

**Program Review**

**Computer Information Systems Program  
Associate in Applied Science (AAS) and Short-Term Certificate (STC)  
(CIP: 110101)**

**Program Purpose**

<b>What is the published purpose/mission of the program?</b>
The Computer Information Systems Program provides training, field experiences, and education to prepare students for careers in computer information systems, including computer graphics, web design, office technology support, and cybersecurity.
<b>How does the program's purpose/mission fit into the overall mission of the college?</b>
This program supports mission goals three and seven.
<b>Do any changes need to be made to the program's purpose/mission? Explain.</b>
The Computer Information Systems Program provides training, field experiences, and education to prepare students for careers in computer information systems, including computer graphics, web design, office technology support, data center technician, and cybersecurity.
<b>Do any changes need to be made to how the program's purpose/mission fits into the overall college mission? Explain.</b>
No

**Program Learning Outcomes**

<b>What are the program learning outcomes, and how are they assessed?</b>	
<b>Outcome</b>	<b>Assessment</b>
The student will demonstrate knowledge of computer networking terminology and components.	In CIS 199, the student will correctly answer test items concerning data communications equipment and terminology with at least 80% accuracy.
The student will install, configure, and upgrade a computer operating system.	In CIS268, the student will complete a supervised lab assignment demonstrating the ability to install, configure, and upgrade the system with at least 80% proficiency.
The student will install and troubleshoot computer hardware.	In CIS 269, the student will complete a supervised lab assignment demonstrating the ability to install, configure, and upgrade hardware with at least 80% proficiency.
<b>What can students do with the knowledge they have after completing the program?</b>	
After earning an AAS degree or certificate students will be prepared for an entry-level position in a variety of technology-related areas, including hardware and software support, programming, help desk, networking, cyber security, and data centers.	
<b>What are the plans for reviewing the program learning outcomes and revising them?</b>	
The programming learning outcomes will change when/if advancement in technology would require it. Instructors look at their courses yearly and make any adjustments that are necessary.	

**Assessed Needs and Assumptions**

**What are the occupational projections for careers for which the program trains?**

Employment Projections by Occupational Group and Geographical Region													
Occupation	National Projections				Statewide Projections				North Alabama Works Region Projections				
	2016 (Thousands)	2026 (Thousands)	Net Change (Thousands)	Percent Change	2014	2024	Net Change	Percent Change	2014	2024	Net Change	Percent Change	Avg. Wage (2016)
Computer Occupations	4,238.4	4,795.5	557.1	13.1	38,530	43,170	4640	1.14	14,000	15,170	1,170	1.16	N/A
Computer and Information Research Scientists	27.9	33.2	5.4	19.2	230	270	40	1.62	120	130	10	.8	121,528
Computer and Information Analysts	700.5	783.4	82.9	11.8	4,390	5,440	1,050	2.17	1,530	1,900	370	2.19	87,320
Information Security Analysts	100	128.5	28.5	28.5	1,200	1,400	200	1.55	300	380	80	2.39	88,589
Computer Programmers	294.9	273.6	-21.3	-7.2	6,380	5,840	-540	-.88	2,380	2,120	-260	-1.15	99,434
Software Developers / Applications	831.3	1,086.6	255.4	30.7	4,910	5,860	950	1.78	2,950	3,380	430	1.37	103,196
Software Developers / Systems Software	425	472.1	47.1	11.1	4,330	5,190	860	1.83	2,400	2,840	440	1.7	107,999
Web Developers	162.9	187.2	24.4	15	760	970	210	2.47	280	360	80	2.54	61,239
Database Administrators	119.5	133.2	13.7	11.5	1,860	2,060	200	1.03	230	270	40	1.62	84,818
Network and Computer Systems Administrators	391.3	415.3	24	6.1	4,710	5,130	420	.86	1,090	1,240	150	1.3	75,182
Computer Network Architects	162.7	173.2	10.5	6.5	900	990	90	.96	290	330	40	1.3	94,536
Computer User Support Specialists	636.6	708.7	72.1	11.3	5,960	7,080	1,120	1.74	1,520	1,820	300	1.82	47,991
Computer Network Support Specialists	198.8	215.2	16.4	8.3	1,250	1,380	130	.99	310	360	50	1.51	66,191
Computer Occupations / All Other	287.2	313.8	26.6	9.3	1,660	1,580	-80	-.49	620	590	-30	-.49	89,657

Sources:

National Projections: Bureau of Labor Statistics, Employment Projections. ([https://www.bls.gov/emp/ep\\_table\\_102.htm](https://www.bls.gov/emp/ep_table_102.htm))

Statewide Projections: Alabama Department of Labor, Production Employment and Average Annual Job Openings.

(<http://www2.labor.alabama.gov/Projections/occupational/statewide/Statewide2024.aspx>)

North Alabama Works Region Projections: Projections 2014 to 2024. (<http://www2.labor.alabama.gov/Projections/Occupational/Regions2024B.aspx>)

<b>Based on the occupational projections, what is the employment outlook for graduates of the program?</b>
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The overall outlook for jobs in the Computer Science field are promising.
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<b>What is the outlook for the continued need of the program within the mission of the college?</b>
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Technology is a continually growing field that is necessary in all aspects of life and supports the mission of the college.
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**Structure**

<b>What credentials does the program offer?</b>																								
<ul style="list-style-type: none"> <li>• Associate in Applied Science Degree in Computer Information Systems</li> <li>• Short-Term Certificate in Computer Information Systems – Computer Graphics and Web Design</li> <li>• Short-Term Certificate in Computer Information Systems – Office Technology Support</li> <li>• Short-Term Certificate in Computer Information Systems – Cybersecurity + Add-on</li> <li>• Short-Term Certificate in Computer Information Systems – Cybersecurity Technician</li> </ul>																								
<b>What are the requirements for each credential?</b>																								
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<b>Short-Term Certificate in Computer Information Systems – Computer Graphics and Web Design</b>
CIS 151 (3 hours)
CIS 207 (3 hours)
CIS 208 (3 hours)
CIS 209 (3 hours)
CIS 199 (3 hours)
CIS Elective (3 hours)
<b>Total Hours Required for Short-Term Certificate: 21</b>

<b>Short-Term Certificate in Computer Information Systems - Office Technology Support</b>
CIS 149 (3 hours)
CIS 146 (3 hours)
CIS 199 (3 hours)
CIS 207 (3 hours)
CIS 268 (3 hours)
CIS 269 (3 hours)
<b>Total Hours Required for Short-Term Certificate: 18</b>

<b>Short-Term Certificate in Computer Information Systems - Cybersecurity – Option 1 – Security + Add-on</b>
CIS 246 (3 hours)
CIS 280 (3 hours)
CIS 282 (3 hours)
CIS 296 (3 hours)
<b>Total Hours Required for Short-Term Certificate: 12</b>

<b>Short-Term Certificate in Computer Information Systems - Cybersecurity – Option 2 Cybersecurity Technician</b>
CIS 146 (3 hours)
CIS 149 (3 hours)
CIS 199 (3 hours)
CIS 246 (3 hours)
CIS 268 (3 hours)
CIS 269 (3 hours)
CIS 280 (3 hours)
CIS 282 (3 hours)
CIS 296 (3 hours)
<b>Total Hours Required for Short-Term Certificate: 12</b>

**How often are the requirements for the degree reviewed?**

Degree requirements are reviewed once a year.

**Are there any plans for revising the degree requirements?**

A new option for data center technician is being added this year.

**Accreditation**

<b>What is the institutional accreditation for the program?</b>
The Computer Information Systems program is within the institutional accreditation granted by the SACSCOC and reaffirmed in 2015.
<b>Does the program have any program-specific accreditations?</b>
NO

**Instructors**

<b>Who are the current instructors in the program, and what are their credentials?</b>	
<b>Name</b>	<b>Degree/Qualifications</b>
Julie Hester	<ul style="list-style-type: none"> <li>MS in IS</li> </ul>
Jay Massey	<ul style="list-style-type: none"> <li>MS in Biomechanics and Computer Science</li> </ul>
Janice Carney	<ul style="list-style-type: none"> <li>B.S Georgia State University and MS Regis University</li> </ul>
Anthony Cantrell	<ul style="list-style-type: none"> <li>B.S Covenant College and MS Regis University</li> </ul>
Kenneth Mitchell	<ul style="list-style-type: none"> <li>B.S Athens State University</li> </ul>

<b>How have the instructors in the program developed professionally over the past two years?</b>
<b>2016-2017</b>
<b>2017-2018</b>
Apple Swift Training
<b>What are any planned professional development activities for instructors in the program?</b>
None at this time
<b>Are any additional instructors anticipated within the next five years? If so, please explain.</b>
Plans to hire a Computer Science/cyber-security instructor this year.

### Instructional Quality and Enhancements/Curriculum Design

<b>How is the general education core incorporated into the course of study for this program?</b>
The AAS degree includes 21-22 credit hours of general education in the 70 credit-hour total: ENG 101; SPH 107; three credit hours of humanities or fine arts; MTH 116 or any 100-level math; CIS 146; a 3-4 hour math, science or CIS elective; and three credit hours of history, social, or behavioral sciences.
<b>Are all course syllabi current and posted on the NACC website? Explain.</b>
Yes
<b>How is curriculum of each program option evaluated to ensure it is relevant and current? Examples include advisory committee suggestions, student learning outcome evaluations, student evaluations, etc.</b>
<b>Describe changes that have been made in the delivery of the courses in each option of the program as a result of review of the program learning outcomes over the last five years.</b>
We have added more online options for courses that were previously entirely traditional in order to meet the demands of students needing online courses or schedules that are more flexible.
<b>Are courses in the program scheduled to maintain availability and accessibility in accordance with the college's mission? Explain.</b>
Yes, we have a general rotation of courses for Spring and Fall in order to be able to advise students on what courses they will need to take in order to graduate on times.

**Program Resources**

<b>Describe the physical facilities and resources, including any laboratories, used in the program. Are the physical facilities and resources adequate? Explain.</b>
Cyber security lab, 2 computer labs, apple lab, Hardware/networking lab – All are up-to-date and adequate, both of the computer labs and the apple lab were just upgraded this past year.
<b>Are there any plans for major expansion or upgrade of facilities or major replacement/expansion of equipment? Explain the rationale and include projected costs.</b>
Not at this time, all labs were updated within the last 2 years.
<b>Describe the technological resources used in the program. Are the technological resources adequate? Explain.</b>
Apple Lab: iMacs, iPads, iPods, Apple T Computer Lab 1: Think Clients, projector Computer Lab 2: Desktops (with changeable hard drives), projector Hardware/networking lab: Various computers and parts, including the following: desktops, hard drives, memory, CPUs, cat5 and cat6 cables, tools Cyber Security lab: Desktops, Laptops
<b>Are there any plans for major expansion or upgrade of technological resources? Explain the rationale and include projected costs.</b>
Not at this time
<b>Describe the library resources that are available to the program.</b>
Examples of library resources provided by the NACC Learning Resources Center include the following: books, eBooks (full-text electronic books), and full-text journal, magazine, and newspaper articles. Depending on format, these items may be accessed electronically or in print. Online tutorials, as well as program-specific LibGuides pages, provide instruction in the use of these resources. Library staff are available to assist students and faculty in person, online, and by phone.
<b>Are the library resources adequate for the program? Explain.</b>
Yes, we have extensive resources available for CIS students.
<b>Are there any plans for expansion or upgrade of library resources for the program? Explain the rationale and include projected costs.</b>
Not at this time.

### Advisory Committee

<b>Is an advisory committee in place for the program? If so, list the committee members and their affiliation in the community. If not, are plans in place to establish an advisory committee?</b>

<b>What is the purpose and role of the advisory committee?</b>

<b>Describe any changes that have been made to the program as a result of advisory committee activity or suggestions.</b>

**Enrollment and Completions**

**What are the enrollment trends in the program over the last five years?**

Number of Students Enrolled in CIS Courses AY 2013-2014 through AY 2017-2018				
2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
871	805	696	692	747

Source: Office of Institutional Planning and Assessment. NACC ACCESS/400 database system. 9 January 2019.

**What are the enrollment trends in the program over the last five years by gender?**

Number of Students Enrolled in CIS Courses by Gender AY 2013-2014 through AY 2017-2018					
	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
<b>Male</b>	387	361	325	295	356
<b>Female</b>	484	444	371	397	391
<b>Total</b>	<b>871</b>	<b>805</b>	<b>696</b>	<b>692</b>	<b>747</b>

Source: Office of Institutional Planning and Assessment. NACC ACCESS/400 database system. 9 January 2019.

**What are the enrollment trends in the program over the last five years by race/ethnicity?**

Number of Students Enrolled in CIS Courses by Race/Ethnicity AY 2013-2014 through AY 2017-2018					
	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
<b>African American</b>	17	14	11	17	15
<b>Asian</b>	5	8	4	5	2
<b>Hispanic</b>	44	47	51	57	67
<b>Native American</b>	25	26	28	25	19
<b>Other</b>	5	5	7	11	7
<b>White</b>	775	705	595	577	637
<b>Total</b>	<b>871</b>	<b>805</b>	<b>696</b>	<b>692</b>	<b>747</b>

Source: Office of Institutional Planning and Assessment. NACC ACCESS/400 database system. 9 January 2019.

**What are the total number of enrollments and credit-hour production over the last five academic years?**

Total Enrollments and Credit-Hour Production CIS Courses AY 2013-2014 through AY 2017-2018					
	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
<b>Total Enrollments</b>	1,139	1,039	912	911	903
<b>CHP</b>	3,417	3,093	2,726	2,725	2,695

Note: Total Enrollments is a duplicated headcount. If a student enrolled in more than one CRJ course, that student is counted multiple times.

Source: Office of Institutional Planning and Assessment. NACC ACCESS/400 database system. 9 January 2019.

**What are the course success and retention rates in the program over the last three academic years?**

Course Success and Retention Rates CIS Courses AY 2015-2016 through AY 2017-2018									
Year	Enrollments	Withdrawal Rate		Failure Rate		Pass Rate (A-D)		Success Rate (A-C)	
		No.	%	No.	%	No.	%	No.	%
<b>2015-2016</b>	909 <sup>1</sup>	120	13.2%	69	7.6%	720	79.2%	691	76%
<b>2016-2017</b>	911	107	11.7%	72	7.9%	732	80.4%	704	77.3%
<b>2017-2018</b>	902 <sup>2</sup>	141	15.6%	86	9.5%	675	74.8%	641	71.1%

<sup>1</sup>Three enrollments received a grade of AU (audited course) during the 2015-2016 academic year.

<sup>2</sup>One enrollment received a grade of AU (audited course) during the 2017-2018 academic year.

Source: Office of Institutional Planning and Assessment. NACC ACCESS/400 database system. 9 January 2019.

**What are the retention rates in the program over the last five academic years?**

Student Fall-to-Fall Retention CIS Program Fall Cohorts 2013-2018				
Fall 2013- Fall 2014	Fall 2014- Fall 2015	Fall 2015- Fall 2016	Fall 2016- Fall 2017	Fall 2017- Fall 2018
58.3%	66.0%	52.2%	64.3%	50.0%

\* Fall-to-Fall Retention refers to the percent of Associate in Applied Science degree-seeking students in the CIS program in one fall semester who either completed a degree in the program or were enrolled in the CIS program the following fall semester.

Source: Office of Institutional Planning and Assessment. NACC ACCESS/400 database system. 9 January 2019.

**What do the data indicate about enrollment and student retention in the program?**

Enrollment and retention has fluctuated over the past 5 years.

**What are the plans for increasing enrollment and retention rates in the program?**

By offering more online courses, we hope this will students to complete classes that they were unable to fit into their schedule before; which will increase retention and hopefully appeal to more students.

**How many students have earned a credential in the program in the last five academic years?**

Completers in Computer Information Systems Academic Years 2013-2014 through 2017-2018					
Credential	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
AAS	9	18	9	10	7
STC	1	8	4	2	1

Note: A student who earned multiple awards is counted in all applicable rows.

Source: Office of Institutional Planning and Assessment. NACC ACCESS/400 database system. 9 January 2019.

**What are the plans for increasing the completion rates in the program?**

Some students are completing requirements and not applying for the certificates. We will have reports run for who is eligible and contact them upon completion.

**Licensure passage rates**

<b>Does the program lead to the opportunity for licensure? If so, what are the licensure opportunities?</b>
No
<b>What are the licensure pass rates, if applicable?</b>
<b>Does the program or any coursework in the program lead to any type of industry certification? If so, what are the certifications?</b>
A++, Network +, CEH, CISCO, IC3, Microsoft, MOS
<b>What are the industry certification pass rates, if applicable?</b>
Most of the above certifications would be taken after graduation, so we do not have statistics on pass rates. We do require the IC3 with CIS149, pass rates for last year were – 60%

### Job Placement Rates and Employer Satisfaction

<b>What are the job placement rates for graduates of the program?</b>
Job placement rates were 73% for 2013-2014 and 93% for 2015-2016.
<b>Is employer satisfaction of graduates assessed? If so, are employers satisfied with graduates of the program? Please describe.</b>
No

### Student Follow-Up Reports

<b>Is student satisfaction with the program assessed? If so, are students in the program satisfied with the program? Please describe.</b>
We conduct a student survey, but is general for the courses as a whole not to this specific program.
<b>Is alumni satisfaction with the program assessed? If so, are alumni of the program satisfied with the program? Please describe.</b>
No

**Findings of Review THIS IS THE MOST IMPORTANT PART OF THE PROGRAM REVIEW!**

<b>What are the strengths of the program?</b>
We offer a broad range of topics in order to give students an overview of many different areas of Computer Science. We also show the majority of our students are employed upon graduation.
<b>What are recommendations for improvement?</b>
We are planning to add more Cyber Security courses, which is an ever-growing field in Computer Science.
<b>Please provide any other findings that are pertinent to the review.</b>

**Report Affirmed by:**

Office of Institutional Planning and Assessment  
January 18, 2019

Signe	<b>SIGNATURES ON FILE IN OFFICE OF INSTITUTIONAL PLANNING AND ASSESSMENT</b>	
Signe		
Signe		