

## ASSESSMENT PLAN/REPORT TEMPLATE

**Degree: BIOMEDICAL ENGINEERING, M.S.**

**CIP Code: 14.0701**

**Program Mission Statement:**

The mission of the Department of Chemical and Biomedical Engineering is to prepare graduates with fundamental knowledge and contemporary skills for the development, economic design, and safe operation of chemical and biological systems, processes, products, and methods in a manner compatible with societal values.

**MS Graduates of Biomedical Engineering program will be able to demonstrate the following:**

<b>Outcome 1</b>	MS in BME graduates will demonstrate proficiency in applying statistical methods for biomedical data analysis
<b>Assessment Method</b>	Thesis option students will be examined by a committee consisting of 3 faculty members in the biomedical engineering field. The committee will complete an assessment of the student understanding of the ability to apply statistical methods for data analysis. Students who complete the degree with the course option will be examined by the biomedical program director at the time when they file for graduation.
<b>Level of Expectation</b>	On a scale of 1-5, the average score of the students in this area should be at least a 3.0.
<b>Assessment Results</b>	The Director of the program will collect the assessment results and determine if action is warranted. A score below 3.0 will require an assessment of the Biostatistics course to see what remedial actions can be taken.
<b>Use of Results for Program Improvement</b>	Faculty will recommend improvements in the program based on their assessment.
<b>Outcome 2</b>	The Department's M.S.BME. graduate will demonstrate an ability to use modern research methods to conduct an in-depth study of current issues in biomedical engineering
<b>Assessment Method</b>	Thesis option students has a graduate committee composed of at least 3 faculty members in the student's disciplines and related disciplines. The committee will assess the student's ability to use modern research methods and rate it on a scale of 1-5 at the time of the Thesis Examination prior to graduation. The Director of the BME program will collect and compute the statistics on the assessment results.  Nonthesis option graduates will be examined by the Director who will examine their

	portfolio of research projects done as part of their course work.
<b>Level of Expectation</b>	The average of the ratings by the committee for all students will be above 3.0. An average below 3 will require an assessment of the student preparation and remedial actions will be recommended to the faculty for adoption.
<b>Assessment Results</b>	Every year the assessment results will be presented to the faculty for discussion and evaluation.
<b>Use of Results for Program Improvement</b>	The results will be used to determine if additional course requirements should be imposed or new courses should be taught.
<b>Outcome 3</b>	The Department's M.S.BME. students will demonstrate an ability to analyze complex and multi-faceted data in biomedical engineering and draw conclusions..
<b>Methods of Assessment</b>	<p>Each thesis option M.S.BME student has a graduate committee composed of at least 3 faculty members in the student's disciplines and related disciplines. The committee will assess the student's ability to use modern research methods and rate it on a scale of 1-5 at the time of the Thesis Examination prior to graduation. The Chair will collect and compute the statistics on the assessment results.</p> <p>Non-thesis option students will be examined by the Program Director who will examine their course portfolio to assess their ability to analyze complex data.</p>
<b>Level of Expectation</b>	The average of the ratings by the committee for all students will be above 3.0. An average below 3 will require an assessment of the student preparation and remedial actions will be recommended to the faculty for adoption.
<b>Assessment Results</b>	Every year the assessment results will be presented to the faculty for discussion and evaluation.
<b>Use of Results for Program Improvement</b>	The results will be used to determine if additional course requirements should be imposed or new courses should be taught.

**Assessment of Candidates for MSBME Degree**

**Candidate: Please collect these and turn these into the ChE Office immediately after the exam.**

To be completed by each of the Examining Committee Members at the time of Thesis or Dissertation Examination (or by the Graduate Advisor for non-Thesis students).

Instructions to the Student: Please complete Section 1 and give a copy to each member and ask them to complete it at the end of your examination.

Section 1. ( To be completed by student)	
Name:	Degree Sought:
Title of Thesis or Dissertation:	
No of publications based on your research in refereed journals:	
No of conference presentations based on your research :	

Section 2. ( To be completed by each committee member. Please complete and return to student at end of examination).

Please summarize your assessment of the student's ability on a scale of 1-5, 1 being Poor and 5 being Excellent.

Leave blank if unable to evaluate.

On a scale of 1-5, 1 = Poor and 5 = Excellent, please rate the following:

Item	1	2	3	4	5
Assessment of the student's ability to ability to use modern research methods to conduct an in-depth study of a current issue in their chosen area of research. ( ability to formulate a hypothesis, verify the hypothesis, conduct necessary experiments/modeling, analyze the results and come to appropriate conclusions)	1	2	3	4	5
Assessment of the student's ability analyze complex and multi-faceted data	1	2	3	4	5
Assessment of student's ability to give oral technical presentations ( delivery, quality of slides used, answer questions, timeliness etc.)	1	2	3	4	5
Assessment of student's ability to write technical reports ( quality of writing, style, grammar, correct punctuation, correct citations, clear abstract etc.)	1	2	3	4	5
Assessment of student's ability to use modern computational and/or modeling tools for analysis	1	2	3	4	5
Assessment of student's ability to do a critical review of the literature in their chosen area of specialization ( Did the student conduct a complete and thorough study of the literature, analyze prior work, summarize it succinctly?)	1	2	3	4	5
Assessment of the student's contribution to advance the body of knowledge in their chosen area of specialization ( Was there an original contribution to the field, has it been validated by publications in the appropriate forum?)	1	2	3	4	5