

Program:	Biomedical Engineering, MS			
Cycle:	2016-2017			
Mission Statement:	<p>The fundamental mission of the Department of Biomedical Engineering at Texas A&M University is to serve our students by providing an exciting and challenging academic environment; to serve our profession through the discovery and dissemination of knowledge; to serve our university system by facilitating and leading multidisciplinary biomedical research; and to serve the growing biotechnology and biomedical device industry in Texas via technology transfer and educating the workforce. Specifically, for the Master of Science Program, the knowledge gained in the classroom and the experience gained through research will prepare our students to assume roles of leadership and service in the biomedical industry, research, or pursue further graduate studies.</p>			
Outcome/Objective	Measure	Target	Finding	Action Plan
<p>Outcome 1: Graduates will be able to understand, apply and interpret principles of biomedical engineering by demonstrating mastery in biomedical engineering courses and at each degree milestone.</p>	<p>Measure 1: Students will complete and submit an exit survey during their final semester or at their final defense, whichever comes last.</p>	<p>At least 70% of students rated their proficiency in meeting ALL university learning outcomes either "exemplary" or "acceptable." This is answered with question 7a-g. 70% was chosen to be consistent with ABET standards for the BS degree and will be updated if needed.</p>	<p>Target: Met 86% (6/7) of the students that completed the survey rated their proficiency in meeting ALL university learning outcomes either "exemplary" or "acceptable." 1 of the 7 students chose "developing" for one outcome.</p>	<p><i>No affiliated Action Plan</i></p>
	<p>Measure 2: Each faculty member serving on a student's committee will complete an evaluation of that student in their final semester or at their final defense, whichever comes last.</p>	<p>At least 70% of faculty rated the student's proficiency in meeting ALL university learning outcomes either "exemplary" or "acceptable." This is answered with question F-7a-g. 70% was chosen to be consistent with ABET standards for the BS degree and will be updated if needed.</p>	<p>Target: Met 16 of 21 faculty chairs and committee members completed the evaluation. 88% of faculty committee members that completed the evaluation rated their student's proficiency in meeting ALL university learning outcomes either "exemplary" or "acceptable." Student 1: 3 of 3 committee members responded and rated their student's proficiency in meeting all university learning outcomes either "exemplary" or "acceptable". Student 2: 2 of 3 committee members responded and rated their student's proficiency in meeting all university learning outcomes either "exemplary" or "acceptable". Student 3: 2 of 3 committee members responded and rated their student's proficiency in meeting all university learning outcomes either "exemplary" or "acceptable". Student 4: 3 of 3 committee members responded. 1 of 3 committee members rated the student "not observable" as one outcome. Student 5: No committee members responded. Student 6: 3 of 3 committee members responded. 1 of 3 committee members rated the student "not observable" as one outcome. Student 7. 3 of 3 committee members responded and rated their student's proficiency in meeting all university learning outcomes either "exemplary" or "acceptable".</p>	
	<p>Measure 3: Faculty will rank each student compared to other students they have advised at the time of graduation.</p>	<p>At least 70% of faculty will rate their students in the upper 25% or higher compared to other students advised upon graduation. This is answered with question 12. 70% was chosen to be consistent with ABET standards for the BS degree and will be updated if needed.</p>	<p>Target: Met 94% (15/16) of faculty committee members that responded rated their student in the upper 25% or higher compared to other students advised upon graduation. Student 1: 3 of 3 committee members responded and rated their student in the "upper 25" or higher. Student 2: 2 of 3 committee members responded and rated their student in the "upper 25" or higher. Student 3: 2 of 3 committee members responded. 1 of the 2 members rated the student "average". Student 4: 3 of 3 committee members responded and rated their student in the "upper 25" or higher. Student 5: No committee members responded. Student 6: 3 of 3 committee members responded and rated their student in the "upper 25" or higher. Student 7: 3 of 3 committee members responded and rated their student in the "upper 25" or higher.</p>	

Outcome 2: Graduates will demonstrate the ability to apply their knowledge through successful completion of a research project.	Measure 1: Students will complete and submit an exit survey during their final semester or at their final defense, whichever comes last.	At least 70% of students rated their proficiency in meeting all research-based university learning outcomes either "exemplary" or "acceptable." This is answered with question 7h-j. 70% was chosen to be consistent with ABET standards for the BS degree and will be updated if needed.	Target: Met 86% (6/7) of the students that completed the survey rated their proficiency in meeting research-based university learning outcomes either "exemplary" or "acceptable." 1 of the 7 students chose "developing" as one of the outcomes.	No affiliated Action Plan
	Measure 2: Each faculty member serving on a student's committee will complete an evaluation of that student in their final semester or at their final defense, whichever comes last.	At least 70% of faculty rated their student's proficiency in meeting the research-related university learning outcomes either "exemplary" or "acceptable." This is answered with question F-7h-j. 70% was chosen to be consistent with ABET standards for the BS degree and will be updated if needed.	Target: Met 16 of 21 faculty chairs and committee members completed the evaluation. 75% of faculty committee members that completed the evaluation rated their student's proficiency in meeting ALL university learning outcomes either "exemplary" or "acceptable." Student 1: 3 of 3 committee members responded and rated their student's proficiency in meeting all university learning outcomes either "exemplary" or "acceptable". Student 2: 3 of 3 committee members responded and rated their student's proficiency in meeting all university learning outcomes either "exemplary" or "acceptable". Student 3: 2 of 3 committee members responded and rated their student's proficiency in meeting all university learning outcomes either "exemplary" or "acceptable". Student 4: 3 of 3 committee members responded and rated their student's proficiency in meeting all university learning outcomes either "exemplary" or "acceptable". Student 5: No committee members responded. Student 6: 3 of 3 committee members responded. 1 of 3 faculty members rated the student "developing" as one outcome. Student 7. 3 of 3 committee members responded. 2 of 3 chose "n/a" as one outcome. 1 of 3 chose "not observable" as one outcome.	
	Measure 4: Students will feel that their committee members and faculty involvement in their degree met or exceeded their expectations.	At least 70% of student self-evaluations will show that students feel they had a successful practical training. This will be determined based on the student's view that their committee member and faculty involvement in their degree met or exceeded their expectations. 70% was chosen to be consistent with ABET standards for the BS degree and will be updated if needed.	Target: Met 100% of the students that completed the survey felt that their committee member and faculty involvement in their degree met or exceeded their expectations, leading to a successful practical training.	

Outcome 3: Graduates will have the ability to effectively communicate their ideas and technical information.	Measure 1: Students will complete and submit an exit survey during their final semester or at their final defense, whichever comes last.	At least 70% of student self-evaluations will show that upon graduation, students rated their ability to communicate effectively as either "exemplary" or "acceptable." This is answered with question 7d. 70% was chosen to be consistent with ABET standards for the BS degree and will be updated if needed.	Target: Met 100% of the students that completed the survey rated their ability to communicate effectively as either "exemplary" or "acceptable."	To help expand the profile of the students in our department, encourage more regular participation in research conferences, and build communication skills, the department is considering several new initiatives related to creating a "Culture of Excellence". One of the first steps in this is hosting a Research Symposium to highlight the graduate student research being done by our students. This will be done in a full-day event including oral presentations, poster sessions, an interdisciplinary keynote address from one of our faculty members and an external collaborator, and a networking lunch. Implementation Status: In-Progress Priority: High Responsible Party: Graduate Committee, Maria Lyons Additional Resources: Industry sponsorship
	Measure 2: Each faculty member serving on a student's committee will complete an evaluation of that student in their final semester or at their final defense, whichever comes last.	At least 70% of faculty evaluations will show that upon graduation, they rated their student's ability to communicate effectively as either "exemplary" or "acceptable." This is answered with question F-7d. 70% was chosen to be consistent with ABET standards for the BS degree and will be updated if needed.	Target: Met 16 of 21 faculty chairs and committee members completed the evaluation. 100% of faculty committee members that responded rated their student's ability to communicate as either "exemplary" or "acceptable."	

<p>(Analysis Question #1) Consider the Findings and the Action Plan(s) established this cycle. How did the program/unit identify these next steps for action? Why does the program/unit believe this Action Plan(s) should improve future assessment results?</p>	<p>The department has been considering the feedback and results of the student self-evaluation and performance throughout the degree, as well as anecdotal comments and requests from the students, for the past year. We felt like there were several improvements to the graduate student culture that could be made. For example, students are much more likely to attend a Society for Biomaterials journal club meeting or talk to other researchers in a related lab than they are someone from a different research background than their own, even within our own department. We felt like this has stunted the student growth in the areas of communication and demonstration of their research competency. Further, additional opportunities such as oral and poster presentations available via the research symposium reinforce the expectation that knowledge be shared via both presentations and publications, another area in which our department could use improvement. In the future, we hope to expand this concept to other areas, such as the prestige of final defenses, formal templates for proposals, and more.</p>
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<p>(Analysis Question #2) Provide an update for completed or ongoing action plans from the previous year(s). Discuss any successes, challenges, and/or obstacles the program/unit has experienced while implementing the Action Plan(s). Address whether or not the program/unit has seen any improvement in assessment results for the targeted Outcome(s) the Action Plan(s) were designed to address and why the action plan may/may not have resulted in improvements.</p>	<p>New expectations:</p> <p>Annual evaluations: The annual evaluation process is continuing. A new question at the end has been added to address an overall score of the student's performance on a scale of 0-100, with 75 being meets expectations and 50 being below expectations. This year, the Director of Graduate Programs reviewed the evaluation of each student that was either rated 75 or lower and/or has a time-to-graduation plan of longer than 5 years. The DGP then contacted the faculty chair where appropriate to follow up on the student progress and a plan for improvement. Further documentation of this communication will be important to track in future years.</p>
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