Department	Program	Outcome	Outcome Description	Measure Title	Measure Type/Method	Details/Description	Acceptable Target	Ideal Target	Findings Title	Acceptable Target Achievement	Ideal Target Achievement	Institutional Learning Outcomes: 1	Institutional Learning Outcomes : 2	Institutional Learning Outcomes : 3	Institutional Learning Outcomes : 4	Institutional Learning Outcomes: 5	Institutional Learning Outcomes : 6	Institutional Learning Outcomes: 7
Department of Applied Engineering	Bachelor of Science in Construction Engineering	Outcome 3	Analyze structural systems.	Course grades in CEN 323	Direct - Student Artifact	Course grades in CEN 323 (Structural Analysis)	be acceptable or	90% of students will be acceptable or	Findings for Course grades in CEN 323	Exceeded	Exceeded						x	
	Technology			(Structural Analysis)	1		better on rubric	better on rubric	(Structural Analysis)									
					Direct - Student	Course grades in CEN 486B	000/ 5 - 1 - 2	1000/ 5 - 1 - 7	F. F. G. G.	Exceeded	Exceeded						v	
			Analyze structural systems.	Course grades in CEN 486B	Artifact	Course grades in CEN 486B	be acceptable or better on rubric.	90% of students will be acceptable or better on rubric	grades in CEN 486B	r.xceeded	Exceeded						x	
			Analyze structural systems.	End of course	Indirect - Survey	End of course survey after CEN 486B		90% of students will		Exceeded	Exceeded						x	
				survey after CEN 486B			report being satisfied or better or	report being satisfied or better on	course survey after CEN 486B									
		Outcome 4	Recognize ethical issues and apply professional standards in decision-	Course grades in	Direct - Student Artifact	Course grades in CEN 422 (Field Inspection and Safety)	80% of students wil	the sursey 1 90% of students will	Findings for Course	Exceeded	Exceeded					X		
			making.	Inspection and Safety)	A mace		be acceptable or better on rubric.	be acceptable or better on rubric	grades in CEN 422 (Field Inspection and Safety)									
				Janety)					and succey)									
			Recognize ethical issues and apply professional standards in decision-	Course grades in CEN 486B	Direct - Student Artifact	Course grades in CEN 486B	be acceptable or	90% of students will be acceptable or	Findings for Course grades in CEN 486B	Exceeded	Exceeded					Х		
			making. Recognize ethical issues and apply	End of course	Indirect - Survey	End of course survey after CEN 486B	better on rubric.	better on rubric 90% of students will		Encoded	Exceeded					X		
			professional standards in decision- making.	survey after CEN 486B	mureet - survey	End of course survey after CEN 480B	report being satisfied or better or	report being satisfied or better on	course survey after CEN 486B	Exceeded	Exceeded					^		
		Outcome 5	Utilize appropriate computer tools	Course grades in	Direct - Student	Course grades in CEN 420 (Est., Scheduling & Control II)	80% of students wil	the curvey 1 90% of students will	Findings for Course	Not Met	Approaching						X	
			for engineering problems.	CEN 420 (Est., Scheduling &	Artifact		be acceptable or better on rubric.	be acceptable or better on rubric	grades in CEN 420 (Est., Scheduling &									
				Control II)					Control II)									
			Utilize appropriate computer tools for engineering problems.	Course grades in CEN 486B	Direct - Student Artifact	Course grades in CEN 486B	be acceptable or	90% of students will be acceptable or	Findings for Course grades in CEN 486B	Exceeded	Exceeded						х	
						n 1 c o o o o o o o o o o o o o o o o o o	better on rubric.											
			Utilize appropriate computer tools for engineering problems.	End of course survey after CEN 486R	Indirect - Survey	End of course survey after CEN 486B	report being	90% of students will report being satisfied or better on	course survey after	r.xceeded	Exceeded						x	
Department of Applied	Bachelor of Science in	Outcome 3	Analyze structural systems.	Course grades in	Direct - Student	Course grades in CEN 323 (Structural Analysis)	the survey 80% of students wil	the survey 90% of students will	Findings for Course	Exceeded	Exceeded						x	
Engineering	Construction Management		,,	CEN 323 (Structural Analysis)	Artifact		be acceptable or	be acceptable or better on rubric	grades in CEN 323 (Structural Analysis)									
			Analyze structural systems.	Course grades in CEN 486B	Direct - Student Artifact	Course grades in CEN 486B	80% of students will be acceptable or	90% of students will be acceptable or	Findings for Course grades in CEN	Exceeded	Exceeded						х	
							better on rubric.	better on rubric	486B									
			Analyze structural systems.	End of program survey after CEN	Indirect - Survey	End of program survey after CEN 486B	report being	90% of students will report being	program survey	Exceeded	Exceeded						X	
		Outromo 4	Recognize ethical issues and apply	486B	Direct - Student	Course grades in CEN 422 (Field Inspection and Safety)	satisfied or better or the curvey 80% of students wil	satisfied or better on the survey	after CEN 486B Findings for Course	Exceeded	Exceeded					v		
		Outcome 4	professional standards in decision- making.	CEN 422 (Field Inspection and	Artifact	Course grades in CEN 422 (Field inspection and safety)	be acceptable or better on rubric.	be acceptable or better on rubric	grades in CEN 422 (Field Inspection	Exceeded	Exceeded					^		
				Safety)					and Safety)									
			Recognize ethical issues and apply professional standards in decision-		Direct - Student Artifact	Course grades in CEN 486B	80% of students wil	90% of students will	Findings for Course	Exceeded	Exceeded					X		
			professional standards in decision- making.	CEN 480B	Artifact		be acceptable or better on rubric.	be acceptable or better on rubric	grades in CEN 486B									
			Recognize ethical issues and apply professional standards in decision-	survey after CEN	Indirect - Survey	End of program survey after CEN 486B	report being	90% of students will report being	program survey	Exceeded	Exceeded					Х		
		0	making. Utilize appropriate computer tools	486B	Direct - Student	Course grades in CEN 420 (Est., Scheduling & Control II)	satisfied or better or the survey.	satisfied or better on the survey.		N. M.	Approaching						X	
		Outcome 5	for engineering problems.	CEN 420 (Est., Scheduling &	Artifact	Course grades in CEN 420 (Est., Scheduling & Control II)		be acceptable or better on rubric		Not met	Approacning							
				Control II)			better ou rubric.	better on rubric	Control II)									
			Utilize appropriate computer tools	Course grades in	Direct - Student	Course grades in CEN 486B	80% of students wil	90% of students will	Findings for Course	Exceeded	Exceeded						X	
			for engineering problems.	CEN 486B	Artifact		be acceptable or better on rubric.	be acceptable or better on rubric	grades in CEN 486B									
			Utilize appropriate computer tools for engineering problems.	End of program survey after CEN	Indirect - Survey	End of program survey after CEN 486B	80% of students wil report being	90% of students will report being	Findings for End of program survey	Exceeded	Exceeded						х	
				486B			satisfied or better or the survey	satisfied or better on the survey	after CEN 486B									
Department of Applied Engineering	Bachelor of Science in Electrical and Computer	Outcome 5	Identify, formulate, and solve engineering problems.	CEE498: Project Presentation	Direct - Student Artifact	Scores from the project presentation will be collected for all students and the average of these will be used for target	receive 75% or	90% of the students receive 75% or	CEE498: Project	Exceeded	Exceeded	x		Х			x	X
	Engineering		Identify, formulate, and solve	CEE499: Project	Direct - Student	measure. Scores from the project report will be collected for all students	above s 80% of the students	above 90% of the students	Presentation Findings for	Exceeded	Exceeded	X		X			X	X
			engineering problems.	Report	Artifact	and the average of these will be used for target measure.	receive 75% or above	receive 75% or above	CEE499: Project Report									
			Identify, formulate, and solve	CEE499: Survey	Indirect - Survey	End of program survey given either onsite or online.	3.5 or better score		Findings for	Exceeded	Exceeded	X		X			x	X
			engineering problems.				for each category under self assessment	for each category under self assessment	CEE499: Survey									
		Outcome 6	Use professional ethics in making engineering decisions.	CEE499: Project Report	Direct - Student Artifact	Scores from the project report will be collected for all students and the average of these will be used for target measure.	s 80% of the students receive 75% or	90% of the students receive 75% or	Findings for CEE499: Project	Exceeded	Exceeded				Х	Х		
			The section of the se	CEE400. C	Indiana 2	End of program survey given either onsite or online.	above 3.5 or better score	above 3.7 or better score	Report	Exceeded	Essented					V		
			Use professional ethics in making engineering decisions.	CEE499: Survey	Indirect - Survey	Eise or program survey given either onsite or online.	3.5 or better score for each category under self	3.7 or better score for each category under self	Findings for CEE499: Survey	a.xceeded	Exceeded				, x	, A		
			Use professional ethics in making	CSC350: Case	Direct - Student	Scores from the two case study assignments will be collected	80% of the students	90% of the students	Findings for	Exceeded	Approaching				X	X		
			engineering decisions.	Study Assignments	Artifact	for all students and the average of these will be used for target measure.	t receive 75% or above	receive 75% or above	CSC350: Case Study Assignments									
Department of Applied	Bachelor of Science in	Outcome 2	Utilize product reliability and	DEN 429 Product	Direct - Exam	DEN 429 Product Design Optimization focuses on the	80% of students	90% of students	Findings for DEN	Exceeded	Approaching						x	
Engineering	Manufacturing Design Engineering		design optimization concepts in engineering applications.	Design Optimization Exam Grades		analytical and empirical tools and processes that enable designers to develop products that meet customers'	have grades of 75% or better on the two	have grades of 85% or better on the two	429 Product Design Optimization Exam		. r							
						expectations of quality, functionality and cost. The two exams combined account for 25% of student's grades, and they are a	exams combined	exams combined.	Grades									
			Utilize product reliability and	DEN 429 Product	Direct - Steeless	direct measure of student mastery of PLO 2. Graded evaluations of DEN 429 project presentations by	75% of a	90% of completed	Findings 6 DEA	Exceeded	Approaching						, , , ,	
				Design Optimization Projects		instructors demonstrate that completed projects utilize product reliability and design optimization concepts appropriately in	t projects have grades			a.m.ccucu	луулонениц						^	
			5 s-p-rantons.	-,		engineering applications.	demonstrating that completed projects	demonstrating that completed projects	Projects									
							utilize product reliability and design	utilize product reliability and design										
							optimization concepts	optimization concepts										
							appropriately in engineering applications.	appropriately in engineering applications.										
				F.10					F F 6 5 :								, .	
			Utilize product reliability and design optimization concepts in engineering applications.	Exit Survey	Indirect - Survey	Exit survey using 5-point Likert scale of how the Manufacturing Design Engineering program has enabled students to utilize product reliability and design optimization	Score of 3.5 or higher.	Score of 4.0 or higher.	Findings for Exit Survey	r:xceeded	Exceeded						X	
			engineering applications.			concents in engineering annications.			L	l								

School of Engineering and Computing 2018 Outcomes Assessment

		Outcome 3	Apply state-of-the-art computer- nated engineering trook and engineering graphics techniques and methods legis Apply state-of-the-art computer- nated engineering trook and engineering grabs techniques and methods legis	Capstone Written Reports from EGR 496B and DEN 496B DEN 420 Computer Aided Engineering IV (Advanced Soldworks) Projects	Direct - Student Artifact Direct - Student Artifact	The name of the DBN Captions Corner was changed from EER, 609 Am all to DBN 400 Am all designing to 2018. Academic Vour, as both courses are used in the PAK. Academic Vour, as both courses are used in the PAK. The Company of the Company of th	capstone reports applied state-of-the- art computer-aided engineering tools and engineering graphics techniques and methodologies in their completed products. 75% of completed projects have grades of 75% or better, demonstrating that	art computer-aided engineering tools and engineering graphies techniques and methodologies in their completed products. 90% of completed projects have grade of 85% or better, demonstrating that completed projects have grade of some state of the same state of the some state of the	Capstone Written Reports from EGR 496B and DEN 496B Findines for DEN	Exceeded Exceeded	Exceeded Exceeded	x	X				
			Apply state-of-the-art computer- aided engineering tools and engineering graphics techniques and methodologies	Exit Survey	Indirect - Survey	Exit survey using 5-point Likert scale of how the Manufacturing Design Engineering program has enabled students completing Capstone Courses apply state-of-the-art computer-aided engineering tools and engineering graphics	Score of 3.5 or higher.	Score of 4.0 or higher.	Findings for Exit Survey	Exceeded	Exceeded	x	х				
Department of Applied Engineering	Master of Science in Electrical Engineering	PLO 2	Design and conduct engineering experiments or simulations for new product development.	Engineering Application Design in EEC605 Class	Direct - Student Artifact	technismes and methodologies Students will investigate and analyze advanced engineering problems carefully to design and develop applications.	score 85% or better	95% of students will score 85% or better to be in the ideal target range.	Findings for Engineering Application Design in EEC605 Class	Met			x	х	x	х	
			Design and conduct engineering experiments or simulations for new product development.	Simulations & Prototype of Engineering Product Development in EEC695	Direct - Student Artifact	Students will design and develop prototypes as proof of concepts of their proposed new engineering products in their final EEC695 Capatone Project Class.	85% of students will score 85% or better	95% of students will score 85% or better to be in the ideal target range.	Findings for Simulations & Prototype of Engineering Product Development in EEC695	Exceeded	Exceeded		x	x	х	x	
			Design and conduct engineering experiments or simulations for new product development.	Student Self Assessment of Learning in EEC695	Indirect - Survey	Review and analyze students' comments on learning in the Students' Self-Assessment of Learning Data in EEC695 from SOAR	would be achieved it 4.0 or better score in the Student Self- Assessments of Learning for EEC695.	be achieved if 4.5 or better score found in the Student Self- Assessments of Learning for EEC695	Learning in EEC695		Exceeded		x	x	х	x	
		PLO 5	Design specifications and implement, analyze and solve engineering problems.	Analyze Problem Solving Using MATLAB in EEC605	Direct - Student Artifact	Students will review various advanced engineering problems to develop simulation using MATLAB in EEC605 Class	score 85% or better to be in the acceptable target range	score 85% or better to be in the ideal target range.	Analyze Problem Solving Using MATLAB in EEC605	Met		X	X	Х	х	X	х
			Design specifications and implement, analyze and solve engineering problems.	Proposals of new engineering product ideas in EEC690	Direct - Student Artifact	Students will conduct research as group and identify projects for new engineering applications & product development. They will submit research proposals and plans for review and approval.	score 85% or better	95% of students will score 85% or better to be in the ideal target range.		Exceeded	Exceeded	x	X	X	х	X	X
			Design specifications and implement, analyze and solve engineering problems.	Students' Engineering Problem Solving Skills in EEC605	Indirect - Survey	Review and analyze students' comments on their learning in the Students' Self-Assessment of Learning Data in EEC605 from SOAR.	would be achieved it 4.0 or better score in Student Self- Assessments of Learning for	Student Self- Assessments of Learning for	Findings for Students' Engineering Problem Solving Skills in EEC605	Exceeded	Exceeded	x	X	х	х	x	Х
Department of Applied Engineering	Master of Science in Engineering Management	Outcome 1	Demostrate quantitative analytical and crisis thinking skills and eclusiques to manage projects, and processes (products and services)	Demonstrate quantitative analytical and critical thinking skills and techniques to manage projects, and processes (products and services	Direct - Student Artifact	The analysis and critical thinking skills are taught and measured in a number of courses in this program as listed below: **Emerchanced - ENM 600, ENM 601, ENM 602, ENM 603 **Developed - PME 601, PME 602, PME 603, ENM 604 **Mastered - ENM 600, ENM 602, PME 603, ENM 604 **Mastered - ENM 600, ENM 6070 **Mastered - ENM 600, ENM 6070 **Mastered - ENM 6007A, ENM 6070 **Master	EE:CAS 80-86 % (class average)	FEFC60 \$7-100 % (class average)	Findings for Demonstrate quantitative analytical and critical thinking skills and techniques to manage projects, and processes (products and services	Met	Approaching						
			Demonstrate quantitative analytical and critical thinking skills and techniques to manage projects, and processes (resolucts and services)	Demonstrate quantitative annalytical and critical thinking skills and techniques to manage projects, and processes (products and services	Direct - Other	600 course will be assessed. The enalytical and resident thinking kills are unight and measured in a number of courses in this program as lated behavior. * Introduced.—Ext. 600, EXM. 601, EXM. 602, EXM. 603, EXM. 603, EXM. 604, EXM. 607, EXM. 603, EXM. 603, EXM. 603, EXM. 604, EXM. 604, EXM. 607, EXM. 604, EXM. 607, EXM. 604, EXM. 607, EXM. 6	80-86 % (class average)	87-100 % (class average)	Findings for Demonstrate quantitative analytical and critical thinking skills and techniques to manage projects, and processes (products and services	Met	Approaching						
			Demonstrate quantitative analytical and critical thinking skills and techniques to manage projects, and processes (products and services)	Demonstrate quantitative analytical and critical thinking skills and techniques to manage projects, and processes (products and services)	Indirect - Survey	The indirect assessment was made using student inputs. One test of the efficiency and of the teaching in sensured in terms of the teaching realization provided by the students is each student of the teaching realization provided by the students is each student of the teaching realization provided by the students is each student of the teaching the teachi	and above with good students' comments GPA - Less than 3.5	of instruction - 4.0 and above with good students' comments	Findings for Demonstrate quantitative analytical and critical thinking skills and techniques to manage projects, and processes (products and services)	Exceeded	Approaching						
		Outcome 6	Demonstrate organizational and team skills needed to manage projects and processes.	Demonstrate organizational and team skills needed to manage projects and processes	Direct - Student Artifact	The organizational and turn shib needed to manage projects and processors are updated all measured as a number of courses in this program as linted below: **Introduced:—ENM 600, ENM 601, ENM 602, ENM 603 **Introduced:—ENM 600, ENM 601, ENM 602, ENM 603 **Mastered:—ENM 607A, ENM 607B There are several memores used nebuding quizzer, exame, assignments and projects to measure the skills. This process is same for the ceillus and will as on the offering program. Specific rubries are used to assess the project reports. Quizzes and exam ser a assessed based on the right and wrong responses prostded. During this suscessment, ENM 603 course will be assessed fast this PLO.	average)	87-100 % (class average)	Findings for Demonstrate organizational and team skills needed so manage projects and processes	Met	Approaching						

School of Engineering and Computing 2018 Outcomes Assessment

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			Outcome 7	team skills needed to manage projects and processes.	organizational and team skills needed to manage projects and processes.	Indirect - Survey Direct - Student	The inforce assessment was made using student inputs. One test of the efficiency and of the teaching in sensured in terms of the teaching exhalment in each of the teaching exhalment in each student in each each student in each each student in each each student in each each in each of in each of its each each each each each each each each	assessment of learning - 3.5 and above with good students' comments Student assessment of instruction - 3.5 and above with good students' comments GPA - Less than 3.5	and above with good students' comments GPA - Less than 3.25	Findings for Demonstrate organizational and team skills needed to manage projects and processes. Findings for		Approaching					
				and writing skills.	and writing skills.	Indirect - Survey	using it imply control as inside observe, they are using it imply control as inside observe, they are in the imply control as in the observed. Post GO, DEM 601, DEM 602, DEM 603, DEM 602, DEM 603, The GO, DEM 602, DEM 603, The GO, DEM 603, DEM 604, DEM 60	Project So. 80% (Class Average) For Captone Project Grade Target - S S- Sainfactory - Le, sinder met all Equivalent to a C' Le, sinder met all Fre months or less in completing the Captone Project Students self: Students self:	Project 37-100% (Class Average) 57-100% (Class Average) 67-67-67-67-67-67-67-67-67-67-67-67-67-6	Commiscian gaduate level oral and wrining dolls. Findings for	Exceded	Exceeded					
	Department of Computer	Bachelor of Science in		and writing skills.	graduate level oral and writing skills.		used of the effectiveness of the teaching in measured a terms of the teaching establism provided by the schedule is each class. Each student is respected to complete a confidential measurement at the ord of each course. Their assessment there is a sensement of the order of each course, their assessment there important summary measures include the following: **Suddent assessment of instruction** **Suddent assessment of instruction** **Audical statement of instruction** **Audical s	assessment of learning - 3.5 and above with good students' comments Student assessment of instruction - 3.5 and above with good students' comments GPA - Less than 3.5	Student self- assessment of learning - 4.0 and above with good students' comments Student assessment of instruction - 4.0 and above with good students' comments GPA - Less than 3.25	Communicate graduate level oral and writing skills.	Ma	Approaching	x			v.	
1	Systems	Computer Science	Outone o		design Assignment/Tests/Pr oiect		project(s) related to design and development of a database system and queries.	score 80% or better on rubric.	score 85% or better on the rubric	CSC422 - database design Assignment/Tests/Pr	me.	уфичисты					
				Apply design and development	CSC480 Capstone	Direct - Student	Student capstone project requires a major software design and	80% of students will	90% of students will	oject Findings for	Exceeded	Exceeded	X	X	x	x	
				principles in the construction of software systems.	project	Artifact	development activities. Student project will be evaluated by a faculty evaluating team on major aspects of software development cycle.	on rubric.	on rubric	CSC480 Capstone project							
					CSC480 Capstone project	Indirect - Survey	Student survey in CSC 480; based on a 4-point Likert scale ranging from "0. weak' to '4- very good', where students do a self evaluation of how well they meet PLO 6 objectives and also rate different aspects of the BSCS program at NU.	80% of students will select '3-Good'or '4- very good'		Findings for CSC480 Capstone project	Not Met	Approaching	х	X	х	Х	
			Outcome 7		design Project		Students will be required to study lecture note-strictles on sensential elements of featurement is software development industry and will be tested on the topics.	exam	and communication exam	CSC422 - database design Project	Not Met	Approaching	x		Х		x
				Function effectively on teams to accomplish a common goal.	CSC480 – Capstone Project: peer evaluation	Indirect - Other	Capstone project peer evaluation. A survey administered on the last day of class by instructor in which team members will evaluate other members on their performance in the team. Average of team members evaluations (in each category) is assigned to each student.	Receiving (average) 80% approval rating by team members on each category	90% approval rating	Findings for CSC480 – Capstone Project: peer evaluation	Exceeded	Exceeded	x		x		X
				Function effectively on teams to accomplish a common goal.	project		Students will be tested on topics related to teamwork in software development industry. The topics are covered in their software engineering textbook and an article in a form of a handout.	above on each of the two, 3 point questions on teamwork dynamics and communication exam	100% of students receive score 2 or above on each of the two, 3 point questions on teamwork dynamics and communication exam	CSC480 Capstone project	Not Met	Approaching	X		x		х
	Department of Computer Science and Information Systems	Cybersecurity	CYB 211		Outcome 7	Direct - Exam	Scores from mid term and final exams.	score 85% or better	90% of students will score 85% or better on rubric 1 90% of students will	Outcome 7	Exceeded	Approaching					
			CYB 212		Outcome 1	Direct - Student Artifact	Scores from Class Project.	80% of students will score 85% or better.	1 90% of students will score 85% or better.	rindings for Outcome 1	Exceeded	Exceeded					
			CYB 215		Outcome 7	Direct - Exam	Scores from mid term and final exams.	score 85% or better	90% of students will score 85% or better		Not Met	Moving Away					
					Outcome7	Indirect - Survey	End of class survey given to CYB 215 students on-line via Blackboard.	4.0 – 4.2 score for Students Perception		Findings for Outcome7	Met	Approaching					
			CYB 340		Outcome 1	Direct - Student Artifact	Scores from Class Project.	80% of students will	Learning. I 90% of students will score 85% or better.	Findings for Outcome 1	Exceeded	Approaching					
					Outcome 1	Indirect - Survey	End of class survey given to CYB 340 students on-line via Blackboard.	Students Perception	4.3 or better score for Students Perception of	Findings for Outcome 1	Exceeded	Exceeded					
1	Department of Computer Science and Information Systems	Bachelor of Science in Information Systems	Outcome 7	Demonstrate written and oral communication skills in a collaborative environment.	CIS 420A Project Proposal and Presentation	Direct - Student Artifact	Review BSIS capstone project class artifacts.	More than 80% of the students' presentation and/or document exceed 80% of the scores based on the rubric	Learnine. More than 90% of the students' presentation and/or document exceed 80% of the scores based on the rubric	420A Project Proposal and Presentation	Exceeded	Exceeded	X X				X
				communication skills in a collaborative environment.	Presentation and Project Report	Artifact	Review BSIS capstone project class artifacts.	the students'	More than 90% of the students' presentation and/or document exceed 80% of the scores based on the rubric	420B Project Presentation and Project Report	Met	Approaching	x x				X
				Demonstrate written and oral communication skills in a collaborative environment.	Exit survey at the end of the capstone class	Indirect - Survey	Assess the BSIS program based on students' exit survey.			Findings for Exit survey at the end of the capstone class	Met	Exceeded	X X				X
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Department of Computer Science and Information	Bachelor of Science in Information Technology	Outcome 6	Describe the ethical challenges that confront an IT professional.	ITM 475: Assignments	Direct - Student Artifact	Scores from weekly homework assignments will be collected for all students and the average of these will be used for target				Not Met	Approaching			X	X		
Systems	Management		Describe the ethical challenges	ITM 475: Ouizzes	Direct - Exam	measure Scores from the Exams or Onizzes will be collected for all		better on rubric	-	Exceeded	Exceeded			x	v		
			that confront an IT professional.	and/or Exams	Direct - Exam	students and the average of these will be used for target	score 85% or better	score 85% or better		Exceeded	Exceeded						
						measure.		to be in the ideal target range.	Exams								
							ranga	" "									
			Describe the ethical challenges that confront an IT professional.	ITM490C: Survey	Indirect - Survey	End of program survey given to ITM490C students on-line via Blackboard. Note: ITM490B, which used to be a two month	3.7 - 4.0 score for Student Perception	4.1 or better score	Findings for ITM490C: Survey	Exceeded	Exceeded			X	X		
			man controlle and 11 professional.			course is no longer the last Canstone course. Because the		Perception of	11 M490C. Survey								
						Capstone is now three one-month courses, ITM490C is now the final course of the program		Learning.									
		Outcome 7	Demonstrate written and oral	ITM430:	Direct - Student	Scores from project/presentation will be collected for all		90% of students will		Not Met	Approaching	X				X	X
			communication skills in collaborative environments by	Project/Presentation	Artifact	students and the average of these will be used for target measure.	be acceptable or better on rubric.	be acceptable or better on rubric.	ITM430: Project/Presentation								
			participating on teams that address			menue.	Detici ou ruore.	Dealer our runsie.	1 rojecti reseminon								
			solutions for IT management challenges														
			Demonstrate written and oral communication skills in	ITM490A/B/C: Projects	Direct - Student	All ITM students will complete a capstone project lasting 3 months (ITM490A/B/C). Students will submit their reports,	80% of students will be acceptable or	90% of students will	Findings for ITM490A/B/C:	Exceeded	Exceeded	X				X	X
			collaborative environments by	Projects	Artifact	present their project findings and demonstrate their prototypes	be acceptable or better on rubric.	be acceptable or better on rubric.	Projects								
			participating on teams that address solutions for IT management			during a formal presentation.											
			challenges														
			Demonstrate written and oral communication skills in	ITM490C: Survey	Indirect - Survey	End of program on-line survey at end of ITM490C	3.7 - 4.0 score for Student Perception	4.1 or better score for Student	Findings for ITM490C: Survey	Exceeded	Exceeded	X				X	X
			collaborative environments by				of Learning.	Perception of									
			participating on teams that address solutions for IT management	1				Learning.									
D	Master of Science in	0	challenose Analyze and design complex front	ongress o	D:	Analyze and design complex front-end applications for cloud	000 0 1 2	050/ 5 - 1 - 7	F: F: 6		Approaching		x			x	
Department of Computer Science and Information	Master of Science in Computer Science	Ouncome 4	end applications for cloud and	Science Project II	Artifact	and client-server architectures and integrate them with back-	score 85% or better	score 85% or better	CSC687 Computer	met	puproacning		A			Α	
Systems			client- server architectures and integrate them with backend			end databases.		to be in the ideal target range.	Science Project II								
			databases				range	" "									
			Analyze and design complex front end applications for cloud and	CSC687 Computer Science Project II	Indirect - Other	Students' Self-assessment of Learning in CSC687 Computer Science Project II.	would be achieved if	be achieved if 4.5 or	CSC687 Computer	Exceeded	Exceeded		X			x	
			client, server architectures and	,			4.0 or better score is found in Student	better score is found	Science Project II								
			integrate them with backend databases.				Self-Assessments of	n Student Self- Assessments of									
							Learning for	Learning for									
							CSC687 Computer Science Project II.										
			Analyze and design complex front	DAT605 Cloud	Direct - Student	Analyze and design complex front-end applications for cloud	85% of students will	95% of students will	Findings for	Exceeded	Exceeded		x			x	
			end applications for cloud and	Computing	Artifact	and client-server architectures and integrate them with back-	score 85% or better	score 85% or better	DAT605 Cloud								
			client- server architectures and integrate them with backend			end databases		to be in the ideal target range	Computing								
		O-4 6	databases Compare and contrast alternative	CCC606 M-4	Discot Student	Compare & contrast alternative systems for process and	range 85% of students will	069/ -6-to-l-out31	Finding Co.	Exceeded	Exceeded		x			x	
		Outcome 3	systems for process and memory	Operating Systems	Artifact	memory management.	score 85% or better	score 85% or better	CSC606 Modern	r.xcecucu	Exceeded		^			^	
			management.				to be in the acceptable target	to be in the ideal target range.	Operating Systems								
			Compare and contrast alternative	C2C627 C	Discot Student	Compare & contrast alternative systems for process and	ranse 85% of students will	1	Einding Co.	Exceeded	Exceeded		X			x	
			systems for process and memory	Science Project II	Artifact	memory management.	score 85% or better	score 85% or better	CSC687 Computer	r.xcecucu	Exceeded		^			^	
			management.				to be in the acceptable target	to be in the ideal target range.	Science Project II								
						Collect information from students of CSC687 for Process and		1									
			Compare and contrast alternative systems for process and memory	Science Project II	indirect - Otner	Memory Management Knowledge	be satisfied about	be satisfied about	CSC687 Computer	Exceeded	Exceeded					x	
			management.	-			their knowledge of	their knowledge of Process and	Science Project II								
							Memory	Memory									
							management to be	management to be in the ideal target									
							target range.	range.									
Department of Computer	Master of Science in Cyber																
Science and Information Systems	Security																
Department of Computer Science and Information	Master of Science in Data Analytics	Outcome 1	Integrate components of data analytics to produce knowledge-	Alumni survey		On-line survey conducted in 2018 for MS Data Analytics straduates	80% of students will report being			Met	Approaching		X	X		x	
Science and Information Systems	Analytics		based solutions for real-world		Group	gradences	satisfied or better on	report being satisfied or better on	survey								
			challenges using public and private data sources.	1			the survey.	the survey.									
			Integrate components of data analytics to produce knowledge-	Project proposal in ANA 699A	Direct - Student Artifact	Oral project proposal at the end of ANA 699A	80% of students will be acceptable or	90% of students will be acceptable or	Findings for Project proposal in ANA	Met	Approaching		X	X		x	
			based solutions for real-world				better on rubric.	better on rubric.	699A								
			challenges using public and private data sources.														
			Integrate components of data	Project report in	Direct - Student	Written thesis at the end of ANA 699B	80% of student:II	90% of students will	Eindings for Period	Evoneded	Exceeded		X	X		x	
			analytics to produce knowledge-	ANA 699B	Artifact		be acceptable or	be acceptable or	report in ANA 699B				^	~		^	
			based solutions for real-world challenges using public and private				better on rubric.	better on rubric.									
			data sources.														
		Outcome 9	Evaluate machine learning	Exit survey after	Indirect - Survey	Exit survey at end of last program course, ANA 699B	80% of students will			Exceeded	Exceeded		X			x	
			methods and strategies for advanced data mining.	ANA 699B			report being satisfied or better on	report being satisfied or better on	survey after ANA 699B								
				Earl and 1811	Direct E	Consider promitions in Find Form 19 200 200	the survey	the survey		Encode?	Encode?		x			x	
			Evaluate machine learning methods and strategies for	Final exam ANA 665	Direct - Exam	Specific questions in Final Exam of ANA 665	80% of students will be acceptable or	be acceptable or	exam ANA 665	Exceeded	Exceeded		Α			Α	
			advanced data mining.					better on exam orading rubric									
			Evaluate machine learning	Project report in	Direct - Student	Final project report in ANA 665	80% of students will	90% of students will		Met	Approaching		Х			х	
			methods and strategies for advanced data mining.	ANA 665	Artifact			be acceptable or better on rubric.	report in ANA 665								
Department of Computer	Master of Science in										1						
Science and Information	Management Information																
Systems	Nymems		1	1	1		1			1							