

Master of Engineering

Annual Program Report

Year:	2022-2023
Program:	Master of Engineering (ME)
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Summary of Continuous Improvement Efforts since Last Report

Provide a brief description of how assessment results have been used for program improvement. Point to a specific example of how an assessment provided the program with data it could use for improvement and what that improvement was, if possible, also show evidence of the improvement. You may look at data from the two previous academic years to support this case.

Respond here:

The following improvements has implemented to the Master of Engineering (ME) program.

1. New courses have been developed and added to the program. Approximately 9 new master 5000-level course additions have been implemented. This effort is to improve all 3 student learning outcomes.
2. The master level courses syllabi have been reviewed and revised to increase the academic rigor of the program. This effort has been started since Summer 2022 and is an ongoing project. This effort is to improve all 3 student learning outcomes.
3. The College of Engineering is increasingly holding seminars in various fields of study, which all master students are encouraged to attend. This effort is to improve student learning outcome 2.
4. The assessment outcomes for next cycle has been evaluated and will be modified.

Program Highlights Since Last Report

Identify and briefly discuss any programmatic curriculum changes made since the last report (e.g. new courses, course changes, SLO changes, course deletions).

Respond here:

New courses have been developed and added to the program. List of new addition is as follows.

1. CHEN 5341 Mass Transfer Operations
2. CHEN 5360 Thermo-Process Industry
3. CHEN 5363 Proc Mdl w/Neural Ne
4. CHEN 5392 Intermolecular Forces w/Appl
5. CHEN 5394 Wetting Phenomena & Transport
6. ELEN 5303 Python Programming

7. MEEN 5341 Modeling of Supercritical Fluids
8. MEEN 5341 Modeling of Supercritical Fluids
9. MEEN 5342 Mechanism Design and Analysis

Table 1. Assessment Results and Analyses for Current Cycle.

STAGE 1: PLAN				STAGE 2: DO		STAGE 3: STUDY
Departmental Student Learning Goal	Program Student Learning Outcome	Assessment	Assessment Method/Location	Benchmark Expectations	Data Results	Actions/Goals Based on Data Results* What do the data tell you? How will you use this data? How were data from the last cycle used to make changes during this cycle, and What were the results of those changes?
Outcome #1: <i>An ability to apply mathematics, science, and engineering principles to solve engineering problems.</i>	Math, Science and Engineering Concepts	Comprehensive exam	By the comprehensive exam committee	2.8 or > 70%	3.52	Meet the expectation. Approximately 9 new master level courses have been added. There will be continued work on adding engineering math and science courses.
Outcome #1	Math and Engineering Reasoning	Comprehensive exam	By the comprehensive exam committee	2.8 or > 70%	3.53	Meet the expectation. This criterion is an improvement over that of the previous report. Approximately 9 new master level courses have been added. There will be continued work on adding engineering math and science courses.
Outcome #1	Strategy/Procedures	Comprehensive exam	By the comprehensive	2.8 or > 70%	3.57	Meet the expectation

			exam committee			
Outcome #1					3.61	
Outcome #2: <i>An understanding of professional responsibility, ethics and methods of communication in the practice of engineering.</i>	Understand professional responsibility	Comprehensive exam	By the comprehensive exam committee	2.8 or > 70%	3.58	Meet the expectation. An improvement over the previous cycle. The College of Engineering is increasingly holding seminars in various fields of study, which all master students are encouraged to attend.
Outcome #2	Understand ethical responsibility	Comprehensive exam	By the comprehensive exam committee	2.8 or > 70%	3.53	Meet the expectation
Outcome #2	Clarity and effectiveness of communication	Comprehensive exam	By the comprehensive exam committee	2.8 or > 70%	3.62	Meet the expectation.
Outcome #2					3.52	
Outcome #3: <i>An ability to design an engineering system that meets desired needs with appropriate consideration of economic, environmental, sociopolitical, safety and global factors.</i>	Apply engineering principles to meet the needs of designed engineering system.	Comprehensive exam	By the comprehensive exam committee	2.8 or > 70%	3.56	Meet the expectation Approximately 9 new master level courses have been added. There will be continued work on adding engineering math and science courses.
Outcome #3	Apply design skills to achieve high quality engineering works.	Comprehensive exam	By the comprehensive exam committee	2.8 or > 70%	3.62	Meet the expectation

Outcome #3	Perform design with consideration of economic, environmental, sociopolitical, and global factors	Comprehensive exam	By the comprehensive exam committee	2.8 or > 70%	3.55	Meet the expectation
Outcome #3					3.53	

Table 2. Continuous Improvement Results Since Last Report

Stage 4: ACT		
Actions/Goals Based on Data Results <i>*Copy last cycle's actions/goals and report on progress toward continuous improvement on those here.</i>	Status <i>C=Complete P=Progressing N=No Action Taken</i>	Discussion of Status <i>If C, describe efforts that led to accomplishment of actions/goals. If P, provide update on progress made toward accomplishing actions/goals and what tasks remain If N, discuss why action toward accomplishing actions/goals has been delayed and what work will be initiated toward accomplishment.</i>
Add courses, delete some courses that are no longer needed	P	Multiple courses were added and removed from the catalog. This is an ongoing effort. Multiple course addition requests are in progress.
Review and modify the existing syllabi and change course prerequisites	P	Some existing syllabi have been reviewed and revised. More course syllabi will be reviewed and revised by the departments. This is an ongoing project.
The assessment outcomes for next cycle has been evaluated and will be modified.	P	The assessment outcomes for next cycle has been evaluated and will be modified.