<table>
<tr><td colspan="3" align="center">Degree: MS Computer Science
2023-2024 Assessment Plan</td></tr>
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	Student Learning Outcome #1	Students will have solid computer science knowledge and skills and be prepared for their further studies or first jobs.
PLAN	**Assessment Method(s)**	Direct: Faculty Assessment for COSC 5369 Graduate Project or COSC 5391 Thesis II. Indirect: Student Exit Survey, Exit Interview, Alumni Survey, and Student Evaluations/Department of Computer Science (Question Set #1)
	Proficiency	Direct: Faculty Assessment > 4 points Indirect: Alumni Survey > 4 points Exit Interview > 3.75 points Exit Survey > 4 points Student evaluations > 3.75 points
DO	**Benchmark**	Direct: 80% of students are expected to achieve the direct proficiency Indirect: 80% of students are expected to achieve the average of indirect proficiencies
	Results of Assessment	Direct: Faculty Assessment=4.363 (81.78% of students received > 4 points) Indirect: Exit Survey=4.424 points (91.11% of students rated > 4 points) Exit Interview=4.539 points (97.37% of students rated > 3.75 points) Alumni Survey=4.593 points (97.5% of students rated > 4 points)

		Student Evaluation=4.6
S T U D Y	**Analysis of Results**	Met Expectation • The data demonstrate that most MSCS students have acquired the necessary computer science knowledge and are well-prepared for their future careers and advanced studies. • All indirect assessments show an improvement compared to the previous year (2022-2023), with an average increase of 0.0988 points. The direct assessment score is 0.26 points lower than last year's result, with 81.78% of students receiving more than 4 points for this learning outcome. • These changes suggest that while the majority of students are satisfied with the courses, teaching, and curriculum of the MSCS program, the faculty assessment shows that some students need to improve their performance regarding this learning outcome.

| ACT | Improvement Plan for 2024-2025 | Improve their problem-solving abilities in multidisciplinary teams through the following initiatives:

• Continuously review and enhance the current computer science graduate program catalog to ensure it provides updated details that align with new program structures, requirements, and specializations beneficial for students' career advancement or further studies.
• Develop and introduce new graduate-level courses responsive to societal and industry needs. Remove outdated courses, update prerequisites, and adapt existing courses to incorporate new knowledge and techniques.
• Conduct a thorough assessment of current student learning outcomes for graduate-level core and elective courses, collaborating with faculty, industry experts, and alumni. Update learning outcomes to reflect emerging trends and technologies in the computer science field, preparing students effectively for their initial employment or future academic pursuits.
• Align the updated student learning outcomes with specific courses and learning activities within the MSCS curriculum.
• Provide faculty with training and professional development opportunities focused on effective teaching strategies and emerging technological trends in the field. |
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		Degree: MS Computer Science 2023-2024 Assessment Plan	
	Student Learning Outcome #2	Students will be able to employ mathematical tools, scientific principles, and fundamental knowledge of Computer Science to solve problems and work in multidisciplinary teams.	
PLAN	**Assessment Method(s)**	Direct: Faculty Assessment for COSC 5369 Graduate Project or COSC 5391 Thesis II. Indirect: Student Exit Survey, Exit Interview, Alumni Survey, and Student Evaluations/Department of Computer Science (Question Set # 2)	
	Proficiency	Direct: Faculty Assessment > 4 points Indirect: Alumni Survey > 4 points Exit Interview > 3.75 points Exit Survey > 4 points Student evaluations > 3.75 points;	
DO	**Benchmark**	Direct: 80% of students are expected to achieve the direct proficiency Indirect: 80% of students are expected to achieve the average of indirect proficiencies	
	Results of Assessment	Direct: Faculty Assessment=4.423 (87.50% of students received > 4 points) Indirect: Exit Survey=4.469 points (93.33% of students rated > 4 points) Exit Interview=4.536 points (97.37% of students rated > 3.75 points) Alumni Survey=4.583 points (97.5% of students rated > 4 points)	

		Student Evaluation=4.581
S T U D Y	**Analysis of Results**	Met Expectation • The data demonstrate that most students are confident in their ability to solve multidisciplinary problems using the mathematical tools and scientific principles they have learned. • All indirect assessments show an improvement compared to the previous year (2022-2023), with an average increase of 0.1068 points. The direct assessment score is 0.1530 points lower than last year's result, with 87.5% of students receiving more than 4 points for this learning outcome. • These results indicate that most students affirm their capability to work in a multidisciplinary environment using the math and computer science knowledge gained from the MSCS program at Lamar University.

ACT	Improvement Plan for 2024-2025	Enhance their problem-solving abilities in multidisciplinary teams through the following initiatives:
		- Foster continued collaboration with other departments across campus to enrich program offerings and provide students with a variety of courses. By harnessing the expertise of faculty from various disciplines, the program aims to offer interdisciplinary perspectives and innovative courses that explore the convergence of computer science with other fields. - Maintain ongoing collaboration with the Mathematics department to develop courses and programs that enhance students' competitiveness. - Recruit new faculty members with diverse expertise to broaden the program's capabilities and support its expansion. - Conduct a comprehensive review of current student learning outcomes for graduate-level core and elective courses, consulting with faculty, industry experts, and alumni. Update learning outcomes to emphasize problem-solving skills and interdisciplinary studies. - Align updated student learning outcomes with specific graduate core courses and learning activities within the curriculum. - Gather and analyze data on student performance in each graduate-level core and elective course to identify areas for enhancement. - Encourage faculty to introduce advanced courses and new modules focusing on applied mathematics, scientific methodologies, and interdisciplinary collaboration. - Promote the integration of new case studies, simulations, and real-world projects that require the application of mathematical and scientific principles in graduate project or master's thesis courses.

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	Student Learning Outcome #3	Students will have an excellent awareness of the social and technical context of their professional responsibility, ethics, and the need to engage in life-long learning.	
PLAN	**Assessment Method(s)**	Direct: Faculty Assessment for COSC 5369 Graduate Project or COSC 5391 Thesis II. Indirect: Student Exit Survey, Exit Interview, Alumni Survey, and Student Evaluations/Department of Computer Science (Question Set # 3)	
	Proficiency	Direct: Faculty Assessment > 4 points Indirect: Alumni Survey > 4 points Exit Interview > 3.75 points Exit Survey > 4 points Student evaluations > 3.75 points	
DO	**Benchmark**	Direct: 80% of students are expected to achieve the direct proficiency Indirect: 80% of students are expected to achieve the average of indirect proficiencies	
	Results of Assessment	Direct: Faculty Assessment=4.362 (81.65% of students received > 4 points) Indirect: Exit Survey=4.455 points (91.11% of students rated > 4 points) Exit Interview=4.527 points (94.74% of students rated > 3.75 points) Alumni Survey=4.584 points (97.5% of students rated > 4 points) Student Evaluation=4.624	

S T U D Y	**Analysis of Results**	Met Expectation
		• The data demonstrate that most students understand the importance of social impact and ethics for their careers and are committed to engaging in lifelong learning.
		• All indirect assessments show an improvement compared to the previous year (2022-2023), with an average increase of 0.1212 points. The direct assessment score is 0.1820 points lower than last year's result, with 81.65% of students receiving more than 4 points for this learning outcome.
		• These results indicate that most students are aware of the significance of the social and technical context of their professional responsibilities, ethics, and lifelong learning. The faculty assessment shows that while most students are performing well, and some students' performance can be improved to achieve even higher standards of excellence.

ACT	Improvement Plan for 2024-2025	Enhance their critical thinking, communication, teamwork, and leadership skills through the following initiatives: • Encouraging faculty to integrate additional group projects into both core and elective graduate courses, fostering collaboration and the practical application of leadership and teamwork. • Supporting and facilitating internship and practicum opportunities for graduate students, enabling them to refine and apply these skills in real-world professional settings. • Collaborating with the Career Center at Lamar University to host seminars about leadership development, communication strategies, and effective teamwork practices, complementing academic coursework.

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	Student Learning Outcome #4	Students will have the critical thinking, communication, teamwork, and leadership skills necessary to function productively and professionally.
PLAN	**Assessment Method(s)**	Direct: Faculty Assessment for COSC 5369 Graduate Project or COSC 5391 Thesis II. Indirect: Student Exit Survey, Exit Interview, Alumni Survey, and Student Evaluations/Department of Computer Science (Question Set # 4)
	Proficiency	Direct: Faculty Assessment > 4 points Indirect: Alumni Survey > 4 points Exit Interview > 3.75 points Exit Survey > 4 points Student evaluations > 3.75 points
DO	**Benchmark**	Direct: 80% of students are expected to achieve the direct proficiency Indirect: 80% of students are expected to achieve the average of indirect proficiencies
	Results of Assessment	Direct: Faculty Assessment=4.423 (88.83% of students received > 4 points) Indirect: Exit Survey=4.467 points (93.33% of students rated > 4 points) Exit Interview=4.544 points (97.37% of students rated > 3.75 points) Alumni Survey=4.588 points (97.5% of students rated > 4 points)

		Student Evaluation=4.622
S T U D Y	**Analysis of Results**	Met Expectation • The data demonstrate that most students are equipped with critical thinking, communication, and teamwork abilities, which will help them develop leadership skills. • All indirect assessments show an improvement compared to the previous year (2022-2023), with an average increase of 0.1212 points. The direct assessment score is 0.1820 points lower than last year's result, with 88.83% of students receiving more than 4 points for this learning outcome. • These results indicate that the majority of MSCS students possess the essential skills to thrive in collaborative and leadership roles. The faculty believe that while most students are performing well, there is still room for improvement in achieving even higher standards of excellence.

ACT	Improvement Plan for 2024-2025	Enhance their critical thinking, communication, teamwork, and leadership skills by:
		• Encouraging faculty members to incorporate more group projects into graduate-level core and elective courses, fostering collaboration and the application of leadership and teamwork. • Promoting and facilitating opportunities for graduate students to participate in internships and practicums, enabling them to refine and apply these skills in professional environments.

Student Learning Outcome #1:
Faculty Assessment Questions - 1, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16
Alumni Survey Questions - 1, 2, 3, 6, 11, 12, 13, 15, 16, 17.
Exit Interview Questions - 1, 2, 3, 6, 7, 11, 12, 15, 16, 17.
Exit Survey Questions - 1, 2, 4, 5, 6, 7, 9, 10, 11, 12, 14, 15, 16.
Student Evaluation Questions - 25, 28, 29, 30, 31, 32, 34, 35, 36, 37, 38.

Student Learning Outcome #2:
Faculty Assessment Questions - 1, 2, 8, 11, 13, 14, 15, 16, 17.
Alumni Survey Questions - 1, 2, 3, 4, 6, 7, 8, 12, 16, 17.
Exit Interview Questions - 1, 2, 3, 4, 6, 7, 8, 11, 12, 13, 15, 16, 17.
Exit Survey Questions - 1, 2, 4, 5, 6, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20.
Student Evaluation Questions - 25, 26, 27, 28, 37.

Student Learning Outcome #3:
Faculty Assessment Questions - 1, 6, 7, 8, 9, 11, 12, 13, 16, 17, 18
Alumni Survey Questions - 2, 3, 5, 8, 9, 10, 11, 13, 14, 15, 17.
Exit Interview Questions - 2, 3, 4, 5, 8, 9, 10, 11, 13, 14, 15.
Exit Survey Questions - 1, 2, 4, 5, 7, 9, 11, 12, 13, 14, 15, 16, 17, 19, 20.
Student Evaluation Questions - 33, 37, 39, 40, 43.

Student Learning Outcome #4:
Faculty Assessment Questions - 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 16, 18.
Alumni Survey Questions - 1, 3, 6, 8, 9, 10, 13, 14, 15, 17.
Exit Interview Questions - 1, 2, 3, 4, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17.
Exit Survey Questions - 1, 2, 4, 5, 7, 9, 11, 12, 13, 14, 15, 17, 18, 19, 20.
Student Evaluation Questions - 26, 37, 38, 40, 41, 42, 43.