber Security programs. This grant has funded faculty to develop curriculum and begin instruction as well as required equipment. UVU continues to seek private and grant funding to support the program. Additionally, UVU will request tax fund support through mission-based distinctive mission funding. Finally, some courses overlap between this emphasis and the proposed Cyber Security Graduate Certificate. If both programs are approved, the cost of the courses will be distributed between the two programs, reducing the individual program costs used in this proposal.

Section V: Program Curriculum

All Program Courses (with New Courses in Bold)

The three new INFO courses will be used primarily for Information Systems students. The new IT courses will also be used by the Cyber Security Graduate Certificate.

Course Prefix and Number	Title	Credit Hours
Required Courses		
INFO 4410	Database Administration	3
INFO 4135	Data Security Analytics	3
INFO 4415	Database Security and Auditing	3
INFO 4425	Web Application Security	3
IT 4700	Enterprise Information Security Management	3
Sub-Total		15
Elective Courses		
	Choose 6 credit hours from the following	6
IT 4750	Network Security and Operations Capstone	
IT 4760	Case Studies in Cyber Security	
IT 5710	Cyber Security Operations	
IT 5770	Cyber Security Management	
IT 5780	Secure Coding	
Sub-Total		6
Total Number of Credits		21

Program Schedule

Fall of First Year (Course Prefix and Number)	Course Title	Credit Hours
ENGL 1010	Introduction to Writing	3
HLTH 1100	Personal Health and Wellness	2
INFO 1120	Information Systems & Technology Fundamentals	3
MATH 1050	College Algebra	4
	Fine Arts General Education Distribution Selective	3
	Semester total:	15
Spring of First Year (Course Prefix and Number)	Course Title	Credit Hours
ENGL 2010 or ENGL 2020	Intermediate Writing Humanities/Social Sciences or Intermediate Writing Science/Technology	3
INFO 1200	Computer Programming I for IS/IT	3
	American Institutions Selective General Education	3
	Biology General Education Distribution Selective	3
	Humanities General Education Distribution Selective	3
	Semester total:	15
Fall of Second Year (Course Prefix and Number)	Course Title	Credit Hours
ACC 2010	Financial Accounting	3
INFO 2200	Computer Programming II for IS/IT	3
INFO 2420	Web Application Design	3
IT 2600	Data Communication Fundamentals	3
PHIL 2050	Ethics and Values	3
	Semester total:	15
Spring of Second Year (Course Prefix and Number)	Course Title	Credit Hours
ACC 2020	Managerial Accounting	3
INFO 2410	Database Fundamentals	3
IT 2700	Information Security Fundamentals	3
MGMT 2200	Business Communication	3
STAT 2050 or MGMT 2340	Introduction to Statistical Methods (4) or Business Statistics I (3)	3
	Semester total:	15

Fall of Third Year (Course Prefix and Number)	Course Title	Credit Hours
INFO 3120	Management Information Systems	3
INFO 3410	Database Systems and Warehousing	3
INFO 3420	Web Application Development	3
INFO 3700	Health Informatics Fundamentals	3
ECON 2020	Macroeconomics (Social/Behavioral Science GE Dist)	3
LEGL 3020	Intellectual Property and Cyber Law	3
	Semester total:	18
Spring of Third Year (Course Prefix and Number)	Course Title	Credit Hours
COMP 301R	Digital Lecture Series	1
INFO 4120	Business Intelligence Systems	3
INFO 4425	Web Application Security	3
IT 4700	Enterprise Information Security Management	3
MGMT 3000	Organizational Behavior	3
	Physical Science General Education Distribution Selective	3
	Semester total:	16
Fall of Fourth Year (Course Prefix and Number)	Course Title	Credit Hours
INFO 3430	Systems Analysis and Design	3
INFO 4410	Database Administration	3
INFO 4135	Data Security Analytics	3
	Emphasis Electives	3
	Another Biology or Physical Science Distribution Selective	3
	Semester total:	15
Spring of Fourth Year (Course Prefix and Number)	Course Title	Credit Hours
INFO 405G	Global Ethical and Professional Perspectives in IS and IT	3
INFO 4430	Systems Design and Implementation	3
INFO 4415	Database Security and Auditing	3
MKTG 3600	Principles of Marketing	3
	Emphasis Electives	3
	Semester total:	15