

Department of Business and Information Technology

College of Applied Science and Technology
The University of Akron

CIS – Cisco Networking Certificate 2018/2019 Academic Year Assessment Report Lead Faculty: Janet Kropff

The Computer Information Systems (CIS) – Cisco Networking certificate is currently not accredited. Below are the learning outcomes for the CIS – Cisco Networking certificate effective Fall 2019.

Computer Information Systems, Cisco Networking Certificate

1. Understand the basic terms, models and protocols applicable to any network. (CTCISCN PLO1)
2. Understand, implement and secure networking devices in a small to medium-sized network topology. (CTCISCN PLO2)

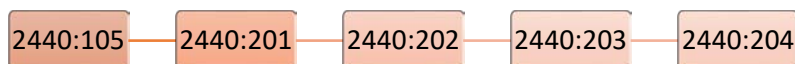
CIS – Cisco Networking Certificate Courses

	CTCISCN PLO1	CTCISCN PLO2
2440:201 Networking Basics	x	
2440:202 Router and Routing Basics		
2440:203 Switching Basics and Wireless Networks		x
2440:204 WAN Technologies		

CIS – Cisco Networking Certificate Assessment Plan

Program Learning Outcomes	Assessed Course	Measurement Tool	Expectation
1. Understand the basic terms, models and protocols applicable to any network. (CTCISCN PLO1)	2440:201 Networking Basics	Combination of a skill final exam and a written final exam.	It is expected that 70% of the students attain the overall scores of 70% or higher on the skill final exam and written final exam.
2. Understand, implement and secure networking devices in a small to medium-sized network topology. (CTCISCN PLO2)	2440:203 Switching Basics and Wireless Networks	Combination of a skill final exam and a written final exam.	It is expected that 70% of the students attain the overall scores of 70% or higher on the skill final exam and written final exam.

CIS – Cisco Networking Certificate Course Prerequisite Mapping



CIS – Programming Certificate
2018/2019 Academic Year Assessment Report
Lead Faculty: Dr. Zarreen Farooqi, Enoch E. Damson

The Computer Information Systems (CIS) - Programming certificate is currently not accredited. Below are the newly developed program learning outcomes for the CIS-Programming certificate effective Fall 2019.

Computer Information Systems, Programming Certificate

1. Apply logical thinking and problem solving skills to effectively solve business problems using information technology. (CTCISP PLO1)
2. Write, test and maintain computer programs using at least two programming languages. (CTCISP PLO2)
3. Effectively utilize database and database management systems to organize, store and retrieve data for use by application software and websites. (CTCISP PLO3)

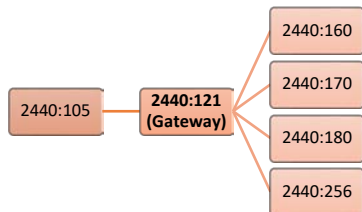
CIS – Programming Certificate Courses

	CTCISP PLO1	CTCISP PLO2	CTCISP PLO3
2440:121 Intro to Logic/Programming	x		
2440:160 Java Programming		x	
2440:170 Visual Basic		x	
2440:180 Intro to Database Management			x
2440:256 C++ Programming		x	

CIS – Programming Certificate Assessment Plan

Program Learning Outcomes	Assessed Course	Measurement Tool	Expectation
1. Apply logical thinking and problem solving skills to effectively solve business problems using information technology. (CTCISP PLO1)	2440:121 Intro to Logic/Programming	Combination of lab assignments and exams.	It is expected that about 70% of the students attain a score of 73% or higher on a combination of labs assignments and exams.
2. Write, test and maintain computer programs using at least two programming languages. (CTCISP PLO2)	2440:160 Java Programming	Combination of tests, lab exercises, and a final project.	It is expected that about 70% of the students will attain a score of 73% or higher on the combination of tests, lab exercises, and a final project.
	2440:170 Visual Basic	Combination of tests.	It is expected that about 70% of the students attain a score of 73% or higher on the tests.
	2440:256 C++ Programming	Combination of two tests.	It is expected that about 70% of the students attain a score of 73% or higher on the tests.
3. Effectively utilize database and database management systems to organize, store and retrieve data for use by application software and websites. (CTCISP PLO3)	2440:180 Intro to Database Management	Final exam	It is expected that about 70% of the students will attain a score of 73% or higher on the final exam.

CIS - Programming Certificate Course Prerequisite Mapping



**AAB CIS – Cisco Networking
2018/2019 Academic Year Assessment Report
Program Director: Janet Kropff**

The AAB Computer Information Systems (CIS) – Cisco Networking degree option received reaffirmation in Spring 2016 for a 10-year accreditation by the Accreditation Council for Business Schools & Programs (ACBSP). The next self-study report is due on February 15, 2026.

ACBSP requires that each accredited program go through a Quality Assurance (QA) review every four years to maintain accreditation. The next QA report is due on February 15, 2020 and subsequently on February 15, 2024.

ACBSP is the second oldest of the following main US-based global business education accrediting bodies.

- AACSB – Association to Advance Collegiate Schools of Business est. 1916
- ACBSP – Accreditation Council for Business Schools and Programs est. 1988
- IACBE – International Assembly for Collegiate Business Education, est. 1997

ACBSP has been the best accrediting body for the AAB Computer Information Systems (CIS) – Cisco Networking degree option for the following three core reasons.

- ACBSP is the only organization to offer accreditation to **all levels of collegiate business educational degree programs from associate to doctoral**. Since AACSB does not offer accreditation for associate degrees, that became one of the main reasons for the creation of ACBSP in 1988. At the time BIT department secured accreditation in 1992, it only offered associate degrees.
- ACBSP generally focuses on **accrediting programs** (instead of business schools as is mostly the case for AACSB) with **an applied approach** to subject matter delivery.
- ACBSP accredits business related programs, generally speaking, **with more emphasis on teaching rather than research**. Teaching has been the core mission of BIT department and the College of Applied Science and Technology (CAST)

The Department of Business and Information Technology recently approved new program learning outcomes for the department’s programs to meet the newly unified ACBSP standards and criteria for demonstrating excellence in business programs and to have the preparation in place to explore the possibility of seeking ABET accreditation in the future. See *appendix A* for the newly approved program learning outcomes for BIT department’s programs. Below are the program learning outcomes for the AAB CIS – Cisco Networking degree option.

Associate of Applied Business (AAB) in Computer Information Systems, Cisco Networking option

1. Apply logical thinking and problem solving skills to effectively solve business problems using information technology. (AABCISCN PLO1)
2. Understand the basic terms, models and protocols applicable to any network. (AABCISCN PLO2)
3. Understand, implement and secure networking devices in a small to medium-sized network topology. (AABCISCN PLO3)
4. Demonstrate interpersonal skills by working as an effective team member to solve business problems. (AABCISCN PLO4)

AAB CIS – Cisco Networking Major Core Courses

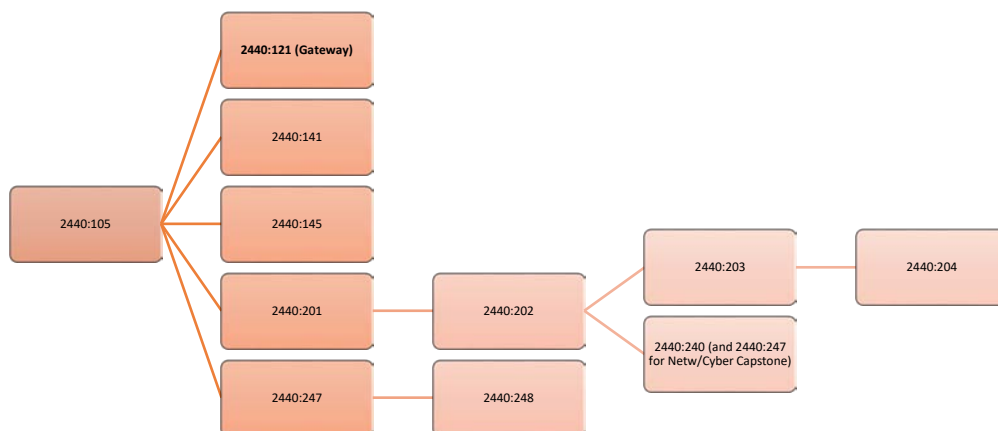
	AABCISCN PLO1	AABCISCN PLO2	AABCISCN PLO3	AABCISCN PLO4
2440:121 Intro to Logic/Programming	x			
2440:141 Web Server Administration				
2440:145 Intro to Unix/Linux				
2440:201 Networking Basics		x		
2440:202 Router and Routing Basics				
2440:203 Switching Basics and Wireless Networks			x	
2440:204 WAN Technologies				
2440:240 CIS Internship				x
2440:247 Hardware Support				
2440:248 Server Hardware Support				

AAB CIS – Cisco Networking Assessment Plan

Program Learning Outcomes	Assessed Course	Measurement Tool	Expectation
1. Apply logical thinking and problem solving skills to effectively solve business problems using information technology. (AABCISCN PLO1)	2440:121 Intro to Logic/Programming	Combination of lab assignments and exams.	It is expected that about 70% of the students will attain a score of 73% or higher on a combination of lab assignments and exams.
2. Understand the basic terms, models and protocols applicable to any network. (AABCISCN PLO2)	2440:201 Networking Basics	Combination of a skill final exam and a written final exam.	It is expected that 70% of the students attain the overall scores of 70% or higher on the skill final exam and written final exam.
3. Understand, implement and secure networking devices in a small to medium-sized network topology. (AABCISCN PLO3)	2440:203 Switching Basics and Wireless Networks	Combination of a skill final exam and a written final exam.	It is expected that 70% of the students attain the overall scores of 70% or higher on the skill final exam and written final exam.
4. Demonstrate interpersonal skills by working as an effective team member to solve business problems. (AABCISCN PLO4)	2440:240 CIS Internship	Multiple assignments and supervisor evaluations.	It is expected that 80% of students will earn a 90% or higher on a supervisor's evaluation.

The AAB and BS CIS – Networking degree options recently went through a 7-year cycle academic program review during the 2018/2019 academic year.

AAB CIS – Cisco Networking Course Prerequisite Mapping



**AAB CIS - Programming
2018/2019 Academic Year Assessment Report
Program Directors: Dr. Zarreen Farooqi, Enoch E. Damson**

The AAB Computer Information Systems (CIS) - Programming degree option was reaffirmed for a 10-year accreditation in Spring 2016 by the Accreditation Council for Business Schools & Programs (ACBSP). The next self-study report is due on February 15, 2026.

ACBSP requires that each accredited program go through a Quality Assurance (QA) review every four years to maintain accreditation. The next QA report is due on February 15, 2020 and subsequently on February 15, 2024.

ACBSP is the second oldest of the following main US-based global business education accrediting bodies.

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- IACBE – International Assembly for Collegiate Business Education, est. 1997

ACBSP has been the best accrediting body for the AAB Computer Information Systems (CIS) – Cisco Networking degree option for the following three core reasons.

- ACBSP is the only organization to offer accreditation to **all levels of collegiate business educational degree programs from associate to doctoral**. Since AACSB does not offer accreditation for associate degrees, that became one of the main reasons for the creation of ACBSP in 1988. At the time BIT department secured accreditation in 1992, it only offered associate degrees.
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- ACBSP accredits business related programs, generally speaking, **with more emphasis on teaching rather than research**. Teaching has been the core mission of BIT department and the College of Applied Science and Technology (CAST)

The Department of Business and Information Technology recently approved new program learning outcomes for the department’s programs to meet the newly unified ACBSP standards and criteria for demonstrating excellence in business programs and to have the preparation in place to explore the possibility of seeking ABET accreditation in the future. See *appendix A* for the newly approved program learning outcomes for BIT department’s programs. Below are the program learning outcomes for the AAB CIS-Programming degree option.

Associate of Applied Business (AAB) in Computer Information Systems, Programming option

1. Apply logical thinking and problem solving skills to effectively solve business problems using information technology. (AABCISP PLO1)
2. Write, test and maintain computer programs using at least two programming languages. (AABCISP PLO2)
3. Effectively utilize database and database management systems to organize, store and retrieve data for use by application software and websites. (AABCISP PLO3)
4. Analyze information technology needs to design, develop, test and maintain computer application software or systems. (AABCISP PLO4)
5. Demonstrate interpersonal skills by working as an effective team member to solve business problems. (AABCISP PLO5)

AAB CIS – Programming Major Core Courses

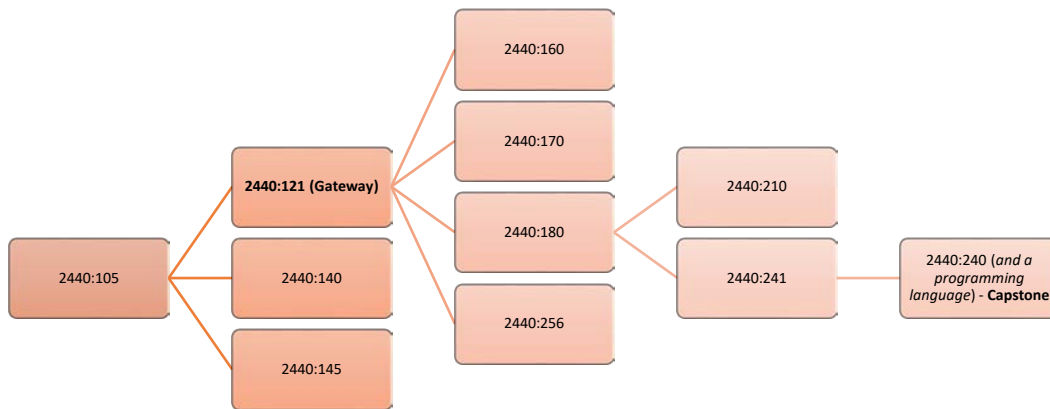
	AABCISP PLO1	AABCISP PLO2	AABCISP PLO3	AABCISP PLO4	AABCISP PLO5
2440:121 Intro to Logic/Programming	x				
2440:140 Internet Tools					
2440:145 Intro to Unix/Linux					
2440:160 Java Programming		x			
2440:170 Visual Basic		x			
2440:180 Intro to Database Management			x		
2440:210 Client/Server Programming					
2440:240 CIS Internship					x
2440:241 Systems Analysis and Design				x	
2440:256 C++ Programming		x			

AAB CIS – Programming Assessment Plan

Program Learning Outcomes	Assessed Course	Measurement Tool	Expectation
1. Apply logical thinking and problem solving skills to effectively solve business problems using information technology. (AABCISP PLO1)	2440:121 Intro to Logic/Programming	Combination of lab assignments and exams.	It is expected that about 70% of the students will attain a score of 73% or higher on a combination of lab assignments and exams.
2. Write, test and maintain computer programs using at least two programming languages. (AABCISP PLO2)	2440:160 Java Programming	Combination of tests, lab exercises, and a final project.	It is expected that about 70% of the students will attain a score of 73% or higher on the combination of tests, lab exercises, and a final project.
	2440:170 Visual Basic	Combination of tests.	It is expected that about 70% of the students attain a score of 73% or higher on the tests.
	2440:256 C++ Programming	Combination of two tests.	It is expected that about 70% of the students attain a score of 73% or higher on the tests.
3. Effectively utilize database and database management systems to organize, store and retrieve data for use by application software and websites. (AABCISP PLO3)	2440:180 Intro to Database Management	Final exam	It is expected that about 70% of the students will attain a score of 73% or higher on the final exam.
4. Analyze information technology needs to design, develop, test and maintain computer application software or systems. (AABCISP PLO4)	2440:241 Systems Analysis and Design	Combination of two tests.	It is expected that about 70% of the students attain a score of 73% or higher on the tests.
5. Demonstrate interpersonal skills by working as an effective team member to solve business problems. (AABCISP PLO5)	2440:240 CIS Internship	Multiple assignments and supervisor evaluations.	It is expected that 80% of students will earn a 90% or higher on a supervisor's evaluation.

The AAB and BS CIS – Programming degree options recently went through a 7-year cycle academic program review during the 2018/2019 academic year.

AAB CIS - Programming Course Prerequisite Mapping



BS CIS - Cybersecurity
2018/2019 Academic Year Assessment Report
Program Directors: Dr. John Nicholas, Dr. Scott Randby, Stan Smith

The BS Computer Information Systems (CIS) - Cybersecurity degree option is currently not accredited. The Department of Business and Information Technology is exploring the possibility of seeking ABET (Accreditation Board for Engineering and Technology) accreditation through its Computing Accreditation Commission (CAC).

ABET accredits college and university programs in the disciplines of applied and natural science, computing, engineering and engineering technology at the associate, bachelor's and master's degree levels.

The Department of Business and Information Technology recently approved new program learning outcomes for the department's programs to have the preparation in place to explore the possibility of seeking ABET accreditation in the future. See *appendix A* for the newly approved program learning outcomes for BIT department's programs. Below are the program learning outcomes for the BS CIS - Cybersecurity degree option.

Bachelor of Science (BS) in Computer Information Systems, Cybersecurity option

1. Apply logical thinking and problem solving skills to effectively solve business problems using information technology. (BSCISC PLO1)
2. Demonstrate a solid understanding of the principles and mathematics of public key cryptography. (BSCISC PLO2)
3. Demonstrate an understanding of the goals of intrusion detection and the classic security model. (BSCISC PLO3)
4. Implement legal and ethical decision-making practices in information technology. (BSCISC PLO4)
5. Demonstrate comprehensive skill proficiency by researching, documenting and implementing current and advanced topics on cybersecurity. (BSCISC PLO5)

BS CIS – Cybersecurity Major Core Courses

	BSCISC PLO1	BSCISC PLO2	BSCISC PLO3	BSCISC PLO4	BSCISC PLO5
2030:216 Applied Finite Mathematics					
2030:361 Applied Cryptography		x			
2030:461 Applied Cryptanalysis					
2235:100 Intro to Digital Forensics					
2235:280 Cybercrime					
2235:281 Computer Forensic Methods					
2235:283 Cyber Warfare					
2235:381 Computer Forensic Methods II					
2235:382 File Systems Analysis					
2235:383 Ethical Hacking				x	
2440:121 Intro to Logic/Programming	x				
2440:145 Intro to Unix/Linux					
2440:201 Networking Basics					
2440:202 Router and Routing Basics					
2440:203 Switching Basics and Wireless Networks					
2440:204 WAN Technologies					
2440:240 CIS Internship					
2440:247 Hardware Support					
2440:248 Server Hardware Support					
2440:300 Network Authentication and Security					
2440:303 Voice, Data, and Video					
2440:310 Wireless Networking					
2440:306 Ethics & Law in IT (optional)				x	
2440:331 Programming for Cybersecurity					
2440:340 Network Forensics I					
2440:388 Advanced Unix/Linux					
2440:431 UNIX-based Systems Security					
2440:440 Intrusion Detection			x		
2440:442 Wireless Forensics					
2440:443 Network Forensics II					
2440:491 Senior Cybersecurity Projects					X

BS CIS – Cybersecurity Assessment Plan

Program Learning Outcomes	Assessed Course	Measurement Tool	Expectation
1. Apply logical thinking and problem solving skills to effectively solve business problems using information technology. (BSCISC PLO1)	2440:121 Intro to Logic/Programming	Combination of lab assignments and exams.	It is expected that about 70% of the students will attain a score of 73% or higher on a combination of lab assignments and exams.
2. Demonstrate a solid understanding of the principles and mathematics of public key cryptography. (BSCISC PLO2)	2030:361 Applied Cryptography	End of semester test.	A score of 80 or higher (100 maximum) indicates a solid understanding of the principles and mathematics of public key cryptography. It is expected that at least 80% of students meet or exceed the assessment benchmark while fewer than 10% of students score lower than 10 points under the benchmark.
3. Demonstrate an understanding of the goals of intrusion detection and the classic security model. (BSCISC PLO3)	2440:440 Intrusion Detection	Project and test.	It is expected that 80% of the students must receive a score of 80% or higher to indicate comprehension and understanding of the course objectives.
4. Implement legal and ethical decision-making practices in information technology. (BSCISC PLO4)	2235:383 Ethical Hacking	Combination of tests.	It is expected that about 80% of the students attain a score of 80% or higher on the tests.
5. Demonstrate comprehensive skill proficiency by researching, documenting and implementing current and advanced topics on cybersecurity. (BSCISC PLO5)	2440:491 Senior Cybersecurity Projects	Project and associated documentation.	It is expected that about 80% of the students attain a score of 70% or higher on the final project and associated documentation.

The BS CIS – Cybersecurity degree option recently went through a 7-year cycle academic program review during the 2018/2019 academic year.

**BS CIS – Digital Forensics
2018/2019 Academic Year Assessment Report
Program Directors: Dr. John Nicholas, Dr. Scott Randby, Stan Smith**

The BS Computer Information Systems (CIS) – Digital Forensics degree option is currently not accredited. The Department of Business and Information Technology is exploring the possibility of seeking ABET (Accreditation Board for Engineering and Technology) accreditation through its Computing Accreditation Commission (CAC).

ABET accredits college and university programs in the disciplines of applied and natural science, computing, engineering and engineering technology at the associate, bachelor's and master's degree levels.

The Department of Business and Information Technology recently approved new program learning outcomes for the department's programs to have the preparation in place to explore the possibility of seeking ABET accreditation in the future. See *appendix A* for the newly approved program learning outcomes for BIT department's programs. Below are the program learning outcomes for the BS CIS – Digital Forensics degree option.

Bachelor of Science (BS) in Computer Information Systems, Digital Forensics option

1. Apply logical thinking and problem solving skills to effectively solve business problems using information technology. (BSCISDF PLO1)
2. Demonstrate a solid understanding of the principles and mathematics of public key cryptography. (BSCISDF PLO2)
3. Demonstrate an understanding of the objectives of computer forensic methods and processing electronically stored information. (BSCISDF PLO3)
4. Implement legal and ethical decision-making practices in information technology. (BSCISC PLO4)
5. Demonstrate comprehensive skill proficiency by researching, documenting and implementing current and advanced topics on digital forensics. (BSCISDF PLO5)

BS CIS – Digital Forensics Major Core Courses

	BSCISC PLO1	BSCISC PLO2	BSCISC PLO3	BSCISC PLO4	BSCISC PLO5
2030:361 Applied Cryptography		x			
2030:461 Applied Cryptanalysis					
2235:100 Intro to Digital Forensics					
2235:280 Cybercrime					
2235:281 Computer Forensic Methods					
2235:381 Computer Forensic Methods II					
2235:382 File Systems Analysis					
2235:383 <i>Ethical Hacking (optional)</i>				x	
2440:121 Intro to Logic/Programming	x				
2440:145 Intro to Unix/Linux					
2440:240 CIS Internship					
2440:247 Hardware Support					
2440:300 Network Authentication and Security					
2440:303 Voice, Data, and Video					
2440:310 Wireless Networking					
2440:306 Ethics & Law in IT				x	
2440:331 Programming for Cybersecurity					
2440:340 Network Forensics I					
2440:388 Advanced Unix/Linux					
2440:430 Network Monitoring and Management					
2440:440 Intrusion Detection			x		
2440:441 Cyber Security					
2440:442 Wireless Forensics					
2440:443 Network Forensics II					
2440:450 Applied Data Mining					
2440:491 Senior Cybersecurity Projects					x
3800:100 Intro to Criminal Justice					
3800:102 Principles of Criminal Law					
3800:104 Evidence & Criminal Legal Process					
3800:105 Intro to Police Studies					

	BSCISC PLO1	BSCISC PLO2	BSCISC PLO3	BSCISC PLO4	BSCISC PLO5
3800:298 Applied Ethics in Criminal Justice					

BS CIS – Digital Forensics Assessment Plan

Program Learning Outcomes	Assessed Course	Measurement Tool	Expectation
1. Apply logical thinking and problem solving skills to effectively solve business problems using information technology. (BSCISC PLO1)	2440:121 Intro to Logic/Programming	Combination of lab assignments and exams.	It is expected that about 70% of the students will attain a score of 73% or higher on a combination of lab assignments and exams.
2. Demonstrate a solid understanding of the principles and mathematics of public key cryptography. (BSCISC PLO2)	2030:361 Applied Cryptography	End of semester test.	A score of 80 or higher (100 maximum) indicates a solid understanding of the principles and mathematics of public key cryptography. It is expected that at least 80% of students meet or exceed the assessment benchmark while fewer than 10% of students score lower than 10 points under the benchmark.
3. Demonstrate an understanding of the goals of intrusion detection and the classic security model. (BSCISC PLO3)	2235:281 Computer Forensic Methods	Project and test.	It is expected that 80% of the students must receive a score of 80% or higher to indicate comprehension and understanding of the course objectives.
4. Implement legal and ethical decision-making practices in information technology. (BSCISC PLO4)	2235:383 Ethical Hacking	Combination of tests.	It is expected that about 80% of the students attain a score of 80% or higher on the tests.
5. Demonstrate comprehensive skill proficiency by researching, documenting and implementing current and advanced topics on cybersecurity. (BSCISC PLO5)	2440:491 Senior Cybersecurity Projects	Project and associated documentation.	It is expected that about 80% of the students attain a score of 70% or higher on the final project and associated documentation.

The BS CIS – Digital Forensics degree option recently went through a 7-year cycle academic program review during the 2018/2019 academic year.

**BS CIS - Networking
2018/2019 Academic Year Assessment Report
Program Director: Janet Kropff**

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Bachelor of Science (BS) in Computer Information Systems, Networking option

1. Apply logical thinking and problem solving skills to effectively solve business problems using information technology. (BSCISN PLO1)
2. Understand the basic terms, models and protocols applicable to any network. (BSCISN PLO2)
3. Understand, implement and secure networking devices in a small to medium-sized network topology. (BSCISN PLO3)
4. Demonstrate interpersonal skills by working as an effective team member to solve business problems. (BSCISN PLO4)
5. Implement legal and ethical decision-making practices in information technology. (BSCISN PLO5)
6. Demonstrate comprehensive skill proficiency by researching, documenting and implementing current and advanced topics on networking. (BSCISN PLO6)

BS CIS – Networking Major Core Courses

	BSCISN PLO1	BSCISN PLO2	BSCISN PLO3	BSCISN PLO4	BSCISN PLO5	BSCISN PLO6
2440:121 Intro to Logic/Programming	x					
2440:141 Web Server Administration						
2440:145 Intro to Unix/Linux						
2440:201 Networking Basics		x				
2440:202 Router and Routing Basics						
2440:203 Switching Basics and Wireless Networks			x			
2440:204 WAN Technologies						
2440:240 CIS Internship				x		
2440:247 Hardware Support						
2440:248 Server Hardware Support						

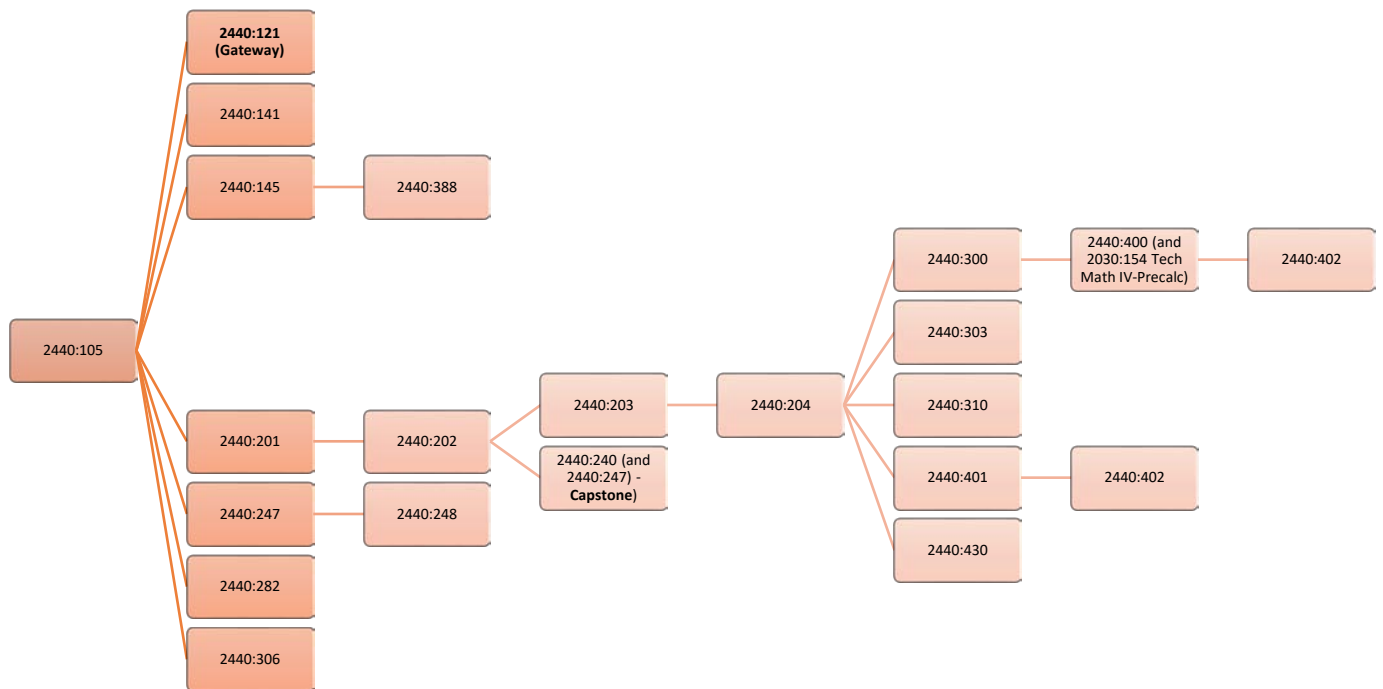
	BSCISN PLO1	BSCISN PLO2	BSCISN PLO3	BSCISN PLO4	BSCISN PLO5	BSCISN PLO6
2440:282 Microsoft Networking II						
2440:300 Network Authentication and Security						
2440:303 Voice, Data, and Video						
2440:310 Wireless Networking						
2440:306 Ethics & Law in IT					x	
2440:388 Advanced Unix/Linux						
2440:400 Advanced Routing						
2440:401 Multilayer Switching						
2440:402 Troubleshooting IP-based Networks						
2440:430 Networking Monitoring and Management						
2440:490 Senior Networking Projects						x

BS CIS – Networking Assessment Plan

Program Learning Outcomes	Assessed Course	Measurement Tool	Expectation
1. Apply logical thinking and problem solving skills to effectively solve business problems using information technology. (BSCISN PLO1)	2440:121 Intro to Logic/Programming	Combination of lab assignments and exams.	It is expected that about 70% of the students attain a score of 73% or higher on a combination of lab assignments and exams.
2. Understand the basic terms, models and protocols applicable to any network. (BSCISN PLO2)	2440:201 Networking Basics	Combination of a skill final exam and a written final exam.	It is expected that 70% of the students attain the overall scores of 70% or higher on the skill final exam and written final exam.
3. Understand, implement and secure networking devices in a small to medium-sized network topology. (BSCISN PLO3)	2440:203 Switching Basics and Wireless Networks	Combination of a skill final exam and a written final exam.	It is expected that 70% of the students attain the overall scores of 70% or higher on the skill final exam and written final exam.
4. Demonstrate interpersonal skills by working as an effective team member to solve business problems. (AABCISP PLO5)	2440:240 CIS Internship	Multiple assignments and supervisor evaluations.	It is expected that 80% of students will earn a 90% or higher on a supervisor's evaluation.
5. Implement legal and ethical decision-making practices in information technology. (BSCISP PLO5)	2440:306 Ethics & Law in IT	Combination of two tests.	It is expected that about 70% of the students attain a score of 73% or higher on the tests.
6. Demonstrate comprehensive skill proficiency by researching, documenting and implementing current and advanced topics on networking. (BSCISN PLO6)	2440:490 Senior Networking Projects	Project and associated documentation.	It is expected that about 80% of the students attain a score of 70% or higher on the final project and associated documentation.

The AAB and BS CIS – Networking degree options recently went through 7-year cycle academic program review during the 2018/2019 academic year.

BS CIS - Networking Course Prerequisite Mapping



BS CIS - Programming
2018/2019 Academic Year Assessment Report
Program Directors: Dr. Zarreen Farooqi, Enoch E. Damson

The BS Computer Information Systems (CIS) - Programming degree received its initial 10-year accreditation in Spring 2016 by the Accreditation Council for Business Schools & Programs (ACBSP). The next self-study report is due on February 15, 2026.

ACBSP requires that each accredited program go through a Quality Assurance (QA) review every four years to maintain accreditation. The next QA report is due on February 15, 2020 and subsequently on February 15, 2024.

ACBSP is the second oldest of the following main US-based global business education accrediting bodies.

- AACSB – Association to Advance Collegiate Schools of Business est. 1916
- ACBSP – Accreditation Council for Business Schools and Programs est. 1988
- IACBE – International Assembly for Collegiate Business Education, est. 1997

ACBSP has been the best accrediting body for the AAB Computer Information Systems (CIS) – Cisco Networking degree option for the following three core reasons.

- ACBSP is the only organization to offer accreditation to **all levels of collegiate business educational degree programs from associate to doctoral**. Since AACSB does not offer accreditation for associate degrees, that became one of the main reasons for the creation of ACBSP in 1988. At the time BIT department secured accreditation in 1992, it only offered associate degrees.
- ACBSP generally focuses on **accrediting programs** (instead of business schools as is mostly the case for AACSB) with **an applied approach** to subject matter delivery.
- ACBSP accredits business related programs, generally speaking, **with more emphasis on teaching rather than research**. Teaching has been the core mission of BIT department and the College of Applied Science and Technology (CAST)

The Department of Business and Information Technology recently approved new program learning outcomes for the department’s programs to meet the newly unified ACBSP standards and criteria for demonstrating excellence in business programs and to have the preparation in place to explore the possibility of seeking ABET accreditation in the future. See *appendix A* for the newly approved program learning outcomes for BIT department’s programs. Below are the program learning outcomes for the BS CIS-Programming step-up degree option.

Bachelor of Science (BS) in Computer Information Systems, Programming option

1. Apply logical thinking and problem solving skills to effectively solve business problems using information technology. (BSCISP PLO1)
2. Write, test and maintain computer programs using at least two programming languages. (BSCISP PLO2)
3. Effectively utilize database and database management systems to organize, store and retrieve data for use by application software and websites. (BSCISP PLO3)
4. Analyze information technology needs to design, develop, test and maintain computer application software or systems. (BSCISP PLO4)
5. Implement legal and ethical decision-making practices in information technology. (BSCISP PLO5)
6. Demonstrate comprehensive skill proficiency by developing software that comprehensively solves a business problem. (BSCISP PLO6)

BS CIS – Programming Major Core Courses

	BSCISP PLO1	BSCISP PLO2	BSCISP PLO3	BSCISP PLO4	BSCISP PLO5	BSCISP PLO6
2440:121 Intro to Logic/Programming	x					
2440:140 Internet Tools						
2440:145 Intro to Unix/Linux						
2440:160 Java Programming		x				
2440:170 Visual Basic		x				
2440:180 Intro to Database Management			x			
2440:210 Client/Server Programming						
2440:240 CIS Internship						
2440:241 Systems Analysis and Design				x		
2440:256 C++ Programming		x				
2440:306 Ethics & Law in IT					x	

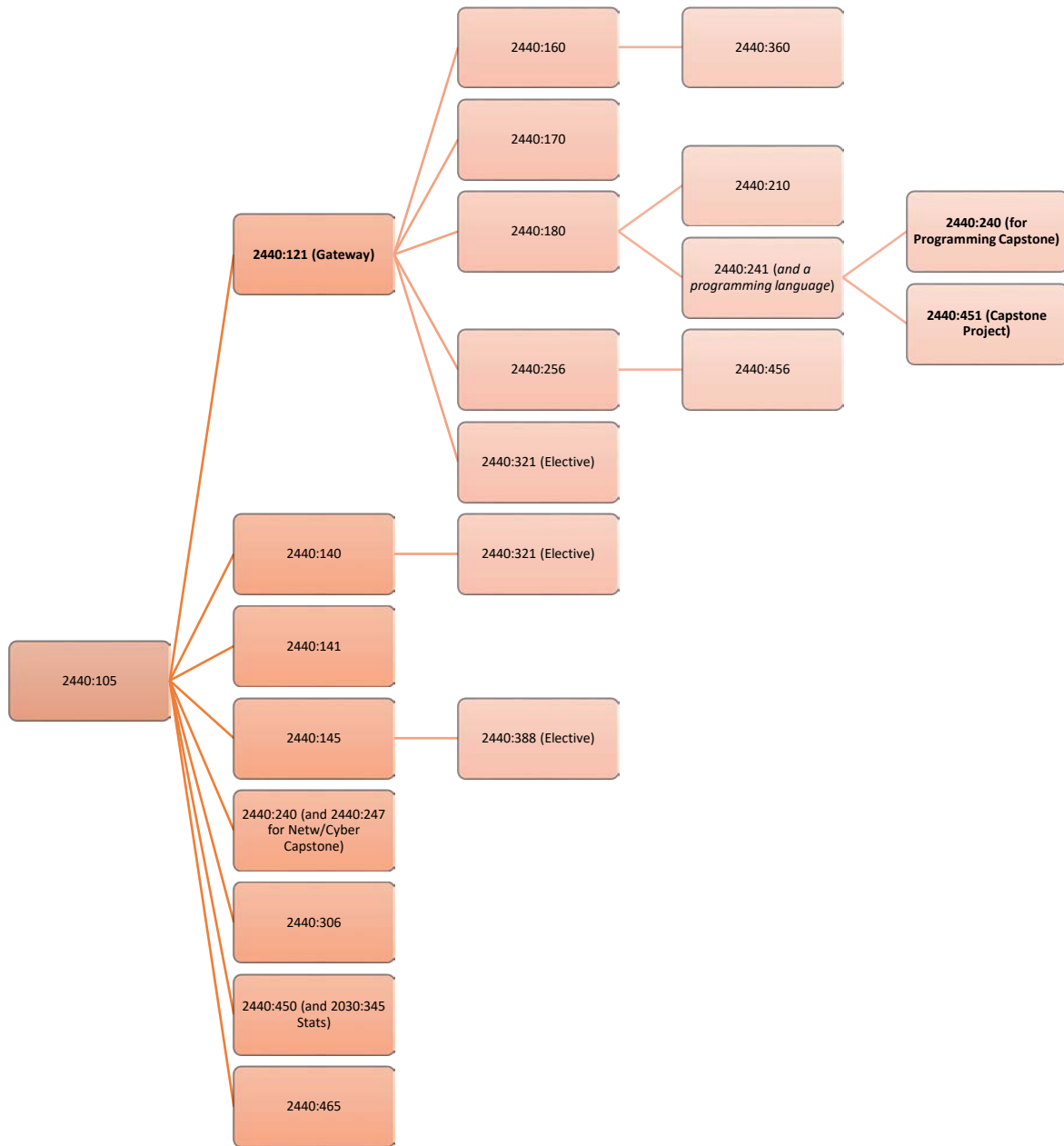
	BSCISP PLO1	BSCISP PLO2	BSCISP PLO3	BSCISP PLO4	BSCISP PLO5	BSCISP PLO6
2440:321 Server-Side Programming (elective)						
2440:360 Java Programming II		x				
2440:370 Visual Basic Programming II (elective)						
2440:388 Advanced Unix/Linux (elective)						
2440:450 Applied Data Mining						
2440:451 Senior Programming Projects						x
2440:456 C++ Programming II		x				
2440:465 Data Communication and Networking						
2440:470 Database Management II			x			

BS CIS – Programming Assessment Plan

Program Learning Outcomes	Assessed Course	Measurement Tool	Expectation
1. Apply logical thinking and problem solving skills to effectively solve business problems using information technology. (BSCISP PLO1)	2440:121 Intro to Logic/Programming	Combination of lab assignments and exams.	It is expected that about 70% of the students attain a score of 73% or higher on a combination of lab assignments and exams.
2. Write, test and maintain computer programs using at least two programming languages. (BSCISP PLO2)	2440:160 Java Programming	Combination of tests, lab exercises, and a final project.	It is expected that about 70% of the students will attain a score of 73% or higher on the combination of tests, lab exercises, and a final project.
	2440:170 Visual Basic	Combination of tests.	It is expected that about 70% of the students attain a score of 73% or higher on the tests.
	2440:256 C++ Programming	Combination of two tests.	It is expected that about 70% of the students attain a score of 73% or higher on the tests.
3. Effectively utilize database and database management systems to organize, store and retrieve data for use by application software and websites. (BSCISP PLO3)	2440:180 Intro to Database Management	Final exam	It is expected that about 70% of the students will attain a score of 73% or higher on the final exam.
4. Analyze information technology needs to design, develop, test and maintain computer application software or systems. (BSCISP PLO4)	2440:241 Systems Analysis and Design	Combination of two tests.	It is expected that about 70% of the students attain a score of 73% or higher on the tests.
5. Implement legal and ethical decision-making practices in information technology. (BSCISP PLO5)	2440:306 Ethics & Law in IT	Combination of two tests.	It is expected that about 70% of the students attain a score of 73% or higher on the tests.
6. Demonstrate comprehensive skill proficiency by developing software that comprehensively solves a business problem. (BSCISP PLO6)	2440:451 Senior Programming Projects	Combination of two tests.	It is expected that about 70% of the students attain a score of 73% or higher on the tests.

The AAB and BS CIS – Programming degree options recently went through 7-year cycle academic program review during the 2018/2019 academic year.

BS CIS - Programming Course Prerequisite Mapping



**Bachelor of Organizational Supervision (BOS)
2018/2019 Academic Year Assessment Report
Program Directors: Enoch E. Damson**

The Bachelor of Organizational Supervision degree received its initial 10-year accreditation in Spring 2016 by the Accreditation Council for Business Schools & Programs (ACBSP). The next self-study report is due on February 15, 2026.

ACBSP requires that each accredited program go through a Quality Assurance (QA) review every four years to maintain accreditation. The next QA report is due on February 15, 2020 and subsequently on February 15, 2024.

ACBSP is the second oldest of the following main US-based global business education accrediting bodies.

- AACSB – Association to Advance Collegiate Schools of Business est. 1916
- ACBSP – Accreditation Council for Business Schools and Programs est. 1988
- IACBE – International Assembly for Collegiate Business Education, est. 1997

ACBSP has been the best accrediting body for the AAB Computer Information Systems (CIS) – Cisco Networking degree option for the following three core reasons.

- ACBSP is the only organization to offer accreditation to **all levels of collegiate business educational degree programs from associate to doctoral**. Since AACSB does not offer accreditation for associate degrees, that became one of the main reasons for the creation of ACBSP in 1988. At the time BIT department secured accreditation in 1992, it only offered associate degrees.
- ACBSP generally focuses on **accrediting programs** (instead of business schools as is mostly the case for AACSB) with **an applied approach** to subject matter delivery.
- ACBSP accredits business related programs, generally speaking, **with more emphasis on teaching rather than research**. Teaching has been the core mission of BIT department and the College of Applied Science and Technology (CAST)

The Department of Business and Information Technology recently approved new program learning outcomes for the department’s programs to meet the newly unified ACBSP standards and criteria for demonstrating excellence in business programs. See *appendix A* for the newly approved program learning outcomes for BIT department’s programs. Below are the program learning outcomes for the BOS.

Bachelor of Organizational Supervision Program Learning Outcomes

1. Develop supervisory skills to become an effective leader.
2. Understand organizations, their processes, and their interactions.
3. Apply information technology and other analytical skills to analyze and solve business problems.
4. Implement legal and ethical decision-making practices to support the organization and its stakeholders.
5. Develop skills to better lead and engage employees within culturally diverse environments.
6. Demonstrate knowledge and skills for effective strategic decision making within an organization by completing a capstone course.

BOS Major Core Courses

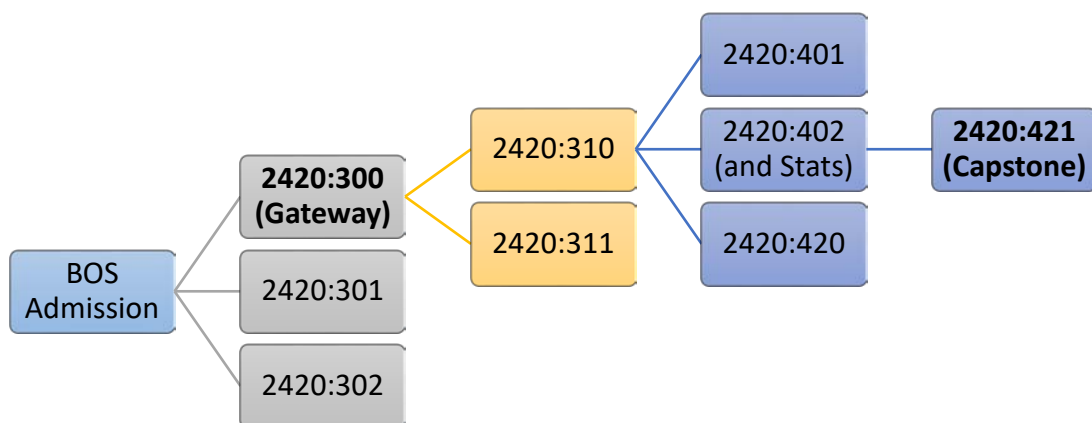
	BOS PLO1	BOS PLO2	BOS PLO3	BOS PLO4	BOS PLO5	BOS PLO6
2420:300 Supervision	x					
2420:301 Information Design			x			
2420:302 Ethics & Law in Business				x		
2420:310 Leadership Principles and Practice		x				
2420:311 Corporate Social Responsibility and Leadership					x	
2420:401 Leading Project Teams,						
2420:402 Operational Assessments and Improvements						
2420:420 Human Resource Development						
2420:421 Senior Seminar in Organizational Supervision						x
6500:302 <i>Organizational Behavior and Leadership</i>						
3750:380 <i>Industrial/Organizational Psychology</i>						

BOS Assessment Plan

Program Learning Outcomes	Assessed Course	Measurement Tool	Expectation
1. Develop supervisory skills to become an effective leader.	2420:300 Supervision	Comprehensive final exam	85% of students should attain a score of 75% or better on the final exam.
2. Understand organizations, their processes, and their interactions.	2420:310 Leadership Principles and Practice	Final exam	80% of students should attain a score of 73% or better on the final exam.
3. Apply information technology and other analytical skills to analyze and solve business problems.	2420:301 Information Design	A combination of projects and exams is used to assess student competencies.	80% of students should attain a score of 73% or better on the combination of projects and exams.
4. Implement legal and ethical decision-making practices to support the organization and its stakeholders.	2420:302 Ethics & Law in Business	A final exam is used to assess student competencies on the core concepts and applications of the subject matter.	It is expected that 80% of students attain a score of 73% or better on the final exam.
5. Develop skills to better lead and engage employees within culturally diverse environments.	2420:311 Corporate Social Responsibility and Leadership	Combination of projects and exams	80% of students should attain a score of 73% or better on the combination of projects and exams.
6. Demonstrate knowledge and skills for effective strategic decision making within an organization by completing a capstone course.	2420:421 Senior Seminar in Organizational Supervision	Combination of case studies and final exam	70% of students should attain a score of 73% or better on the combination of case studies and final exam.

The BOS program recently went through 7-year cycle academic program review during the 2018/2019 academic year.

BOS Course Prerequisite Mapping



Standard #4 Measurement and Analysis of Student Learning and Performance

Use this table to supply data for Criterion 4.2. (Figure 4.2 in self-study)

Performance Indicator	Definition												
1. Student Learning Results	<p>A student learning outcome is one that measures a specific competency attainment. <i>Examples of a direct assessment (evidence) of student learning attainment that might be used include: capstone performance, third-party examination, faculty-designed examination, professional performance, licensure examination.</i> Add these to the description of the measurement instrument in column two:</p> <p>Direct - Assessing student performance by examining samples of student work Indirect - Assessing indicators other than student work such as getting feedback from the student or other persons who may provide relevant information. Formative – An assessment conducted during the student’s education. Summative – An assessment conducted at the end of the student’s education. Internal – An assessment instrument that was developed within the business unit. External – An assessment instrument that was developed outside the business unit. Comparative – Compare results between classes, between online and on ground classes, Between professors, between programs, between campuses, or compare to external results such as results from the U.S. Department of Education Research and Statistics, or results from a vendor providing comparable data.</p>												
		Analysis of Results											
Performance Measure	What is your measurement instrument or process?	Current Results	Analysis of Results	Action Taken or Improvement made	Insert Graphs or Tables of Resulting Trends (3-5 data points preferred)								
Measurable goal	Do not use grades.	What are your current results?	What did you learn from the results?	What did you improve or what is your next step?									
What is your goal?	(Indicate type of instrument) direct, formative, internal, comparative												
2420:300 Supervision At least 85% of the Bachelor of Organizational Supervision (BOS) students will earn a score of 75% or better on the final exam.	A comprehensive final exam is used to assess student competencies on the fundamental concepts of an effective leader. There is a rubric for the final exam. Direct, formative, internal	Fall 2017 = 73%; Fall 2018 = 80%	Although the goal was not met in each of the three semesters assessed, the results show an increasing trend toward meeting the goal.	The benchmark was too high and needs to be reduced to find out if 80% of the students would achieve a score of 73% or higher on the comprehensive final exam. A midterm evaluation would be considered before the comprehensive final exam.	<table border="1" style="display: none;"> <caption>Score Trends for 2420:300 Supervision</caption> <thead> <tr><th>Year</th><th>Score</th></tr> </thead> <tbody> <tr><td>Fall 2017</td><td>73%</td></tr> <tr><td>Fall 2018</td><td>80%</td></tr> </tbody> </table>	Year	Score	Fall 2017	73%	Fall 2018	80%		
Year	Score												
Fall 2017	73%												
Fall 2018	80%												
2420:421 Senior Seminar in Organizational Supervision At least 70% of the Bachelor of Organizational Supervision (BOS) students will earn a score of 73% or better on the final exam.	A final exam is used to assess student understanding of organizations, organizational processes and interactions. Direct, summative, internal	Spring 2019 = 62% (N=23; Summer 2019 = 79% (N=33)	The goal was met in only one of the semesters evaluated.	The current goal was updated effective Spring 2019. Starting Spring 2020, students will be provided with a rubric for the final exam.	<table border="1" style="display: none;"> <caption>Score Trends for 2420:421 Senior Seminar</caption> <thead> <tr><th>Year</th><th>Score</th></tr> </thead> <tbody> <tr><td>Spring 2019</td><td>68%</td></tr> <tr><td>Summer 2019</td><td>79%</td></tr> </tbody> </table>	Year	Score	Spring 2019	68%	Summer 2019	79%		
Year	Score												
Spring 2019	68%												
Summer 2019	79%												
2440:121 Introduction to Programming/Logic At least 70% of the CIS students will earn a score of 73% or better on lab assignments and exams.	Lab assignments and exams were used to assess student ability to apply logical thinking and problem solving skills to effectively solve business problems using information technology. Direct, formative, internal	Summer 2018 = 100% (N=9); Fall 2018 = 72% (N=29); Summer 2019 = 92% (N=12).	The goal was met in each of the semesters assessed.	The positive results of the measured outcomes was influenced by the development of a rubric detailing the standards and expectations of the lab assignments and exams.	<table border="1" style="display: none;"> <caption>Score Trends for 2440:121 Introduction to Programming/Logic</caption> <thead> <tr><th>Year</th><th>Score</th></tr> </thead> <tbody> <tr><td>Summer 2018</td><td>100%</td></tr> <tr><td>Fall 2018</td><td>72%</td></tr> <tr><td>Summer 2019</td><td>92%</td></tr> </tbody> </table>	Year	Score	Summer 2018	100%	Fall 2018	72%	Summer 2019	92%
Year	Score												
Summer 2018	100%												
Fall 2018	72%												
Summer 2019	92%												

Performance Measure	What is your measurement instrument or process?	Current Results	Analysis of Results	Action Taken or Improvement made	Insert Graphs or Tables of Resulting Trends (3-5 data points preferred)
Measurable goal	Do not use grades.	What are your current results?	What did you learn from the results?	What did you improve or what is your next step?	
What is your goal?	(Indicate type of instrument) direct, formative, internal, comparative				
2440:306 Ethics & Law in IT At least 70% of the BS CIS students will earn a score of 73% or better on two exams.	Two exams are used to assess student ability to implement legal and ethical decision-making practices in information technology. Direct, formative, internal	Spring 2018 = 96% (N=28); Summer 2018 = 100% (N = 6); Spring 2019=96% (N=28)	The goal was met in each of the semesters assessed.	The goal will be reviewed and updated to an expectation of 70% of the CIS students attaining a score of 80% or more on the two exams.	
2440:451 CIS Senior Programming Projects At least 70% of the BS CIS - Programming students will earn a score of 73% or better on a final senior computer programming project.	Final project in a Senior CIS - Programming capstone course to assess student proficiency of developing software that comprehensively solves a business problem. Direct, summative, internal	Spring 2018 = 100% (N=7); Spring 2019 = 100% (N=16); Summer 2019 = 100% (N=3).	The results were met in each semester assessed. The students in this course are far more focused than in other programming courses.	A rubric was provided to the CIS - Programming students detailing contents of the project plan, analysis, presentation, documentation, and organization of materials. This helped students have an idea about specific requirements of the project. The goal will be reviewed and updated to an expectation of 70% of the CIS - Programming students attaining a score of 80% or more on the final senior computer programming project.	
2440:490 CIS Senior Networking Projects At least 70% of the BS CIS - Networking students will earn a score of 73% on a final computer networking project.	Final project in a Senior CIS - Networking capstone course to assess student proficiency of researching, documenting and implementing current and advanced topics on networking. Direct, summative, internal	Spring 2018 = 95% (N=28); Summer 2018 = 25% (N=4); Spring 2019 = 75% (N=31); Summer 2019 = 75% (N=11)	The goal was met each semester evaluated except summer 2018. The students in this course are more knowledgeable, focused and driven to complete their task to graduate.	A rubric was provided to students detailing contents of the project plan, analysis, presentation, documentation, and organization of materials. This helped students have an idea about specific requirements of the project.	
2420:300 Supervision	% of Students	Goal			
Fall 2017	73%	85%			
Fall 2018	80%	85%			
2420:421	% of Students	Goal			
Spring 2019	68%	85%			
Summer 2019	79%	85%			
2440:121	% of Students	Goal			
Summer 2018	100%	70%			
Fall 2018	72%	70%			
Summer 2019	92%	70%			
2440:306	% of Students				
Spring 2018	96%	70%			
Summer 2019	100%	70%			
Spring 2019	96%	70%			
2440:451	% of Students	Goal			
Spring 2018	100%	70%			
Spring 2019	100%	70%			

