



**Cycle:** 2018-2021

## AAS WITH A MAJOR IN Network Systems Management

**Program Mission Statement:**

The Network Systems Management program prepares students for entry-level positions as network administrators, network managers, network designers, network operations specialists, network technicians, network installers, network support specialists or IT technicians.

**Division:** Technical and General Education

**AVP:** Dan Averette

**Department Chair:** Pete Gioldasis

**Director:** Paul Anderson

**SACSCOC Standard:** 8.2A

**Accrediting Agency:**  Yes  No

**Name:** NA

**Certification Exam(s):**  Yes  No

**Agency Name:**

**Credential:** NA

Program Student Learning Outcome	Monitoring Year
1. Demonstrate ability to apply technical knowledge and skills to develop and implement hardware and/or software solutions within the realm of information technology that meet specified design and performance requirements.	2018-2019
2. Build, maintain, and troubleshoot to solve common information technology problems and implement secure workable solutions.	2018-2019
3. Students will be able to build and maintain secure networks.	2019-2020
4. Demonstrate proficiency in maintaining end user devices to include personal computers, tablets, etc.	2019-2020
5. Design and build inter-networked environments incorporating routers and switches applying proper mathematical foundations in designing scalable TCP/IP networks using appropriate protocols to meet design requirements.	2020-2021

## STUDENT LEARNING OUTCOMES FOR AAS.NSM – 2018-2019

A. Program Student Learning Outcomes	B. What courses are PSLOs Assessed	C. Methods for Outcomes Assessment	D. Expected Level of Program Performance	E. Data Collection	F. Results	G. Plan For Improvement
What should the graduates of your program be able to do?	Where do you see evidence that the student can do these things?	How does your program evaluate student/graduate skills/abilities?	What is the expected level of student performance <u>for the program</u> ?	When will you collect the data needed to evaluate the performance of the program?	What are the results of the evaluation? <b>NOTE: include student ratio with all results.</b>	How will you use this information to improve the program
1. Demonstrate the ability to apply technical knowledge and skills to develop and implement hardware and/or software solutions within the realm of information technology that meet specified design and performance requirements.	IST 204 Cisco Troubleshooting	The students will demonstrate their abilities by successfully completing a skills exam in IST 204.	70% of the students will receive 70% or higher on the exam.	Fall 2018	7 out of the 10 students (70%) received a 70% or higher on the artifact chosen for this assessment  The lowest score for this artifact was 28% and the highest was 100%. Mean was 76.36%.	Benchmark was met. Skills exams have been updated. Course content and teaching strategies will also be modified for future terms to address areas of difficulty.

## STUDENT LEARNING OUTCOMES FOR AAS.NSM – 2018-2019

A. Program Student Learning Outcomes	B. What courses are PSLOs Assessed	C. Methods for Outcomes Assessment	D. Expected Level of Program Performance	E. Data Collection	F. Results	G. Plan For Improvement
What should the graduates of your program be able to do?	Where do you see evidence that the student can do these things?	How does your program evaluate student/graduate skills/abilities?	What is the expected level of student performance <u>for the program</u> ?	When will you collect the data needed to evaluate the performance of the program?	What are the results of the evaluation? <b>NOTE: include student ratio with all results.</b>	How will you use this information to improve the program?
2. Build, maintain, and troubleshoot to solve common information technology problems and implement secure workable solutions.	IST 257 LAN Network Server Technologies	All students will attempt and 60% will pass the TestOut Server certification exam.	60% will achieve a passing score on the certification exam at the level defined by the certification agency at the time the test is administered.	Summer 2019	All 12 students in IST 257 attempted TestOut Server certification exam with 67% pass rate. Specific passing grades are not returned. 8 of 12 passed.	Benchmark was met. We did meet our goal of 60% pass rate. Results of exams (competencies) will be used to review and update the course content.

## STUDENT LEARNING OUTCOMES FOR AAS.NSM – 2019-2020

A. Program Student Learning Outcomes	B. What courses are PSLOs Assessed	C. Methods for Outcomes Assessment	D. Expected Level of Program Performance	E. Data Collection	F. Results	G. Plan For Improvement
What should the graduates of your program be able to do?	Where do you see evidence that the student can do these things?	How does your program evaluate student/graduate skills/abilities?	What is the expected level of student performance <u>for the program</u> ?	When will you collect the data needed to evaluate the performance of the program?	What are the results of the evaluation? <b>NOTE: include student ratio with all results.</b>	How will you use this information to improve the program
3. Students will be able to build and maintain secure networks.	IST 203	The students will demonstrate abilities by successfully completing skills exams (related to configuring switched networks).	70% of the students will receive 70% or higher on the exam.	Summer 2020	8 of 12 students (67%) received a grade of 70 or better.  The lowest score for this artifact was 0% and the highest was 98%. Mean was 60.36%.	Benchmark was not met. This semester was delivered online. This class is normally face-to-face with hands-on labs. Labs and the skills exam were done virtually with simulated equipment. This may have been detrimental to student success. Summer 2021 will return face to face. If additional online is required, more attention to skills will be added. Note: New curriculum has been released and will be used for IST 201,202,203,204 sequence starting with IST 201 in Fall 2021.

## STUDENT LEARNING OUTCOMES FOR AAS.NSM – 2019-2020

A. Program Student Learning Outcomes	B. What courses are PSLOs Assessed	C. Methods for Outcomes Assessment	D. Expected Level of Program Performance	E. Data Collection	F. Results	G. Plan For Improvement
What should the graduates of your program be able to do?	Where do you see evidence that the student can do these things?	How does your program evaluate student/graduate skills/abilities?	What is the expected level of student performance <u>for the program</u> ?	When will you collect the data needed to evaluate the performance of the program?	What are the results of the evaluation? <b>NOTE: include student ratio with all results.</b>	How will you use this information to improve the program
4. Demonstrate proficiency in maintaining end user devices to include personal computers, tablets, etc.	IST 209	The students will demonstrate their abilities by successfully completing quizzes in specific content areas of IST 209 related to wireless protocols and devices. (CH7 Wireless LAN Topologies).	70% of the students will receive 70% or higher on the quiz.	Fall 2019	6 of 9 students (67%) received a grade of 70 or better.  The lowest score for this artifact was 50% and the highest was 100%. Mean was 70.56%	Benchmark was not met. This content has been moved to other courses (IST 201, IST 202 and CPT 285) in the curriculum. Less technical detail is presented but more practical and end user device configuration is included.

A. Program Student Learning Outcomes	B. What courses are PSLOs Assessed	C. Methods for Outcomes Assessment	D. Expected Level of Program Performance	E. Data Collection	F. Results	G. Plan For Improvement
What should the graduates of your program be able to do?	Where do you see evidence that the student can do these things?	How does your program evaluate student/graduate skills/abilities?	What is the expected level of student performance <u>for the program</u> ?	When will you collect the data needed to evaluate the performance of the program?	What are the results of the evaluation? <b>NOTE: include student ratio with all results.</b>	How will you use this information to improve the program
5. Design and build inter-networked environments incorporating routers and switches applying proper mathematical foundations in designing scalable TCP/IP networks using appropriate protocols to meet design requirements.	IST 204	The students will demonstrate their abilities by successfully completing quizzes in specific content areas of IST 204 related to DHCP (Ch. 8 DHCP).	70% of the students will receive 70% or higher on the quiz.	Fall 2020	5 of 9 students (56%) received a grade of 70% or better.  The lowest score for this artifact was 22.5% and the highest was 93%. Mean was 65.2%.	Benchmark was not met. This semester was delivered online. This class is normally face-to-face with hands on labs. Labs and the skills exam were done virtually with simulated equipment. This may have been detrimental to student success. Fall 2021 will return face to face. If additional online is required, more attention to this content will be added. The lowest score for this artifact was 22.5% and the highest was 93%. Mean was 65.2%.

## **CONTINUOUS STUDENT IMPROVEMENT**

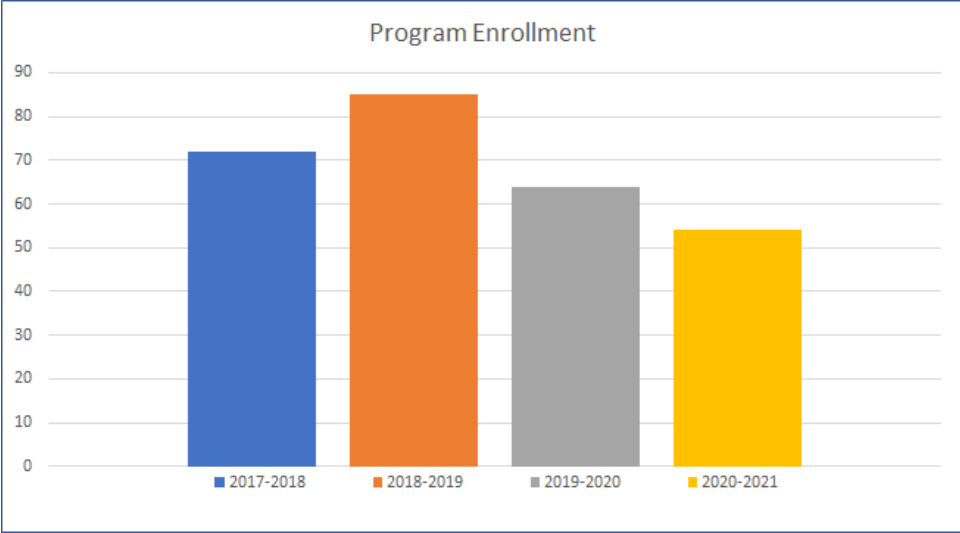
**The PSLOs this cycle, as compared to last cycle, show improvement in many areas although direct comparison is difficult. This is primarily due to three changes. These changes were 1) in delivery due to COVID-19, 2) to the curriculum to make improvements based on IE findings and 3) due to technology updates and revisions to the content.**

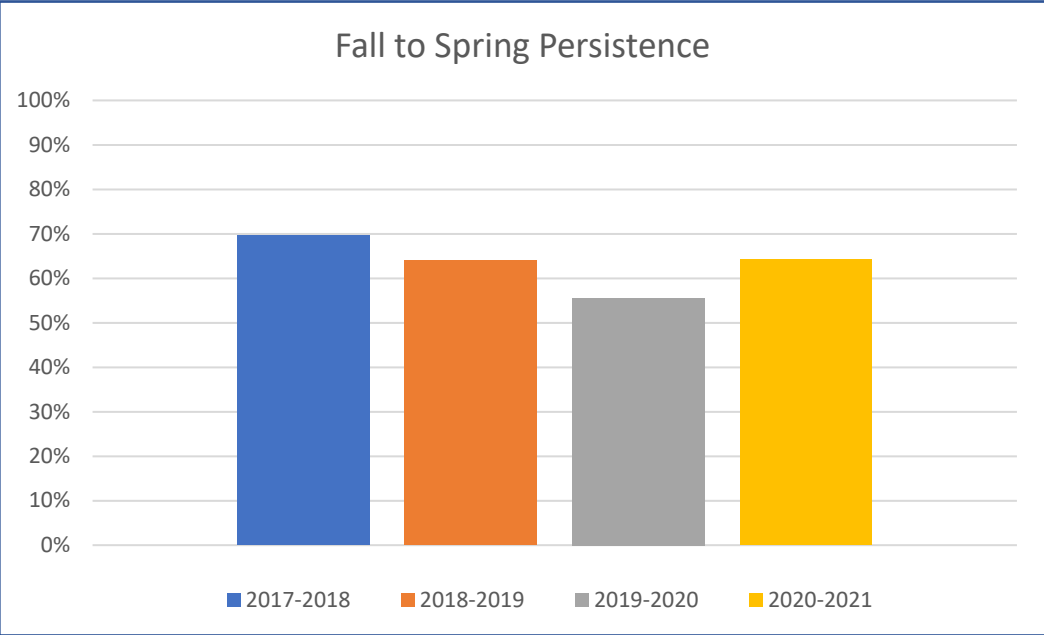
**Skills exams continue to be challenging for students, especially during COVID-19, as we transitioned to all online delivery and online testing with simulations.**

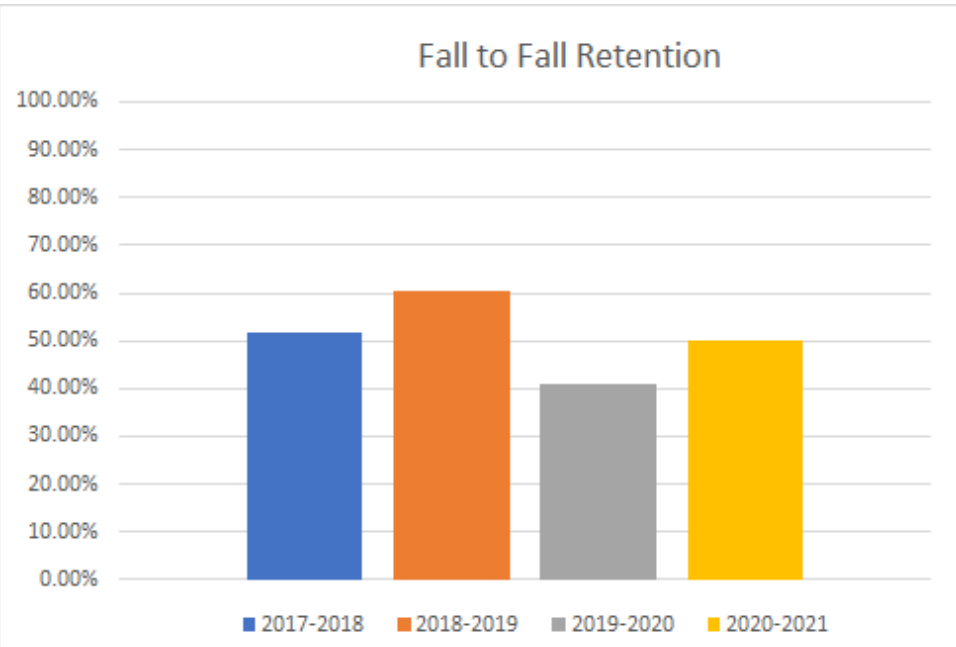
**NSM continues to maintain rigor in all aspects of our delivery of content and assessments of student learning.**

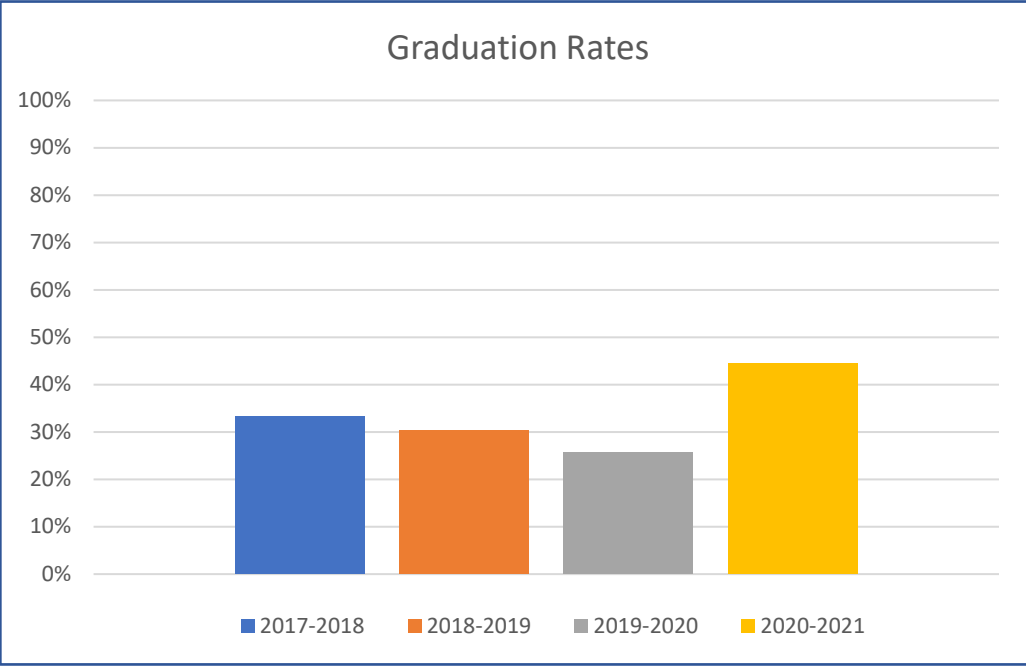
## **PROGRAM VITAL STATISTICS\***



Indicator	Trend Analysis	Action Plans										
<p style="text-align: center;">Program Enrollment</p>  <table border="1" data-bbox="226 266 1180 795"> <caption>Program Enrollment Data</caption> <thead> <tr> <th>Academic Year</th> <th>Enrollment (Estimated)</th> </tr> </thead> <tbody> <tr> <td>2017-2018</td> <td>72</td> </tr> <tr> <td>2018-2019</td> <td>85</td> </tr> <tr> <td>2019-2020</td> <td>64</td> </tr> <tr> <td>2020-2021</td> <td>54</td> </tr> </tbody> </table>	Academic Year	Enrollment (Estimated)	2017-2018	72	2018-2019	85	2019-2020	64	2020-2021	54	<p>First semester enrollment in the NSM degree program has followed national and regional trends. For the 2017-21 period, the decline in enrollment is similar to the national decline for 2-year colleges as reported by NSCRC.</p> <p>Per:  <a href="https://nscresearchcenter.org/current-term-enrollment-estimates/">https://nscresearchcenter.org/current-term-enrollment-estimates/</a></p>	<p>The faculty has developed semester layouts and articulation agreements with 4-year colleges. Also, we are pushing more internship opportunities for our students. We will also focus more high school recruitment.</p>
Academic Year	Enrollment (Estimated)											
2017-2018	72											
2018-2019	85											
2019-2020	64											
2020-2021	54											

Indicator	Trend Analysis	Action Plans										
<p style="text-align: center;"><b>Fall to Spring Persistence</b></p>  <table border="1" data-bbox="184 159 1222 789"> <caption>Fall to Spring Persistence Data</caption> <thead> <tr> <th>Year</th> <th>Persistence Rate (%)</th> </tr> </thead> <tbody> <tr> <td>2017-2018</td> <td>70%</td> </tr> <tr> <td>2018-2019</td> <td>64%</td> </tr> <tr> <td>2019-2020</td> <td>55%</td> </tr> <tr> <td>2020-2021</td> <td>64%</td> </tr> </tbody> </table>	Year	Persistence Rate (%)	2017-2018	70%	2018-2019	64%	2019-2020	55%	2020-2021	64%	<p>The decline in persistence 2018 and 2019 may be partly explained by admissions changes which allowed more students to start which helped enrollment in 2018 but which were detrimental to persistence. 2020 shows a recovery in part due to actions taken to bolster student success.</p> <p>Note: We have some disagreement over persistence vs retention and which is being measured.</p>	<p>Curriculum and delivery methodology continue to evolve even as we return to a new normal from COVID-19. Techniques and teaching skills gained will continue to be applied to increase persistence.</p>
Year	Persistence Rate (%)											
2017-2018	70%											
2018-2019	64%											
2019-2020	55%											
2020-2021	64%											

Indicator	Trend Analysis	Action Plans										
<p style="text-align: center;"><b>Fall to Fall Retention</b></p>  <table border="1" data-bbox="113 207 1062 850"> <caption>Fall to Fall Retention Data</caption> <thead> <tr> <th>Year</th> <th>Retention Percentage</th> </tr> </thead> <tbody> <tr> <td>2017-2018</td> <td>51.00%</td> </tr> <tr> <td>2018-2019</td> <td>60.00%</td> </tr> <tr> <td>2019-2020</td> <td>40.00%</td> </tr> <tr> <td>2020-2021</td> <td>50.00%</td> </tr> </tbody> </table>	Year	Retention Percentage	2017-2018	51.00%	2018-2019	60.00%	2019-2020	40.00%	2020-2021	50.00%	<p>Retention for the first two years is somewhat better than national and regional numbers but the 2019-20 year was affected negatively by the COVID-19 pandemic and the switch to virtual learning.</p>	<p>The faculty will continue to advise students during the semesters and work with students to create a sense of belonging and a path to success.</p>
Year	Retention Percentage											
2017-2018	51.00%											
2018-2019	60.00%											
2019-2020	40.00%											
2020-2021	50.00%											

Indicator	Trend Analysis	Action Plans										
<p style="text-align: center;"><b>Graduation Rates</b></p>  <table border="1" data-bbox="193 159 1213 820"> <caption>Graduation Rates Data</caption> <thead> <tr> <th>Year</th> <th>Graduation Rate (%)</th> </tr> </thead> <tbody> <tr> <td>2017-2018</td> <td>33%</td> </tr> <tr> <td>2018-2019</td> <td>30%</td> </tr> <tr> <td>2019-2020</td> <td>25%</td> </tr> <tr> <td>2020-2021</td> <td>45%</td> </tr> </tbody> </table>	Year	Graduation Rate (%)	2017-2018	33%	2018-2019	30%	2019-2020	25%	2020-2021	45%	<p>The graduation rates are similar to national and regional trends. Based on some improvements we made in our curriculum, you will see where the last year's graduation rate increased significantly.</p>	<p>Graduation rates are always subject to improvement. The faculty will continue to strengthen the curriculum and work to improve communication of knowledge and skills to our students.</p>
Year	Graduation Rate (%)											
2017-2018	33%											
2018-2019	30%											
2019-2020	25%											
2020-2021	45%											

Indicator	Trend Analysis	Action Plans										
<p style="text-align: center;"><b>Job Placement Rates</b></p> <table border="1"> <caption>Job Placement Rates Data</caption> <thead> <tr> <th>Year</th> <th>Rate (%)</th> </tr> </thead> <tbody> <tr> <td>2017-2018</td> <td>85%</td> </tr> <tr> <td>2018-2019</td> <td>100%</td> </tr> <tr> <td>2019-2020</td> <td>100%</td> </tr> <tr> <td>2020-2021</td> <td>0%</td> </tr> </tbody> </table>	Year	Rate (%)	2017-2018	85%	2018-2019	100%	2019-2020	100%	2020-2021	0%	<p>The job placement rates for the NSM Degree are high due to the fact that our graduates are very marketable in our area.</p>	<p>The department will continue to be in communication with industry through Advisory and DACUM committees so we can keep providing graduates into the job market pipeline.</p>
Year	Rate (%)											
2017-2018	85%											
2018-2019	100%											
2019-2020	100%											
2020-2021	0%											

\*Values and formulas used to generate program vital statistics and charts provided by Gary Ancheta.