



NEW PROGRAM PROPOSAL FORM

Sponsoring Institution(s): St. Charles Community College

Program Title: Cyber Security

Degree/Certificate: Associate of Science

Options: Click here to enter text.

Delivery Site(s): SCC Main Campus

CIP Classification: 11.1003

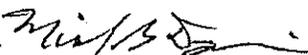
*CIP code can be cross-referenced with programs offered in your region on MDHE's program inventory highered.mo.gov/ProgramInventory/search.jsp

Implementation Date: August, 2015

Cooperative Partners: None

*If this is a collaborative program, form CL must be included with this proposal

AUTHORIZATION:

Dr. Michael B. Dompierre/Asst. VP A&SA  September 29, 2014

Name/Title of Institutional Officer	Signature	Date
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Rex McKanry	(636) 922 - 8289
Person to Contact for More Information	Telephone



PROGRAM CHARACTERISTICS AND PERFORMANCE GOALS

Institution Name St. Charles Community College
Program Name AS Cyber Security
Date 9/29/14

(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.)

1. 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.
None
- Characteristics of a specific population to be served, if applicable.
General student population with an interest in pursuing a BS in Cyber Security.

2. Faculty Characteristics

- Any special requirements (degree status, training, etc.) for assignment of teaching for this degree/certificate.
Masters Degree or higher
- 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.
50% of credit hours will be assigned to full time faculty
- Expectations for professional activities, special student contact, teaching/learning innovation.
Ongoing professional development is required of all full-time faculty

3. Enrollment Projections

- Student FTE majoring in program by the end of five years.
35
- Percent of full time and part time enrollment by the end of five years.
75% full time, 25% part time

4. Student and Program Outcomes

- Number of graduates per annum at three and five years after implementation.
Three years – 5 graduates per annum, Five years – 10 graduates per annum
- Special skills specific to the program.
Scientific skills necessary to successfully transfer to a BS program in a Cyber Security related field.
- Proportion of students who will achieve licensing, certification, or registration.
NA
- 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.
[Click here to enter text.](#)
- Placement rates in related fields, in other fields, unemployed.
NA
- Transfer rates, continuous study.
90%

5. Program Accreditation

- Institutional plans for accreditation, if applicable, including accrediting agency and timeline. **If there are no plans to seek specialized accreditation, please provide a rationale.**
College accredited by HLC no program specific accreditation to be sought

6. Alumni and Employer Survey

- Expected satisfaction rates for alumni, *including timing and method of surveys.*
90% 180 days after graduation; mailed survey followed up my telephone
- Expected satisfaction rates for employers, including timing and method of surveys.
NA

7. Institutional Characteristics

- Characteristics demonstrating why your institution is particularly well-equipped to support the program.
Currently St. Charles Community College offers three AAS degree options with supporting course work that are potentially relevant to a student interesting in transferring to a Bachelor program if they receive guidance as to which specific coursework their transfer

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institution will accept. The AAS degree option in Networking focuses solely on networking skills with little emphasis on network security. The AAS degree option in Network Security focuses on security related skills as it relates to networking with the requirement of a CCNA Security class, Security Fundamentals, Ethical Hacking, and Computer Forensics. In addition, the class continues a primary focus on networking skills generally by requiring all four CCNA classes. The AAS degree option in Cyber Security turns more focus away from networking skills in favor of skills related more directly towards security. This is accomplished by lessening the number of CCNA-related classes in favor of more security-related skills. Cyber Security Essentials specifically focuses on skills that are needed generally to fully understand cyber security issues. It includes developing skills in programming languages, database administration, and Web-oriented technologies. The focus is on understanding the technologies, so that cyber-attacks may be more fully discovered, analyzed, and prevented. All three AAs options focus on training networking professionals with the basic skills they need for the workplace. The differences are more subtle by focusing on security in greater proportions based on the degree. Networking has no focus on security. Network Security turns a focus on security issues. Cyber Security increases that focus more towards security with less emphasis on networking. SCC currently has a dedicated Technology building with numerous specialized labs and an open lab. In Fall 2014 5 full-time faculty member taught the equivalent of 5.6 FTE and 21 adjunct faculty taught the equivalent of 8.2 FTE.



PROGRAM STRUCTURE

A. Total credits required for graduation: 60 - 61

B. Residency requirements, if any: 15

C. General education: Total credits: 36 - 37

Courses (specific courses OR distribution area and credits):

Course Number	Credits	Course Title
MAT-162	4	College Algebra - STEM
MAT-150	3	Trigonometry
MAT-175	3	Introductory Statistics
ENG-101	3	English Composition I
ENG-102	3	English Composition II
ENG-115	3	Technical Writing
Natural Science	4 - 5	
Social Science	6	1 course must comply with provisions of Section 170.011 RsMo
Humanities	6	
COL-101	1	College Success Seminar

D. Major requirements: Total credits: 24

Course Number	Credits	Course Title
CPT\CPC\CPM	24	Courses in Major For Transfer Institution*
		*Currently developing articulation agreement in cyber security with Webster Univ. Plans are to work with additional four-year partners as appropriate.

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E. Free elective credits:

0

(Sum of C, D, and E should equal A.)

F. Requirements for thesis, internship or other capstone experience:

None

G. Any unique features such as interdepartmental cooperation:

Interdepartmental courses between Computer Programing, Networking, and Multimedia

Year One

Semester 1

Course Number

ENG 101

MAT 162

CPT\CPC\CPM

CPT\CPC\CPM

Semester 2

Course Number

ENG 102

MAT 150

PHI. 160 or

PSY 101 or

PSY 201 or

PSY 210 or

PSY215

CPT\CPC\CPM

CPT\CPC\CPM

Year Two

Semester 1

Course Number

ENG 115

PHY-240/PHY-243

or

PHY-125/127 or

PHY-111/113 or

CHM-101/103 or

BIO-110/113

ART-101 or
ART-150 or
ART-160 or
ART-170 or
MUS-111 or
MUS-112 or
MUS-231 or
MUS-232 or
THE-122 or
THE-123 or
THE-124 or
LIT-ANY or
PHI.-ANY or
ARB-ANY or
FRN-ANY or
GRM-ANY or
SPN-ANY

CPT\CPC\CPM
CPT\CPC\CPM

Semester 2
Course Number

MAT 175
HIS-101 or
HIS-102 or
HIS-115 or
HIS-270
POL-101 or
POL-102

CPT\CPC\CPM
CPT\CPC\CPM

Two-Year Plan Associate of Science Cyber Security

Course Title	Credits
English Composition I	3
College Algebra - STEM	4
Course in Major For Transfer Institution	3
Course in Major For Transfer Institution	3
Total	13

Course Title	Credits
English Composition II	3
Trigonometry	3
Ethics	3
Introduction to Psychology	
Child Psychology	
Human Growth & Development	
Adolescent Psychology	
Course in Major For Transfer Institution	3
Course in Major For Transfer Institution	3
Total	15

Course Title	Credits
Technical Writing	3
College Physics I / College Physics I Laboratory	5
Introduction to Physical Geology / Introduction to Physical Geology Laboratory	
Introduction to Physical Science / Introduction to Physical Science Laboratory	
Introduction to Chemistry / Introduction to Chemistry Laboratory	
Human Biology / Human Biology Laboratory	

Art Appreciation	3
Survey of Western Art History I: Prehistory to End of the Middle Ages	
Modern and Contemporary Art History	
Design I	
Music Appreciation	
Jazz Appreciation	
Music History I	
Music History II	
Introduction to Theater	
Introduction to Cinema	
History of Film	
Any Literature Course	
Any Philosophy Course	
Any Arabic Course	
Any French Course	
Any German Course	
Any Spanish Course	
Course in Major For Transfer Institution	3
Course in Major For Transfer Institution	3
Total	17

Course Title	Credits
Introductory Statistics	3
U.S. History to 1877	3
U.S. History Since 1877	
U.S. History Since 1945	
History of Missouri	
American Government	
State and Local Government	3
Course in Major For Transfer Institution	3
Course in Major For Transfer Institution	3
Total	15



STUDENT ENROLLMENT PROJECTIONS

Year	1	2	3	4	5
Full Time	10	15	20	25	30
Part Time	5	10	10	10	10
Total	15	25	30	35	40

Please provide a rationale regarding how student enrollment projections were calculated:

Based on current enrollment in Computer Science upper level courses, transfer data and student and enrollment services feedback.

Provide a **rationale** for proposing this program, including **evidence of market demand and societal need supported by research**:

Our daily life, economic vitality, and national security depend on a stable, safe, and resilient cyberspace. We rely on this vast array of networks to communicate and travel, power our homes, run our economy, and provide government services.

Yet cyber intrusions and attacks have increased dramatically over the last decade, exposing sensitive personal and business information, disrupting critical operations, and imposing high costs on the economy. According to the Occupational Outlook Handbook, "Cyberattacks have grown in frequency and sophistication over the last few years, and many organizations are behind in their ability to detect these attacks. Analysts will be needed to come up with innovative ways to prevent hackers from stealing critical information or creating havoc on computer networks.



Cyber Security is a fast growing field, especially in the federal government sector. According to the landmark market study U.S. Federal Cybersecurity Market Forecast 2010-2015, the U.S. Federal Cyber Security market will grow steadily – at about 6.2% CAGR over the next six years.

According to the United States Department of Labor between 2012 and 2022 the number of job openings for information security analysts will see an estimated increase of 36.5%, which is more than triple the average increase for all occupations of 10.8%. The median annual salary in this high demand occupation in 2012 was \$86,170. Since the typical entry-level education is a Bachelor's degree it is very important for SCC to provide a seamless pathway to transfer to the 4-year institutions for our graduates. (Source: <http://data.bls.gov/oep/noeted>)

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Form SE - Student Enrollment Projections