Academic Program Review
Cyber Security
College of Southern Nevada
2017
ACADEMIC EVALUATION WORKSHEET - PROGRAM ASSESSMENT DATA

Date Submitted: _____________  Submitted by: ________________________________

PROGRAM Assessment - Data to be provided by the person responsible for program assessment

For each section below, please provide the requested information for the degree program under consideration.

Program: ____________________________  Department: ____________________________

Program contact person: Department Chair: Margaret Taylor, CyberSecurity Program Director: Arthur Salmon

Current Academic Year:
(Please use your assessment data submitted most recently in October: results and analysis shown below should be that which was reported for the prior academic year, and outcomes, methods and improvement plan should be drawn from the current academic year assessment plan)

<table>
<thead>
<tr>
<th>MEASURABLE OUTCOMES</th>
<th>METHODS FOR ASSESSING OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluate computer hardware and software.</td>
<td>Students build a computer and install software. Students also complete skill assessment lab.</td>
</tr>
<tr>
<td>Develop organization security policies.</td>
<td>Students are required to develop security plans, the plans are assessed for completeness and appropriateness.</td>
</tr>
<tr>
<td>Explain how to use networking tools and devices to detect and mitigate security attacks.</td>
<td>Students are required to complete several skill-based labs. Skills are assessed using both online and hands-on lab environments.</td>
</tr>
<tr>
<td>Manage the security of a network system.</td>
<td>Students are required to complete several skill-based labs. Skills are assessed using both online and hands-on lab environments</td>
</tr>
<tr>
<td>Manage a networking project.</td>
<td>Students are required to complete a project plan and report in several classes.</td>
</tr>
</tbody>
</table>

RESULTS AND ANALYSIS (based on current year assessment data; please also comment on results obtained based on outcomes designed and measured as a result of prior year findings):

The measurements concluded that 27-30% of students did not achieve outcomes at an acceptable level.

The previous year did not produce data as the measurement tasks were developed.

IMPROVEMENT PLAN (please be specific and ensure that improvement plan is data-driven):

It was determined that the outcomes and assessment methodology would be reviewed by faculty and the Advisory Council. A committee was formed that included faculty and representatives from both the private and government sectors. The committee is scheduled to report their outcomes to the Advisory Council this semester.
ACADEMIC EVALUATION WORKSHEET: PROGRAM

Date Submitted: ___________  Submitted by: Margaret Taylor

PROG. CODE: See List  PROGRAM: See List  DEPARTMENT: Computer & Information Technology (CIT)

Data for Semester: Fall 2016  ASSOC. PREFIX: CF, CIT, CS, CSCO, IS

PROGRAM Performance Indicators - Data to be provided by Institutional Research & Chair/Program Dir/Lead Faculty

DECLARED MAJORS ENROLLED

| Headcount (unduplicated) | 419 |

SUPPLY AND DEMAND (Limited Entry Programs only)

| Is this a limited entry program? | NO |
| Students attempting to gain limited entry (unduplicated) |  |

IR does not provide this data. This data should be provided by the department or program where it is relevant.

GRADUATES AND DEGREES/CERTIFICATES IN PRIOR GRADUATE YEAR (Aug, Dec, and May)

Graduate Year: 2016-2017

| Graduates* | 15 |
| Degrees/Certificates* (total) | 15 |
| Degrees: | 15 |
| Certificates: | 0 |

If more than one program catalog code is included, IR will list each program separately.

STUDENT SUCCESS

| Placement/transfer rates (where applicable) |  |
| Licensure success rates (where applicable) |  |

IR does not provide this data. This data should be provided by the department or program where it is available.

HISTORICAL DATA - PROGRAM

<table>
<thead>
<tr>
<th>Note</th>
<th>1 year change</th>
<th>3 year change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Declared majors</td>
<td>31%</td>
<td>41%</td>
</tr>
<tr>
<td>Graduates (prior grad year)</td>
<td>-27%</td>
<td>80%</td>
</tr>
<tr>
<td>Degrees/Certificates (prior yr)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degrees:</td>
<td>-187%</td>
<td>-60%</td>
</tr>
<tr>
<td>Certificates:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If more than one program catalog code is included, IR will list each program separately.
Notes and Comments:

1This page combines all of the CIT Software Degrees listed below. All of these are different iterations of the same degree.

<table>
<thead>
<tr>
<th>Degree Code</th>
<th>Degree Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITCSDF-CT</td>
<td>Computing and Information Technology [Cyber Security – Digital Forensics]</td>
</tr>
<tr>
<td>CITCSDFASA</td>
<td>Computing and Information Technology [Cyber Security – Digital Forensics]</td>
</tr>
<tr>
<td>CITCNSAAS</td>
<td>Computing and Information Technology [Cyber Security – Network Security]</td>
</tr>
<tr>
<td>CITCRIMAAS</td>
<td>Computing and Information Technology [Electronic Crime Investigation]</td>
</tr>
<tr>
<td>CITECI-CT</td>
<td>Computing and Information Technology [Electronic Crime Investigation]</td>
</tr>
<tr>
<td>CITNESEAA</td>
<td>Computing and Information Technology [Network Security]</td>
</tr>
<tr>
<td>EENESECAAS</td>
<td>Electronic Engineering Technology [Network Security]</td>
</tr>
</tbody>
</table>

2Note: I do not have the actual declared majors for all three time periods. The numbers stated are Enrolled Majors as specified on the IR reports. There were 1,171 Cyber Security declared majors as of Fall 2017.
CORE MISSION:

1. How does this program relate to the Mission and Core Themes of the College? (See appendix)

   The **Computing & Information Technology Cyber Security Program** includes a Digital Forensics Certificate, Digital Forensics AAS degree, and Network Security AAS degree. The program prepares students to assist in providing support for information technology, cyber security, forensics, or data network technician. Curriculum covers Internet and Computer Forensics, Digital Crime Investigation, Advances Computer Forensics, Cisco Networking, Introduction to Programming, and Project Management. The **Computing & Information Technology Cyber Security Program** degrees prepares graduates as technicians and the certificate of achievement prepares students for entry level positions in Information Technology support.

   The **Computing & Information Technology Cyber Security Program** AAS graduates provides opportunities to pursue a four-year degree and several institutions.

   This supports the mission of CSN and the School of Advanced and Applied Technologies to change lives by preparing students to obtain employment or to transfer to a four-year program of student.

2. To the best of your knowledge, how and to what extent is this program essential because of state laws, regulations, outside agency regulations, Board of Regents or Legislative priorities?

   N/A

3. How and to what extent does this program relate to programs at other NSHE institutions (for example, overlapping programs, articulation or transfer relationships, etc.)?

   The **Computing & Information Technology Cyber Security Program** requires general education courses in Communication, English, History, Mathematics, and Science to complete the degree. Graduates with the AAS degree can pursue a bachelor’s of applied science (BAS) degree in Engineering Technology Management – Computer Information Option at Nevada State College or the new BAS degree in Project Management at CSN.

4. How and to what extent does this program relate to programs at non-NSHE colleges in Southern Nevada?

   The **Computing & Information Technology Cyber Security Program** graduates are well positioned to pursue a bachelor’s degree at several non-NSHE colleges. Students learn a core of skills they can apply to the required general education courses across the academic spectrum. The technical courses may be applied to several degrees offered by non-NSHE college programs.

5. How and to what extent does this program depend upon prerequisite courses from other disciplines at CSN?

   The **Computing & Information Technology Cyber Security Program** majority of prerequisite courses are in the areas of Communications, English, and Mathematics.

6. How and to what extent does this program utilize other college resources for academic support (for example, library, technology, counseling, disability resource center, tutoring, writing or math centers, etc.)?

   The **Computing & Information Technology Cyber Security Program**, like all other degree programs, depends upon college services such as the library, counseling, Disability Resource Center, Centers for Academic Success, and the writing and mathematics centers. All of the Computing and Information Technology courses depend upon the services provided by the Office of Technology Services at CSN. Many of these classes are offered in Distance Education and Hybrid format.
QUALITY:
7 Does this program have an advisory board, or does the department have an advisory board relevant to this program? Describe briefly.

The Computing & Information Technology Department has a Cyber Security/Networking Advisory Board and a Software Advisory Board. Each of these entities meet a minimum of once each semester the combined group meets annually or more often as deemed appropriate by the Board Chairs. Currently the Cyber Security Advisory Board has created a sub-committee to review all forensics course and degree outcomes with the intent of making recommendations to the department.

8 If this program has a specialized accreditation, is this accreditation necessary for alumni licensure or employability?

The Computing & Information Technology Cyber Security Program designation as a Center of Academic Excellence Cyber Defense Education Two-Year (CAE-2Y) is not necessary for students or alumni licensure or employability. However, many employers focus cyber security recruiting efforts at CAE designated colleges.

9 How and to what extent does this program contribute to CSN’s regional or national reputation?

The Computing & Information Technology Cyber Security Program designation as a Center of Academic Excellence Cyber Defense Education Two-Year (CAE-2Y) has brought national attention to CSN. Our program is recognized as a college that introduces students to industry standards and state-of-the-art cyber security techniques and methodologies. Students have access to classrooms that provide a hands-on learning experience. Our students also compete at national cyber defense competitions. Competition experience is a leading factor for recruitment.

DEMAND:
10 Describe the level and nature of external demand for this program (for example, occupational data, labor statistics, employer surveys, student surveys, etc.)?

The current demand and projected demand for Cybersecurity/Information Security Analysts is expected to grow much faster than average. The anticipated growth percentages gets larger each year. The job outlook for 2016-2026 is currently 28%. With a projected annual median pay of $92,600 per year.

Many local companies recruit CSN students for internships. Many students are offered full time employment before graduation.

11 Describe the level and nature of external financial or practical support for this program (for example, grants, donations, employer or clinical partnerships, etc.)?

Over the past few years the Computing & Information Technology Cyber Security Program has received significant funding through Grants.

- Perkins Grants: part of $59,000 for this academic year
- Donations: Gifts of approximately $10,000 have been received this year
- CyberWatch West has provided assistance with several security activities
- Three Cyber Security students received a scholarship to attend the Community College Cybersecurity Education (3CS) Conference in Portland, OR this year

12 What other options exist for students in the region to earn this degree or certificate?

There are several options for the Computing & Information Technology Cyber Security Program graduates have several options to continue their education.

- Students completing any of the Cyber Security Degrees are eligible to enter the BAS – Engineering Technology – Computer Information Emphasis Program at Nevada State College
(NSC). CSN and NSC have in place a 3+1 agreement. These student have complete the pre-
requisites for either the Networking Infrastructure Analyst or Virtualization Analyst tracks.

- Students are also prepared to enter CSN’s new **BAS – Project Management** program.
- There are also matriculation agreements that allow students to pursue a Bachelor’s Degree at:
  - Capella University
  - Regis University
  - Southern Utah University
  - University of Phoenix
  - University of Maryland