

Program Review Summary Template
3.7 Academic Program Review
(optional)

Based on the thorough internal or external program review addressing all criteria in policy, a comprehensive report should be possible within ten or fewer pages. This program review template is provided to assist institutions in compiling the program review information, which is to be presented to the institutional governing board prior to submission to the State Regents. Executive Summaries should be possible within two pages using the provided template (Program Review Executive Summary Template).

Description of the program's connection to the institutional mission and goals:

The Associate in Applied Science Degree Cyber Security / Digital Forensics, at Rose State College provides an educational avenue for students to upgrade their knowledge as all aspects of Cyber Security and all IT areas. Or, continue their educational pursuits at a four-year institution. The Rose State College Cyber Security / Digital Forensics degree provides the students with an overview in the field of security while developing the necessary skills to be a productive, trusted member of the digital business community.

3.7.5 Process (Internal/External Review):

Previous Reviews and Actions from those reviews:

Analysis and Assessment (including quantitative and qualitative measures) noting key findings from internal or external reviews and including developments since the last review:

This is accomplished with a yearly comparison with our External Advisory Board. This board is comprised of local business owners, managers, facilitators, administrative personnel, decision makers, and analysts. Based on recommendations from the Board, we continually update our curriculum to reflect the current and future industry needs.

Based on the data available, an overall continuing trend of increasing enrollment was seen in academic years 2012 through 2018. Current data indicates that this trend will continue throughout the 2018 academic year. Changes to our degree plans were implemented after consultation with our advisory board.

A. Centrality of the Program to the Institution's Mission:

As a public and open admission institution that grants associate degrees, Rose State College provides higher education programs and services intended to foster lifelong learning for a diverse population.

The Cyber Security / Digital Forensics – Cyber Security Options supports the campus mission of diversity in both our student and faculty populations. We actively recruit from all high schools, career technology centers and businesses. This results in a wide diversity in backgrounds, ages, initial abilities and ethnicity which fosters enhanced learning.

B. Vitality of the Program:

B.1. Program Objectives and Goals:

Program goals of the Cyber Security Degree Option include: (1) preparing students for entry-level employment in positions requiring networking, cyber security, or digital forensics skills; (2) providing coursework for students seeking career advancement; and, (3) offering a customized educational program to allow students to specialize in cyber security or digital forensics. Although transfer to a 4-year college or university is not the primary purpose of this

degree, Rose State College holds articulation agreement with the Oklahoma State University Institute of Technology, the University of Tulsa, and the University of Oklahoma.

The Cyber Security Option will prepare students to:

1. Perform basic networking and operating skills;
2. Evaluate cryptography standards and methodologies;
3. Evaluate and implement policies and procedures for secure computing environment;
4. Analyze and evaluate technologies such as wireless, remote access, and digital forensics investigations;
5. Perform duties of a cyber security technician;
6. Perform enterprise threat assessment duties; and
7. Students will be prepared to pass industry certification examinations.

Program goals of the Cyber Science Option include: (1) preparing students for entry-level employment in positions requiring networking, cyber security, or digital forensics skills; (2) providing coursework for students seeking career advancement; and, (3) offering a customized educational program to allow students to specialize in cyber security or digital forensics.

Although transfer to a 4-year college or university is not the primary purpose of this degree, Rose State College holds articulation agreement with the Oklahoma State University Institute of Technology, the University of Tulsa, and the University of Oklahoma.

The Cyber Science Option will prepare students to:

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4. Analyze and evaluate technologies such as wireless, remote access, and digital forensics investigations;
5. Perform duties of a cyber security technician; and
6. Perform enterprise threat assessment duties.

Program goals of the Digital Forensics Option include: (1) preparing students for entry-level employment in positions requiring networking skills; (2) providing coursework for students seeking career advancement; and, (3) offering a customized educational program to allow students to specialize in cyber security or digital forensics. Although transfer to a 4-year college or university is not the primary purpose of this degree, Rose State College holds articulation agreements with the Oklahoma State University Institute of Technology, the University of Tulsa, and the University of Oklahoma.

The Digital Forensics Option will prepare students to:

1. Perform basic networking and operating skills;
2. Use technologies such as wireless, remote access, and forensics investigations;
3. Perform digital forensics recovery and analysis of evidence;
4. Analyze, evaluate, and report on digital forensics;
5. Perform basic reverse engineering tasks; and
6. Perform the duties of a digital forensics analyst.

B.2 Quality Indicators (including Higher Learning Commission issues):

1. In spring 2012, we made changes to our degree programs to enable our students to become “Completers”. This was accomplished by the modifying both the Cyber Security and Digital Forensics options to better indicate their specialization in area of study. The current results this has been effective.
2. The CIT discipline has also had several visits with Southeastern University to explore a 2+2 program and build a pipeline for Rose state CIT graduates to complete a B.S. degree.
3. In our Advisory Board meetings held every Fall we continue to explore with our industry partners about internships for our students and gainful employment after degree completion. The CIT Advisory Board is essential in the continuing development of our programs to ensure that we meet the needs of our community.
4. A third option “Cyber Science” was added to assist those students wanting to transfer to a 4-year degree in Computer Science or Engineering. This option requires more math and programming.

B.3. Minimum Productivity Indicators:

Time Frame (e.g.: 5 year span)	Head Count	Graduates
2014	229	24
2015	209	43
2016	221	34
2017	234	41
2018	277	37

B.4. Other Quantitative Measures:

a. Number of courses taught exclusively for the major program for each of the last five years and the size of classes:

b. Student credit hours by level generated in all major courses that make up the degree program for five years:

Course Name	Prefix	Years	Number of Students Enrolled	Number of Students Credit Hours
Network Admin	CIT 2053	2014 2015 2016 2017 2018	22 33 26 60 84	66 33 78 180 252
Unix / Linux	CIT 2243	2014 2015 2016 2017 2018	49 65 82 94 78	147 195 246 282 234
Network Security	CIT 2323	2014 2015 2016 2017 2018	72 81 25 63 66	216 243 75 189 198
Ethics in Information Technology	CIT 2533	2014 2015 2016 2017 2018	45 59 67 81 83	135 177 201 243 249
Digital Forensics	CIT 2553	2014 2015 2016 2017 2018	47 67 53 60 70	141 201 159 180 210

Cryptography & Trusted Systems	CIT 2563	2014 2015 2016 2017 2018	46 73 58 62 64	138 219 174 186 192
Mobile Device & Wireless Security	CIT 2433	2014 2015 2016 2017 2018	0 0 29 69 76	0 0 87 207 228
Information Security Management	CIT 2523	2014 2015 2016 2017 2018	53 51 79 46 50	159 153 237 138 50
Security Auditing & Penetration Testing	CIT 2603	2014 2015 2016 2017 2018	20 32 48 49 82	60 66 144 147 246
Enterprise Threat Assessment	CIT 2633	2014 2015 2016 2017 2018	0 0 0 0 7	0 0 0 21 0
Mobile & Networking Forensics	CIT 2853	2014 2015 2016 2017 2018	0 0 0 5 6	0 0 0 15 18
Data Recovery & Reporting	CIT 2863	2014 2015 2016 2017 2018	0 0 0 8 6	0 0 0 24 18
Reverse Engineering	CIT 2883	2014 2015 2016 2017 2018	0 0 14 0 6	0 0 42 0 18

c. Direct instructional costs for the program for the review period:

2014-2018: \$603,500

d. The number of credits and credit hours generated in the program that support the general education component and other major programs including certificates:

N/A

e. A roster of faculty members, faculty credentials and faculty credential institution(s). Also include the number of full time equivalent faculty in the specialized courses within the curriculum:

Faculty	Credential	Institution that granted degree
Kenneth Dewey	Masters in Information Security Masters in Computer Science Masters in Computer Resource Management Bachelors in Computer Science	Nova Southeastern University University of Tulsa Webster University Park University
Arlene Haynes	MS Education	University of Central Oklahoma
Jeff Thompson	MS Computer Information Technology	Oklahoma City University
Jimmy Scruggs	Bachelors in Applied Technology Associates in Arts Cyber Security	Oklahoma State University Institute of Technology Rose State College
Donna Wilson	M.Ed. in Community College Education	University of Central Oklahoma

f. If available, information about employment or advanced studies of graduates of the program over the past five years:

N/A

g. If available, information about the success of students from this program who have transferred to another institution:

N/A

B.5. Duplication and Demand:

In cases where program titles imply duplication, programs should be carefully compared to determine the extent of the duplication and the extent to which that duplication is unnecessary. An assessment of the demand for a program takes into account the aspirations and expectations of students, faculty, administration, and the various publics served by the program. Demand reflects the desire of people for what the program has to offer and the needs of individuals and society to be served by the program.

B.5. Duplication and Demand Issues:

Address Duplication:

N/A

Address Demand:

The demand for Associate in Applied Science Degree Cyber Security / Digital Forensics options continue to grow. Additional class sections have been added each year for the last 2 years due to increased demand. An opening has been posted for an additional faculty member to help with the increased enrollment.

B.5.a. Detail demand from students, taking into account the profiles of applicants, enrollment, completion data, and occupational data:

N/A

B.5.b. Detail demand for students produced by the program, taking into account employer demands, demands for skills of graduates, and job placement data:

Based on recommendations from the CIT Advisory Board, which meets every Fall, we collaboratively evaluate the strengths and weaknesses of our program. As a result, we have added additional courses. The Advisory Board recommended that we switch our scripting language to Python to meet the industry demand. The board has also recommended we cover more cloud computer and data analytics. Cloud has been incorporated into our Mobile and Wireless devices class.

B.5.c. Detail demand for services or intellectual property of the program, including demands in the form of grants, contracts, or consulting:

The Division of Business and Information Technology at Rose State College assists local business and school systems in the area of cybersecurity, all of which indirectly relate the AAS Associate in Applied Science Degree Cyber Security and Digital Forensics.

B.5.d. Detail indirect demands in the form of faculty and student contributions to the cultural life and well-being of the community:

B.5.e. The process of program review should address meeting demands for the program through alternative forms of delivery. Detail how the program has met these demands:

To meet the changing student needs, we offer our entire program in class, online, and hybrid. Starting in Spring 2019, we will be offering a class via Zoom to allow those students living a great distance away to attend classes and still have direct instructor interaction.

B.6. Effective Use of Resources:

Resources include financial support, (state funds, grants and contracts, private funds, student financial aid); library collections; facilities including laboratory and computer equipment; support services, appropriate use of technology in the instructional design and delivery processes, and the human resources of faculty and staff.

For FY 2015, \$401,761
 For FY 2016, \$382,793
 For FY 2017, \$300,147
 For FY 2018, \$231,132
 For FY 2019, \$238,826

The decrease in expenditures are reflected in part to the loss of full-time and/or part-time faculty positions as faculty assumes teaching load in other disciplines, and the final increase is associated with an added new position.

*Low Producing Program Reviews follow a different format and template.

Institutional Program Recommendations: (describe detailed recommendations for the program as a result of this thorough review and how these recommendations will be implemented, as well as the timeline for key elements)

Recommendations	Implementation Plan	Target Date
1. Replace full-time faculty who have retired and/or left the college 2. Send faculty to national conferences to integrate new ideas and trends into options, certificates, and programs. 3. Continue to develop and maintain articulation agreements with other institutions 4. Enhance marketing approach for Associate in Applied Science Degree—Cyber Security	1. Identify sources and an appropriate amount of monies needed to replace full-time faculty 2. Appropriate funds to send faculty to conferences. 3. Strengthen current relationships and meet with RSC's articulation partners 4. Meet with VP of Marketing to develop a strategy	1. Have new faculty in place by Fall 2019 semester 2. Immediately 3. Ongoing 4. Immediately

Summary of Recommendations:

	Department	School/College	Institutional
Possible Recommendations:			
Expand program (# of students)	x		
Maintain program at current level			
Reduce program in size or scope			
Reorganize program			
Suspend program			
Delete program			

Department/
Program Head _____ Date _____
(Signature)

Dean _____ Date _____
(Signature)