

Cover/Signature Page – Full Template

Institution Submitting Request: Utah Valley University
Proposed Title: Graduate Certificate in Cyber Security
School or Division or Location: College of Technology & Computing
Department(s) or Area(s) Location: Information Systems & Technology
Recommended Classification of Instructional Programs (CIP) Code¹ : 11.1003
Proposed Beginning Date: 07/01/2014
Institutional Board of Trustees' Approval Date: Pending

Proposal Type (check all that apply):

Regents' Agenda Items		
<i>R401-4 and R401-5 Approval by Committee of the Whole</i>		
SECTION NO.		ITEM
4.1.1	<input type="checkbox"/>	(AAS) Associate of Applied Science Degree
4.1.2	<input type="checkbox"/>	(AA) Associate of Arts Degree
	<input type="checkbox"/>	(AS) Associate of Science Degree
4.1.3	<input type="checkbox"/>	Specialized Associate Degree
4.1.4	<input type="checkbox"/>	Baccalaureate Degree
4.1.5	<input type="checkbox"/>	K-12 School Personnel Programs
4.1.6	<input type="checkbox"/>	Master's Degree
4.1.7	<input type="checkbox"/>	Doctoral Degree
5.2.2	<input type="checkbox"/>	(CER C) Certificate of Completion
5.2.3	<input checked="" type="checkbox"/>	Graduate Certificate
5.2.4	<input type="checkbox"/>	Fast Tracked Certificate

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

¹ CIP codes must be recommended by the submitting institution. For CIP code classifications, please see <http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55>.

Executive Summary – Full Template
Utah Valley University
Graduate Certificate – Cyber Security
08/22/2013

Program Description

The post-baccalaureate Graduate Certificate in Cyber Security will consist of 18 credits designed to provide students with advanced technical and managerial knowledge of cyber security, preparing them for senior technical and leadership roles in the field. To facilitate this certificate, several specialized courses will be created focusing on topics essential to cyber security. Courses cover topics including advanced technical studies, managing cyber security operations, and understanding how cyber security affects the global community. The proposed starting date for this program is Fall 2014.

Role and Mission Fit

Offering a Cyber Security Graduate Certificate enhances Utah Valley University's mission of being a teaching institution that provides opportunity, promotes student success, and meets regional educational needs. This certificate will provide students with the skills and knowledge to excel in a rapidly growing field in the region UVU serves by providing an engaged learning environment that allows students to become leaders in cyber security. This new program will contribute to the quality of life and economic development at both local and state levels by preparing students to enter this high-paying field while joining Utah's skilled technology workforce that provides current and future employers with a pool of strong local talent.

Faculty

UVU has added a Senior Professional in Residence in Cyber Security to the Information Systems & Technology Department under a US Department of Labor Trade Adjustment Assistance Community College and Career Training Program (TAACCCT) grant program. The Senior Professional in Residence will, along with input from the Cyber Security Advisory Board, develop the courses within the Graduate Certificate program. The Senior Professional in Residence will also teach most of the initial graduate courses. The grant provides for hiring one additional faculty member for the duration of the grant to assist in developing courses and teaching current and future cyber security courses. At the end of the grant in September 2015, additional funds will be required to maintain these faculty positions. The grant also provides funds for training and developing additional existing faculty members to deliver these courses.

Market Demand

In 2012, UVU was awarded a \$3,000,000 TAACCCT grant by the US Department of Labor to create the "Cyber Security Career Pathways" program to produce highly skilled workers in the field of cyber security. This certificate is an essential part of the career pathways, providing an advanced technical and managerial option for students who have already completed undergraduate work and seek to advance their existing careers or branch out into a new and 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, including Symantec, Security Metrics, Solera Networks, Voonami/ThinkAtomic, and NetIQ. 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 certificate to build on UVU's existing Information Systems and Technology 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 certificate. As indicated earlier, some of the world leaders in IT Security Technology are headquartered or have facilities in Utah County and are currently hiring cyber security professionals. 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."² Further, a 2010 survey by Frost & Sullivan, on behalf of (ISC)²®, indicated 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.

Student Demand

Students entering the certificate program will be required to have either a Bachelor's degree in Information Systems, Information Technology, or Computer Science; or a Bachelor's degree in any discipline combined with two-years of technology-related work experience. Students who do not meet either criterion can take additional undergraduate Information Technology courses at UVU to prepare for the program.

Statement of Financial Support

The Graduate Certificate requires the addition of several new courses within the Information Systems and Technology Department. UVU has a three-year grant through the Department of Labor to develop and implement Cyber Security programs. This grant has funded equipment and faculty to develop curriculum and begin instruction. UVU continues to seek private and grant funding to support the program. In addition, UVU will request tax fund support through mission-based distinctive mission funding. Finally, some courses overlap between this certificate and the proposed Information Security Management emphasis for the Bachelor of Science in Information Systems. 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.

Appropriated Fund.....	<input checked="" type="checkbox"/>
Special Legislative Appropriation.....	<input type="checkbox"/>
Grants and Contracts.....	<input checked="" type="checkbox"/>
Special Fees	<input type="checkbox"/>
Differential Tuition (must be approved by the Regents).....	<input type="checkbox"/>
Other (please describe).....	<input type="checkbox"/>

Similar Programs Already Offered in the USHE

While two other institutions in the Utah System of High Education offer graduate level courses related to cyber security, they are part of broader graduate programs in either Information Systems (three courses available at University of Utah) or Computer Science (three courses available at Utah State University and one course available at the University of Utah). The courses under this graduate certificate will provide greater depth and breadth with students earning twice as many credits in the discipline.

² His remarks made at Defcon 19, in August 2011.

Program Description – Full Template
Utah Valley University
Graduate Certificate in Cyber Security
9/10/2013

Section I: The Request

Utah Valley University requests approval to offer a Graduate Certificate in Cyber Security effective Fall 2014.

Section II: Program Description

Complete Program Description

The Graduate Certificate in Cyber Security consists of 18 credits designed to provide post-baccalaureate students with advanced technical and managerial knowledge of cyber security, preparing them for senior technical and leadership roles in the field. The program includes foundational courses in cyber security as well as courses focusing on the strategic and tactical implementations of cyber security in public and private organizations. Program content focuses on the theory and practice of cyber security through courses exploring the technology involved, integration with business operations, and legal and ethical issues.

Purpose of Degree

In 2012, UVU was awarded a \$3,000,000 TAACCCT grant by the US Department of Labor to create the “Cyber Security Career Pathways” program to produce highly skilled workers in the field of cyber security. This certificate is an essential part of the career pathways, providing an advanced technical and managerial option for students who have already completed undergraduate work and seek to advance their existing careers or branch out into a new and 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, or key venue for, some of the world leaders in IT Security Technology (as described in the “Industry Need” section), and the addition of the program will provide current students and working professionals advanced education in this growing field.

Institutional Readiness

The program may increase enrollments in lower-division Information Technology (IT) courses for incoming graduate students who do not have a BS in Information Technology (for example, History majors, who must complete some lower-division IT courses to be prepared for the graduate Cyber Security courses). The proposed graduate program will affect enrollments only in the Information Systems and Technology Department in which it will be housed. No new unit will need to be created.

For the 2014-2015 academic year, the Cyber Security grant will cover the salary for two full-time faculty members. However, starting with the 2015-2016 academic year, the University will need to fund these two faculty positions. By the 2016-2017 academic year, possibly a third full-time faculty position will be needed.

The Cyber Security grant covers the cost of renovation and adding a new 30-seat security computer lab. However, the University will need to supplement lab fees to update equipment in about four years and every four years after that. Initial equipment for the two faculty positions will be provided by the grant. The University will need to update the faculty computers every three to four years after that.

Departmental Faculty

Faculty Category	Faculty Headcount – Prior to Program Implementation	Faculty Additions to Support Program	Faculty Headcount at Full Program Implementation
With Doctoral Degrees (Including MFA and other terminal degrees, as specified by the institution)			
Full-time Tenured	2		2
Full-time Non-Tenured	2		2
Part-time Tenured			
Part-time Non-Tenured	0		0
With Master's Degrees			
Full-time Tenured	4		4
Full-time Non-Tenured			
Part-time Tenured			
Part-time Non-Tenured	1		1
With Bachelor's Degrees			
Full-time Tenured			
Full-time Non-Tenured			
Part-time Tenured			
Part-time Non-Tenured	4		4
Other			
Full-time Tenured	0	3	3
Full-time Non-Tenured			
Part-time Tenured			
Part-time Non-Tenured	9	0.25	9.25
Total Headcount Faculty			
Full-time Tenured	6		6
Full-time Non-Tenured	2		2
Part-time Tenured	0		0
Part-time Non-Tenured	14		14

Total Department Faculty FTE (As reported in the most recent A-1/S-11 Institutional Cost Study for “prior to program implementation” and using the A-1/S-11 Cost Study Definition for the projected “at full program implementation.”)	9.10	3	12.10
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Staff

The department will need an additional academic advisor within the first four years. In addition, a part-time administrative assistant might be needed to provide support to the program and faculty.

Library and Information Resources

No specific additional library requirements are required; however, the grant associated with the development of this program provides funds for library resources. These funds will be used to purchase books and periodicals specifically related to Cyber Security.

Admission Requirements

Potential students must apply for admission into the program. To be accepted, students must have completed a Bachelor’s degree, preferably in Information Systems, Information Security, Information Technology, or Computer Science. However, applicants who have a Bachelor’s degree in another field may be admitted to the program if they also have at least two years of IT or cyber security industry experience and have completed undergraduate courses in data communication, programming, and servers.

Student Advisement

Students in the Cyber Security program will be advised by the Information Systems and Technology Department’s full-time advisor. Currently, the advisor advises over 570 students. An additional full-time academic advisor is anticipated being needed to provide sufficient advising for students in the Cyber Security program.

Justification for Graduation Standards and Number of Credits

Graduation standards are as follows:

- Completion of a minimum of 18 credits.
- Overall grade point average of 3.0 (B) or above.
- Residency hours – minimum of 13 hours through course attendance at UVU.
- Courses and project requirements must be finished within a five-year period. No courses that are older than five years will apply to graduation.

External Review and Accreditation

The Cyber Security program has an advisory board that reviews and advises on program and course content, provides insight on industry trends, and provides opportunities for student placement as interns and employees. The program manager communicates with advisory board members regularly through scheduled group meetings, individual meetings, email, and conference calls.

The current advisory board consists of the following members:

- Vance Checketts, COO, EMC
- Gary Glover, Director of Security Assessments, SecurityMetrics
- David Winberg, Director, National Security Agency
- Robert Schroader, Owner, Paraben Corporation
- Andrew Barney, Information Security Manager, Adobe Systems
- Drew Williams, President, Condition Zebra
- David Hunt, Vice President, Symantec Corporation
- Bryan Kessinger, Workforce Development Specialist, Utah Department of Workforce Services

Projected Program Enrollment and Graduates; Projected Departmental Faculty/Students

Data Category	Current – Prior to New Program Implementation	Projected Year 1	Projected Year 2	Projected Year 3	Projected Year 4	Projected Year 5
Data for Proposed Program						
Number of Graduates in Proposed Program	X	20	40	60	85	85
Total # of Declared Majors in Proposed Program	X	25	50	75	100	100
Departmental Data – For All Programs Within the Department						
Total Department Faculty FTE (as reported in Faculty table above)	9.10	9.85	10.60	11.35	12.10	12.10
Total Department Student FTE (Based on Fall Third Week)	255	270.00	285.00	300.00	315.00	315.00
Student FTE per Faculty FTE (ratio of Total Department Faculty FTE and Total Department Student FTE above)	28.0	27.4	26.9	26.4	26.0	26.0
Program accreditation-required ratio of Student FTE/Faculty FTE, if applicable: (Provide ratio here: _____)	9.10	9.85	10.60	11.35	12.10	12.10

Expansion of Existing Program

This is a new program; not an expansion of an existing program.

Section III: Need

Program Need

In 2012, UVU was awarded a \$3,000,000 TAACCCT grant by the US Department of Labor to create the “Cyber Security Career Pathways” program to produce highly skilled workers in the field of cyber security. This certificate is an essential part of the career pathways, providing an advanced technical and managerial

option for students who have already completed undergraduate work and seek to advance their existing careers or branch out into a new and growing field that is already critically in demand.

Labor Market Demand

The rising star of the regional IT industry is the field of cyber security. Utah County is now the home or 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 certificate to build on UVU's 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 certificate. 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, 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 during the next few years.

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."³ Further, a 2010 survey by Frost & Sullivan, on behalf of (ISC)², indicates 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.

³ His remarks made at Defcon 19, in August 2011.

The U.S. Department of Labor Bureau of Labor Statistics reports, "Employment of information security analysts, web developers, and computer network architects is projected to grow 22 percent from 2010 to 2020, faster than the average for all occupations. Job prospects for all three occupations should be favorable."⁴

This certificate will provide students with the specific skills and knowledge needed to compete and excel in this critically understaffed field.

Student Demand

When the Cyber Security grant was announced in 2012, about 15 people contacted the department chair via email or phone call to express interest in completing the program. Through informal surveys of existing BS in Information Technology students, it is estimated that between five and ten percent (14-28 students) are interested in completing the Cyber Security Graduate Certificate. The department continues to receive calls asking about the program's status.

Further support in interest in IT programs is based on the number of majors in the BS in Information Technology program. During the 2008-2009 academic year, 161 students were IT majors. During the 2012-2013 academic year, 267 students were IT majors, a 60% increase in the number of majors during the past five-year period.

Similar Programs

While two other institutions in the Utah System of High Education offer graduate-level courses related to cyber security, these courses are part of broader graduate programs in either Information Systems (three courses available at University of Utah) or Computer Science (three courses available at Utah State University and one course available at the University of Utah). The courses under the Utah Valley University Cyber Security Graduate Certificate will provide greater depth and breadth with students earning twice as many credits in the discipline.

Collaboration with and Impact on Other USHE Institutions

No other USHE institutions are offering a Cyber Security graduate certificate. Therefore, UVU's Cyber Security Graduate Certificate should have no direct impact on other USHE institutions.

Benefits

The graduate certificate will show that UVU and USHE are committed to meeting the needs of students, industry, and the community by offering a cutting-edge program in the growing field of Cyber Security. Having such a program available will help retain students at UVU and in the USHE rather than seeking advanced cyber security programs from out of state institutions. Successfully implementing this program is a crucial part of UVU's TAACCCT grant, demonstrating UVU and USHE's commitment to meeting local and national educational needs.

Consistency with Institutional Mission

Offering a Cyber Security Graduate Certificate enhances Utah Valley University's mission of being a teaching institution which provides opportunity, promotes student success, and meets regional educational needs. The creation of this certificate will provide students with the skills and knowledge to excel in a

⁴ Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2012-13 Edition*, Information Security Analysts, Web Developers, and Computer Network Architects.

rapidly growing field in the region UVU serves by providing an engaged learning environment that allows students to become lifelong learners and leaders in the field of cyber security. The addition of such a program will contribute to the quality of life and economic development at both local and state levels by preparing students to enter this high-paying field, while joining Utah's skilled technology workforce that provides current and future employers with a pool of strong local talent.

Section IV: Program and Student Assessment

The College of Technology and Computing will closely monitor the Cyber Security Graduate Certificate to ensure that it meets the needs of students and industry. The program will focus on rigorous and engaged learning that incorporates the latest technology and industry standards.

Program Assessment

Program Goals:

- I. Faculty recruitment and development will be sustained in accordance with guidelines established by the Information Systems and Technology Department.
- II. Curriculum will be evaluated and updated through regular review with the Cyber Security Advisory Board, industry experts, and standards organizations.
- III. Student learning and satisfaction will be monitored. Evaluation criteria will be conducted to assure student learning, graduation levels, and post-graduation success. The TAACCCT grant funding the program requires additional monitoring that will be included.
- IV. Employers will be surveyed to determine the quality of program graduates readiness for cyber security management and senior technical roles.

Goal Measurement:

- I. Periodic Assessments of faculty teaching and scholarship activities will be monitored and recommendations for improvement provided.
- II. Students will be evaluated through varied assessment measures including discipline specific exams, written reviews, and presentations.
- III. Students will be monitored in terms of successful scholarly activities achieved throughout the course of their academic experience.
- IV. Enrollment and graduation trends will be monitored.
- V. Post-graduation employment will be monitored.
- VI. Evolving cyber security standards, such as the upcoming DHS/NSA Center of Excellence guidelines, will be evaluated for possible incorporation in the program.

Expected Standards of Performance

Learning Goals:

- I. Graduates will be able to clearly explain complex technical cyber security concepts in written and verbal forms.
- II. Graduates will be able to describe and explain how to mitigate cyber security threats to enterprise, government, and individuals.
- III. Graduates will be able to explain the role of cyber security in the enterprise and how to integrate cyber security principles into existing processes.

- IV. Graduates will be aware of their responsibility to behave ethically in their professional lives (e.g., clients, customers, employers, society, profession, environment, and community).
- V. Graduates will have a global perspective on legal and ethical issues surrounding cyber security and technology.

A variety of methods will be conducted to assess the learning outcomes of students in the Cyber Security Graduate Certificate program. In addition, UVU institutional effectiveness officials will be consulted in the ongoing evaluation of methods and processes appropriate to these activities. This will include: Content/Learning, Post-Graduation Outcomes, and Measures of Student Satisfaction.

Faculty, students, and advisors will be active participants in ongoing learning outcomes assessment and program evaluation processes. Goals and objectives will be reviewed, data collected and analyzed, evaluation processes implemented, and feedback utilized in an effort to generate continuous improvement in all these activities.

Section V: Finance

Department Budget

Three-Year Budget Projection							
Departmental Data	Current Departmental Budget - Prior to New Program	Departmental Budget					
		Year 1		Year 2		Year 3	
		Addition to Budget	Total Budget	Addition to Budget	Total Budget	Addition to Budget	Total Budget
Personnel Expense							
Salaries & Wages	\$910,362	\$81,250	\$991,612	\$69,550	\$1,061,162	\$58,287	\$1,119,449
Benefits	\$398,800	\$40,438	\$439,238	\$30,376	\$469,614	\$23,438	\$493,052
Total Personnel Expense	\$1,309,162	\$121,688	\$1,430,850	\$99,926	\$1,530,776	\$81,725	\$1,612,501
Non-personnel Expense							
Travel		\$1,000	\$1,000	\$1,000	\$2,000	\$0	\$2,000
Capital			\$0				
Library			\$0				
Current Expense	\$29,500	\$7,500	\$37,000	\$0	\$37,000	\$2,500	\$39,500
Total Non-personnel Expense	\$29,500	\$8,500	\$38,000	\$1,000	\$39,000	\$2,500	\$41,500
Total Expense (Personnel + Current)	\$1,338,662	\$130,188	\$1,468,850	\$100,926	\$1,569,776	\$84,225	\$1,654,001
Departmental Funding							
		Year 1		Year 2		Year 3	
Appropriated Fund	\$1,338,662		\$1,338,662		\$1,338,662	\$315,339	\$1,654,001
Other:							
Special Legislative Appropriation							
Grants and Contracts		\$130,188	\$130,188	\$100,926	\$231,114	-\$231,114	\$0
Special Fees/Differential Tuition							
Total Revenue	\$1,338,662	\$130,188	\$1,468,850	\$100,926	\$1,569,776	\$84,225	\$1,654,001
Difference							
Revenue - Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Departmental Instructional Cost/Student Credit Hour* (as reported in institutional Cost Study for "current" and using the same Cost Study Definition for "projected")	\$162	-	\$181	-	\$184	-	\$184

Three-Year Budget Projection							
Departmental Data	Current Departmental Budget - Prior to New Program Implementation	Departmental Budget					
		Year 1		Year 2		Year 3	
		Addition to Budget	Total Budget	Addition to Budget	Total Budget	Addition to Budget	Total Budget
Personnel Expense							
Salaries & Wages	\$910,362	\$81,250	\$991,612	\$150,800	\$1,142,412	\$209,087	\$1,351,499
Benefits	\$398,800	\$40,438	\$439,238	\$70,814	\$510,051	\$138,803	\$648,854
Total Personnel Expense	\$1,309,162	\$121,688	\$1,430,850	\$221,614	\$1,652,463	\$347,889	\$2,000,352
Non-personnel Expense							
Travel	-	\$1,000	\$1,000	\$2,000	\$3,000	\$2,000	\$5,000
Capital	-	-	\$0	-	-	-	-

Library	-	-	\$0	-	-	-	-
Current Expense	\$29,500	\$7,500	\$37,000	\$7,500	\$44,500	\$10,000	\$54,500
Total Non-personnel Expense	\$29,500	\$8,500	\$38,000	\$9,500	\$47,500	\$12,000	\$59,500
Total Expense (Personnel + Current)	\$1,338,662	\$130,188	\$1,468,850	\$231,114	\$1,699,963	\$359,889	\$2,059,852
Departmental Funding	Year-1		Year-2		Year-3		
Appropriated Fund	\$1,338,662	\$130,188	\$1,468,850	\$231,114	\$1,699,963	\$359,889	\$2,059,852
Other:	-	-	-	-	-	-	-
Special Legislative Appropriation	-	-	-	-	-	-	-
Grants and Contracts	-	-	-	-	-	-	-
Special Fees/Differential Tuition	-	-	-	-	-	-	-
Total Revenue	\$1,338,662	\$130,188	\$1,468,850	\$231,114	\$1,699,963	\$359,889	\$2,059,852
Difference							
Revenue—Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Departmental Instructional Cost/Student Credit Hour* (as reported in institutional Cost Study for "current" and using the same Cost Study Definition for "projected")	\$162	-	\$181	-	\$199	-	\$229

* *Projected Instructional Cost/Student Credit Hour* data contained in this chart are to be used in the Third-Year Follow-Up Report and Cyclical Reviews required by R411.

Funding Sources

This Graduate Certificate requires the addition of several new courses within the Information Systems and Technology Department. UVU has a three-year grant through the Department of Labor to develop and implement Cyber Security programs. This grant has funded required equipment as well as faculty to develop curriculum and begin instruction. 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 certificate and the proposed Information Security Management emphasis for the Bachelor of Science in Information Systems. 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.

Reallocation

No internal reallocation is planned.

Impact on Existing Budgets

No impact on existing budgets is expected.

Section VI: Program Curriculum

All Program Courses (with New Courses in Bold)

Course Prefix and Number	Title	Credit Hours
Required Courses		
IT 5700	Principles of Cyber Security	3
IT 5710	Cyber Security Operations	3
IT 5750	Law, Ethics, and Privacy In Cyber Security	3
IT 5760	Case Studies in Cyber Security	3
Sub-Total		12
Elective Courses		
	Choose 6 credit hours from the following	6
IT 5740	Advanced Network Defense and Countermeasures	3
IT 5770	Cyber Security Management	3
IT 5780	Secure Coding	3
Sub-Total		6
Total Number of Credits		18

Program Schedule

Fall of First Year (Course Prefix and Number)	Course Title	Credit Hours
IT 5700	Principles of Cyber Security	3
IT 5710	Cyber Security Operations	3
Semester total:		6
Spring of First Year (Course Prefix and Number)	Course Title	Credit Hours
IT 5750	Law, Ethics, and Privacy In Cyber Security	3
IT 5760	Case Studies in Cyber Security	3
Semester total:		6
Summer of First Year (Course Prefix and Number)	Course Title	Credit Hours
Complete 2 of the following:		
IT 5740	Advanced Network Defense and Countermeasures	3
IT 5770	Cyber Security Management	3
IT 5780	Secure Coding	3
Semester total:		6

Section VII: Faculty

Robert M Jorgensen

Education: MS in Information Systems.

Professional Certifications: Certified Information Systems Security Professional, Certified Information Systems Auditor, Certified Ethical Hacker, Microsoft Certified Systems Engineer: Security, Cisco Certified Network Associate Security.

Professional Experience: 18 years professional experience in information technology, information systems, and cyber security.

New faculty member, anticipated hire date of July 1, 2014.

Adjuncts who have cyber security industry experience will be identified and hired to teach some of the classes. Additional full-time faculty will need to be hired as the program grows (see Institutional Readiness section).