Targeted Area of Research: Security Information Technology

Recent terrorist attacks on the World Trade Center and Pentagon coupled with the creation of a Cabinet position for Homeland Security, have heighten the need for greater security education. This proposal requests the creation of six faculty positions (preferably 2 Professors, 2 Associate Professors, and 2 Assistant Professors) to be housed within LSU's Division of Continuing Education. This faculty's responsibility would be to create and offer an 18 hour Minor in Security Information Technology that would focus in one of two areas:

1) Computer Security, or
2) Virtual Reality Security

Rationale

For the past eight years LSU's Division of Continuing Education has provided Counter-Terrorist education to key governmental officials, police chiefs of major cities, sheriffs and key emergency responders throughout the United States and in 67 other countries. Last year Continuing Education received $18,672,371 in grant funding, thereby making it the largest college/division grant recipient at LSU. These grant funds were primarily received from the US Department of Justice and the US Department of State for developing and conducting Counter-Terrorist education courses.

LSU Continuing Education has had success in positioning itself as a leader in Counter-Terrorist education because we have carefully selected what we can do and then done it exceptionally well. The courses we have developed and offered have received the highest levels of distinctions. For the past three years, key governmental agencies have asked us to enter the Security Information Technology field; however, we did not feel we were ready. We have the reputation of LSU to maintain. We now feel the time is right. With your help and approval, we would now like to do.

Division of Continuing Education Background Information

To help put a perspective on LSU Continuing Education's role in the field of Counter-Terrorism might begin with an Counter-Terrorist meeting held this past year in New York City for Counter-Terrorist agencies from throughout the country. Mayor Rudolph Giuliani began his "Welcome To New York" remarks with the statement, "Where's LSU? I just want to say that because of the excellent instruction you have given to our New York City emergency responders, we feel we are ready if there should ever be a major attack on our city. Thanks LSU! You've done a great job and we New Yorkers thank you." Representatives from LSU were called to Washington D.C. this week to help plan the US response to the attacks of September 11th.

Some of the key components within the Division and LSU that can assist in building Security IT are:

Anti-Terrorism Assistance Program (ATAP) Created in 1993, ATAP serves as an educational training arm of the US Department of State. It develops and conducts a wide variety of programs designed for other countries' departments of defense and key police officers to learn how a democratic nation should effectively deal with terrorism. To date, there has been a total of 67 countries who have participated in this program. Last fiscal year, 1,619 delegates from 36 countries participated in ATAP programs held within the US.

Academy of Counter-Terrorist Education (ACE) Started in 1999, ACE is designed to teach emergency responders how to respond to a potential bio-terrorist attack. With more than 2 million emergency responders in the US, the focus of this department's efforts is to teach train-the-trainers terrorist courses. It has the distinction of offering the only Anti-Bioterrorist course certified by the US Department of Justice in the US. Last fiscal year it taught its courses in each of the 50 states, Washington, D.C., and Guam to a total of 5,131 trainers and governmental officials.

Computer Training Begun in 1981, Computer Training offers a wide assortment of courses from Intro to Windows to advanced certification programs. Presently we provide all the courses to prepare persons for the following certifications:

* Checkpoint
    - CheckPoint Certified Security Administrator (CCSA)
    - CheckPoint Certified Security Engineer (CCSE)
* Cisco
    - Cisco Certified Network Associate (CCNA)
* CompTIA
    - Network+
    - A+
    - i-Net+
* Microsoft
    - Microsoft Office User Specialist (MOUS)
    - Microsoft Certified Database Administrator (MCDBA)
    - Microsoft Certified Systems Engineer (MCSE)
    - Microsoft Certified Trainer (MCT)
* Novell
    - Certified Novell Administrator (CNA)
    - Certified Novell Engineer (CNE)
    - Novell Certified Directory Engineer (CDE)
* Oracle
    - Oracle Database Administrator (OCP)
    - Oracle Application Developer (OCP)
* LSU Certification
    - Web Designer
    - Web Developer - Programming
    - Web Developer - Database
    - IT Project Management and Leadership

We also serve as the on-line computer testing site for Prometric and NCS/VUE.

Professional Counter-Terrorists Partnerships

* **National Domestic Preparedness Consortium**: Created in 1997 it focuses its efforts on protecting the infrastructures within the United States against weapons of mass destruction. Members are:
    - Fort McClelland in Anniston, Alabama
    - Nevada Test Site
    - New Mexico Tech
    - Texas A&M
* **Southwest Surety Institute**: Created in 1996, it seeks to provide educational programs in security engineering and surety, and to conduct research and development in security technologies. Its mission is to secure America's infrastructures through science-based educational programs. Members are:
    - Arizona State University - East
    - New Mexico State University
    - New Mexico Tech
    - Sandia National Laboratories
* **Louisiana Counter-Terrorist Consortium** Focuses on bringing together representatives from all the agencies responsible for responding to a weapon of mass destruction (WMD) in Louisiana and to prepare them to become an effective response team to a WMD. Members include:
    - Louisiana State Police
    - Louisiana Office of Emergency Preparedness
* **LSU Security Advisory Committee** Formed in 1999, it includes representatives from the major

infrastructures found in Louisiana(agriculture, petrochemical, pipelines, telecommunications, transportation, and utilities).

* **Departments of Law Enforcement and Security** While the Law Enforcement Program has a rich history of working with law enforcement agencies in every parish of Louisiana since it began in 1953, Continuing Education created a separate Security Department in 1999.

* **Resources From Within LSU** Many faculty from within LSU's departments and colleges, particularly Veterinary Medicine, and the Institutue for Environmental Studies have shared their expertise with Continuing Education to develop courses, teach, and facilitated partnerships with key individuals and agencies throughout the country. We would hope to build on these linkages from within as well as outside LSU to create this Security IT program.

Targeted Area's Match With Louisiana's Diversified Economy

For the past three years LSU Continuing Education has considered getting into the Computer Security market. While some higher education institutions have already entered this field, we believe we could capture a fair share of the market. This has the potential to be a large market with entry salaries in excess of $60,000/year.

Presently there exist no educational program in the country for Virtual Reality Security. This is an emerging market in which the student graduates could begin with salaries in the six figures as presently there aren't persons with this skill set available. Because of LSU's strong background in Security, Louisiana has the potential to lead the world in this field.

How Targeted Area Will Meet LSU's Goals

Security IT will become a crucial field of discovery that needs graduates today. Whoever would graduate from this program should easily find a job. Since September 11th, huindreds of job opportunities have became available. This Security IT education program will become a multi-million dollar industry. Louisiana and LSU could be a major part of it if we begin now.

Courses for a Minor in Security IT (Suggested)

Computer Information Security

Security Information Technology Essentials Reviews the three major areas of information technology security intrusion detection, security tools, and information warfare.

Information Security Provides the fundamental understanding of system and network security.

TCP and Firewalls Equips one to apply intrusion detection techniques using commercial tools, determine appropriate firewalls configurations, and use encryption and authentication methods with virtual Private Networks.

Intrusion Detection Covers building comprehensive intrusion detection systems and methods to protect organizations from common network attacks.

Incident Handling and Malicious Code Explains process to follow in the event of a computer incident and covers the latest and most commonly used hacker tools and techniques for penetrating computer systems.

Windows Security Provides an overview of the Internet Information Server and associated tools. Discusses security exposures and potential control measures involving Windows systems and introduces Active Directory and Group Policy.

Unix Security Begins with an introduction to the Unix boot process and reviews major Unix subsystems. Includes how to run Unix applications securely (FTP, TCP wrappers, Web Servers, BIND and Sendmail).

Virtual Reality Security

Physical Protection Systems Builds on the Sandia National Labs model of "Detect, Delay, Respond" to design and evaluate physical protection systems.

Web Design Basics Includes the technical concepts underlying the Internet and World Wide Web, HTML, Cascading Style Sheets (CSS), and current web design authoring packages (Dreamweaver 4.0, Microsoft FrontPage 2000, Photoshop 6.0 and Flash 5.0).

Web Developer - Programming Covers the central XML technologies, including XSLT, XML, DOM,

XML Linking, DTDs and XML Schema. Focuses on Visual BASIC 6.0 programming, designing and implementing desktop applications, and VBScript to turn Web pages from static text and images into functional, interactive, and dynamic communications and e-commerce tools.

Web Developer – Database Designed to learn SQL to query databases and how to add, update, and delete data, tables, views and indexes. Focuses on mastering Microsoft Access 2000 to understand relational database design, database development and application development.

Virtual Reality: **I and II** Examines the specialized modeling risk assessment software CATS (Consequence Assessment Tool Set). Students will learn how to design software that will multiple layer information of an Event concerned with its effects on the infrastructure, property damage and people.