Form NP

NEW PROGRAM PROPOSAL FORM

Sponsoring Institution(s):   Maryville University

Program Title: Cybersecurity

Degree/Certificate: Bachelor of Science

Options:

Delivery Site(s):   All campus locations, Online

CIP Classification: 29.0207   (Please provide a CIP code)

Implementation Date: Fall 2014

Cooperative Partners: N/A

Expected Date of First Graduation: Spring 2016

AUTHORIZATION

Dr. Mary Ellen Finch, VP Academic Affairs   *May Ell Finil*   3/10/12

     Name/Title of Institutional Officer   Signature   Date

Dr. John Lewington, Dean, John E. Simon School of Business – 314-529-9680

     Person to Contact for More Information   Telephone

Missouri Department of Higher Education Proposal for New Program: Bachelor of Science in Cybersecurity

Maryville University –

1. **New Program Proposal Form:**

   See Form NP Attached

2. **Rationale for the Program**

   Cybersecurity is the study of information security as applied to computing devices such as computers and smartphones, as well as computer networks such as private and public networks. Cybersecurity professionals provide customers, clients, and employers with the ability to secure their most precious asset, their data, from compromise. All institutions that have data need trained Cybersecurity experts with superior technical skills to avoid data breaches.

   The Cybersecurity major proposes to create a technical degree in the cybersecurity field that will allow graduates to move into a high demand information security career field focusing on protecting credit card data (e.g., Target), intellectual property, public utilities, personally identifiable information, etc. The major was developed in response to requests from local business leaders. Over the next decade, the St. Louis area will see an increasing demand for skills in the cybersecurity area. As an example, most local accounting firms have added a Risk Services practice which provides cybersecurity offensive and defensive assessments to their clients.

3. **Student Enrollment Projections for Five Years – Full and Part-time (See Form SE – attached)**

   STUDENT ENROLLMENT PROJECTIONS

Year	1 Fall 2014 – Spring 2015	2 Fall 2015 – Spring 2016	3 Fall 2016 – Spring 2017	4 Fall 2017 – Spring 2018	5 Fall 2018 – Spring 2019
Full Time	7	15	20	25	30
Part Time	8	15	20	30	40
Total	15	30	40	55	70

4. **Evidence of Market Demand / Societal need supported by research (include how these projections were calculated) (Included on Form SE – attached)**

   Recognized as a national center for the accounting, finance and information technology industries, St. Louis is home to significant national firms including Boeing, Edward Jones, Emerson, Enterprise, Express Scripts, Mastercard, Scottrade, and Wells Fargo Advisors. All of these employers are currently looking to increase staffing for their cybersecurity job openings.

   There is a critical need to fill 50,000 cybersecurity jobs in the next 5 years in the federal government and private industry (Source: Washington Post, "Cybersecurity experts needed to meet growing demand," May 29, 2012). In addition, according to the most recent Bureau of Labor Statistics Job Outlook report, information security analyst jobs nationwide are expected to see considerable demand for employment in their field through 2022. Employment of information security professionals is expected to explode 37 percent from 2012 to 2022 with the median pay being $86,170 per year (http://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm).

5. **Duplication and Collaboration: If similar programs currently exist in Missouri, what makes the proposed program necessary and/or distinct from the others at public institutions, area vocational technical schools, and private career schools?**
   Does delivery of the program involve a collaborative effort with any external institution or organization? If yes, please complete Form CL.

   The Cybersecurity majors at Maryville University will have an opportunity to pursue graduate admission/education and have up to 6 hours of undergraduate credit recognized at the graduate level through an agreement with Washington U, but the two programs are unique and not an official collaboration.

   Unique courses incorporated in the program include: Computer Forensics, Information Systems Security Law and Policy, Mobile/Cloud security, and Pen Testing.

   Each Cybersecurity student will be required to participate in a senior year internship or project involving a local employer and current events in the information security world.

   This unique program will give our students a competitive advantage as they seek employment and will benefit the St. Louis area as Maryville graduates fill the market need for qualified job applicants in the industry. There are no public institutions in the state that offer a bachelor's degree in this field.

6. **Program Structure: (See Form PS – attached)**
   A. Total credits required for graduation
   B. Residency requirements, if any
   C. Courses and credits required for general education
   D. Courses and credits required for the major
   E. Number of free elective credits remaining (Sum of C, D, and E should equal A)
   F. Requirements for thesis, internship, or other capstone experiences
   G. Any unique features, for example, interdepartmental cooperation

Form PS

PROGRAM STRUCTURE

A. **Total credits required for graduation**: 128

B. **Residency requirements, if any:** One half of major and a minimum of last 30 hours at Maryville.

C. **General education: Total credits:** 48

Courses (specific courses OR distribution area and credits):

English Composition	6 cr
College Algebra	3 cr
Humanities/Literature/Language/Philosophy/Fine Arts	15cr.
Math and Science	9 cr
Social Sciences	9 cr
General Education Electives	6 cr

D. **Major requirements: Total Credits:** 72 credits

Computer Applications	3 cr	Business Communications	3 cr	Financial Accounting	3 cr
Managerial Accounting	3 cr	Macroeconomics	3 cr	Microeconomics	3 cr
Business Statistics	3 cr	Business Law	3 cr	Principles of Management	3 cr
Principles of Marketing	3 cr	Principles of Finance	3 cr	Operations Management	3 cr
Business Policies	3 cr	Business Processes and IS	3 cr	Business Data and Databases	3 cr
SQL and Database Admin	3 cr	OO Design with Java	3 cr	Agile Project Management	3 cr
Server Based Applications	3 cr	Pen Testing	3 cr	Internship/Project/Electives	3 cr
Computer Forensics	3 cr	IS Security Law and Policy	3 cr	Application Development	3cr

E. **Free elective credits:** 8   (Sum of C, D and E should equal A).

F. **Requirements for thesis, internship or other capstone experience**: Capstone Course   Major requires Business

G. **Any unique features such as interdepartmental cooperation:**   The Criminal Justice program has interest in their students taking some courses.

7. **Financial Projections (for public institutions only):** Please complete Form FP. Additional narrative may be added as needed. If more than one institution is providing support, please complete a separate form for each institution.

   Maryville University is a private university and thus financial projections are not included.

8. **Program Characteristics and Performance Goals:** See the recommended format and issues to be addressed (Form PG). For collaborative programs, responsibility for program evaluation and assessment rests with the institution(s) granting the degree(s).

<div align="center">

Form PG

</div>

PROGRAM CHARACTERISTICS AND PERFORMANCE GOALS

Institution Name   Maryville University St Louis

Program Name   Cybersecurity

Date   March 30, 2015

(Although all of the following guidelines may not be applicable to the proposed program, please carefully consider the elements in each area and respond as completely as possible in the format below. Quantification of performance goals should be included wherever possible.)

Student Preparation

§ **Any special admissions procedures or student qualifications required for this program which exceed regular university admissions, standards, e.g., ACT score, completion of core curriculum, portfolio, personal interview, etc. Please note if no special preparation will be required.**

There are no additional requirements for students to enroll in the Cybersecurity major once they are admitted to the University.

§ **Characteristics of a specific population to be served, if applicable.**

No special population to be served; the major is open to all students.

Faculty Characteristics

§ **Any special requirements (degree status, training, etc.) for assignment of teaching for this degree/certificate.**

A terminal degree in a related business or technical area is preferred. Faculty must have a minimum of a Master's degree in one of these areas. Prior teaching experience and relevant business experience are required.

- § **Estimated percentage of credit hours that will be assigned to full time faculty. Please use the term "full time faculty" (and not FTE) in your descriptions here.**

  Including the business core, it is estimated that 70% of the credit hours will be instructed by full-time faculty.

- § **Expectations for professional activities, special student contact, teaching/learning innovation.**

Faculty teaching in the program will be expected to serve as student advisors and mentors, be available for regular office hours, and engage in ongoing professional development and scholarly activity in the field.

Enrollment Projections

- § **Student FTE majoring in program by the end of five years.**

  50 FTE. We do not foresee a need to project an enrollment cap at this time.

- § **Percent of full time and part time enrollment by the end of five years.**

  60% Full-time and 40% part time enrollment by the end of five years.

Student and Program Outcomes

- § **Number of graduates per annum at three and five years after implementation.**

  10 graduates 3 years after implementation. 35 graduates five years after implementation.

- § **Special skills specific to the program.**

  Cybersecurity analysis and computer forensic skills.

- § **Proportion of students who will achieve licensing, certification, or registration.**

   Not Applicable.

- § **Performance on national and/or local assessments, e.g., percent of students scoring above the 50th percentile on normed tests; percent of students achieving minimal cut-scores on criterion-referenced tests. Include expected results on assessments of general education and on exit assessments in a particular discipline as well as the name of any nationally recognized assessments used.**

  100% of the students will successfully complete the Business Policies capstone course which includes a national skills bases simulation. In addition, all students must successfully complete all course work with a C grade or better.

- § **Placement rates in related fields, in other fields, unemployed.**

  No data is currently available since program has not begun. However, Cybersecurity-related occupations are in the top five business related careers in government employment statistics.

- § **Transfer rates, continuous study.**

Historically about 50% of students studying business at Maryville have transfer credits.

Program Accreditation

§ **Institutional plans for accreditation, if applicable, including accrediting agency and timeline. If there are no plans to seek specialized accreditation, please provide reasons.**

All Maryville programs are regionally accredited by the Higher Learning Commission. John E. Simon School of Business programs are accredited by ACBSP (Accrediting Council for Business Schools and Programs). The School just received 10 year reaccreditation in June 2012.

Alumni and Employer Survey

§ **Expected satisfaction rates for alumni, including timing and method of surveys**

Alumni will be surveyed 2 years and 5 years after graduation. It is expected that alumni satisfaction rates will be high as the curriculum has been designed to prepare students for entry-level careers in the field and there is a high demand for these professionals so job placement (at relatively high salaries) will also be high.

§ **Expected satisfaction rates for employers, including timing and method of surveys.**

Employers will be surveyed annually as part of the senior capstone experience. Surveys are likely to be electronic through Qualtrics. Many local business leaders have expressed their interest in partnering with Maryville to offer internships and other employment opportunities for our Cybersecurity students, so we anticipate these rates will be high as well.

9. **Accreditation: If accreditation is not a goal for this program, provide a brief rationale for your decision. If the institution is seeking program accreditation, provide any additional information that supports your program. (Included on Form PG)**

Not applicable

10. **Institutional Characteristics: Please describe succinctly why your institution is particularly well equipped or well suited to support the proposed program. (Included on Form PG)**

Maryville University is particularly well-suited to support the proposed degree because we have connected closely with business leaders who are seeking employees with the expected skills of a Cybersecurity major and because we have a national leader on our faculty who has high government clearance and expertise as a forensic/cyber analyst who is developing and delivering the curriculum.

11. **Any Other Relevant Information:**

None