

Chemical, Civil & Mechanical Eng.

Department of Chemical, Civil & Mechanical Engineering

Introduction

The Department of Chemical, Civil and Mechanical Engineering delivers a professionally focused education in the fields of chemical, civil and mechanical engineering. CCME faculty and staff provide students with instruction, scholastic advising, and professional/career counseling. The CCME department supports related professional and scholarly student activities. Our students are prepared to practice in their chosen field focusing on the industrial and business needs of the region. The needs of traditional and non-traditional students are met through close interaction with faculty, businesses, and the industrial community in a practice-oriented, student-friendly environment. The department maintains ABET-accredited current curricula that foster interdisciplinary teamwork, scholarly development, projects, internships, professional ethics, and training with regional businesses or industries. CCME students are prepared to study for advanced degrees and work in regional businesses or industries.

ENGR	CIEG	4	7	9	9	29	1	48	24	18	27	117	0	22	22	8	38	90	15
	MEEG	5	31	19	17	72	1	74	49	37	83	243	20	50	40	38	80	208	18
	(blank)	9	5	2	5	21	0	15	9	4	15	43	0	5	6	3	7	21	0
Total		31	64	44	54	193	2	202	142	96	199	638	20	103	119	92	208	532	57

2017-2018:

Major	Conc.	Summer						Fall						Spring					
		F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP
ENGR	CHEG	7	15	23	18	63	0	51	49	44	76	220	5	33	37	40	82	192	22
	CIEG	1	10	14	18	43	0	25	20	0	32	97	7	17	21	16	39	93	8
	GEEG	1	0	0	0	1	0	7	0	1	0	8	0	2	2	0	0	4	0
	MEEG	5	25	23	25	78	0	77	51	34	79	241	10	51	46	36	85	218	22
	(blank)	4	5	1	3	13	0	6	7	3	5	21	0	1	4	1	2	8	0
Total		18	55	61	64	189	0	166	127	102	192	587	22	104	110	93	208	515	52

1.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

Enrollment has not been consistent in the past few years with an varied trend. It goes up and down.

2017-2018:

Enrollment is not consistent as it goes up and down. Steps are taken as much as possible to make the trend upward. Recruitment and retention efforts are being made in that direction. Better advising, reevaluating and restructuring the foundation courses and promoting the program are some of the measures taken in that direction. An open door policy to provide better interaction between teacher and student is being established.

2 Assessment and Benchmark

Benchmark: Track student enrollments in each concentration of the MEng Degree. Maintain or exceed a total of 40 students in MEng program.

- MEng - MS Engineering
 - EMGT - Engineering Management
 - CHEG - Chemical Engineering
 - CIEG - Civil Engineering
 - MEEG - Mechanical Engineering

2.1 Data

Graduate Enrollment:

Major	Conc.	2013-2014			2014-2015			2015-2016			2016-2017			2017-2018		
		U	F	S	U	F	S	U	F	S	U	F	S	U	F	S
MEng	EMGT	2	6	3	0	4	3	1	4	6	1	4	5	1	6	2
	CHEG	4	8	10	0	9	7	1	10	6	1	6	6	2	5	2
	CIEG	0	2	3	0	6	5	1	4	9	2	6	8	3	5	2
	MEEG	1	4	4	0	6	6	0	7	7	5	4	3	0	2	2
Total		7	20	20	0	25	21	3	25	28	9	20	22	6	18	8

2.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

The enrollment is decreasing and not meeting the benchmark.

2017-2018:

The enrollment is decreasing and not meeting the benchmark.

There may be multiple reasons for this trend. Majority of our graduate are international students and there is downward trend in that.

The international office is making efforts to recruit international students. We are making promotional flyers for domestic promotion of our program. We have received n Endowed Professorship to investigate and take measures to improve graduate enrollment.

With three disciplines in CCME, we would like to keep a realistic benchmark of 15.

[EP 2018 Graduate Program](#) [DOC 53 KB 4/5/19]

[Graduate Program Flyer Part 1](#) [PPTX 72 KB 4/5/19]

[Graduate Program Flyer Part 2](#) [PPTX 52 KB 4/5/19]

3 Assessment and Benchmark

Benchmark: Track student completion rate in each concentration of the MEng degree. Maintain or exceed a total of 10 completers each year in MEng program.

- MEng - MS Engineering
 - EMGT - Engineering Management
 - CHEG - Chemical Engineering
 - CIEG - Civil Engineering
 - MEEG - Mechanical Engineering

3.1 Data

Graduate Completers:

Major	Conc.	2013-2014			2014-2015			2015-2016			2016-2017			2017-2018		
		U	F	S	U	F	S	U	F	S	U	F	S	U	F	S
MEng	EMGT	0	3	1	0	1	0	0	0	2	0	0	2	0	1	0
	CHEG	0	1	2	0	1	1	0	3	1	0	0	1	0	2	0
	CIEG	0	0	1	0	1	0	1	2	1	0	0	2	0	3	2
	MEEG	0	1	0	0	0	2	0	1	1	1	2	1	0	0	1
Total		0	5	4	0	3	3	1	6	5	1	2	6	0	6	3

3.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

The current completion rate is not meeting the benchmark.

2017-2018:

The current completion rate is not meeting the benchmark. The completers are directly related to the enrollment. As the enrollment is substantially decreasing so does the completion rate.

Students are graduating in an appropriate time duration.

We would like to establish a realistic benchmark of five.

4 Assessment and Benchmark

Benchmark: Maintain or exceed 2013-2014 levels of retention.

- ENGR - BS Engineering
- MEng - MS Engineering

4.1 Data

Fall 2013-Fall 2014:

Major	# of retained students	Retention rate
ENGR	298	66.08%
MEng	12	92.31%

5.1.1 Analysis of Data and Plan for Continuous Improvement

Performance Objective 2 Provide a comprehensive curriculum that reflects disciplinary foundations and remains responsive to contemporary developments, and student and workforce demand.

1 Assessment and Benchmark

Benchmark: The College of Engineering Industrial Advisory Board reviews all three engineering concentrations (chemical, civil, and mechanical) once per year on a four-year cycle. This is a comprehensive review examining the curricula, space, labs, faculty, financials, etc.

1.1 Data

2016-2017:
CHEN - spring 2017

2017-2018:
MEEN - spring 2018

[CHEN Audit 2017](#) [DOCX 13 KB 4/5/19]

[MEEN Program Review Comments Spring 18](#) [DOCX 18 KB 4/5/19]

1.1.1 Analysis of Data and Plan for Continuous Improvement

2017-2018:

CHEN and MEEN program reviews by IAB received positive feedback. We are implementing their suggestion as much as possible.

1. The separate BSE in Mechanical Engineering has been approved.
2. We are offering small classes by splitting classes.
3. Course will be offered in Piping Stress & CAESAR II in Spring 2019 as suggested.

2 Assessment and Benchmark

Benchmark: Maintain or exceed a 75% satisfactory level.

Assessment goal: Knowledge and skill gained in ME program.

Instrument: Exit survey data, student perception of gained knowledge and skills through exit survey data.

2.1 Data

Academic Year	Average Score
2016-2017	80+%
2017-2018	81%

2.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

We will collect three years of this data before determining an appropriate benchmark and methods of improvement.

2017-2018:

We will collect three years (2016-2019) of this data before reconsidering an appropriate benchmark and methods of improvement.

3 Assessment and Benchmark

Benchmark: Maintain or exceed an average score of 80%.

Assessment goal: Knowledge and skill gained in ME program.

Instrument: Graduate Comprehensive Exam (GCE), evaluation of gained knowledge and skills through examination.

3.1 Data

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Academic Year	Average Score
2016-2017	82%
2017-2018	78%

3.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

This is the first year of reporting for this assessment. We will collect three years of data before determining an appropriate benchmark and methods of improvement.

2017-2018:

The average score was slightly lower than the benchmark as it was slightly over the previous year. In our view, this is within expectations.

Performance Objective 3 To prepare graduates to practice engineering and to be successful in solving the engineering problems encountered in industry, government, or private practice. (ABET PEO 1)

1 Assessment and Benchmark

Benchmark: 85% of the engineering alumni within 5 years of graduation who fill out an alumni survey will score this PO with a 2 or higher based on a three point scale (1 = Successful, 2 = Satisfactorily successful, 3 = Very Successful).

1.1 Data

Reporting Year	Alumni group	# of surveys completed	% scored this PO with a 2	% scored this PO with a 3	% scored this PO with a 2 or higher
2013-2014	2010-2014	55	56%	42%	100%
2014-2015	2011-2015	54	67%	31%	98%
2015-2016	2012-2016	NA	NA	NA	NA
2016-2017	2013-2017	NA	NA	NA	NA
2017-2018	2014-2018	NA	NA	NA	NA

1.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

The survey was not administered in 2015-2016, but the next survey is scheduled for 2016-2017.

2016-2017:

The next survey is scheduled for 2017-2018.

2017-2018:

As the evaluation has been cumulative for the college, data is not available.

2 Assessment and Benchmark

Benchmark: 85% of the College of Engineering Industrial Advisory Board (IAB) members who fill out a survey will score this PO with a 2 or higher based on a three point scale (1 = unsuccessful, 2 = satisfactorily successful, 3 = very successful).

2.1 Data

Reporting Year	# of IAB members that completed the survey	% scored this PO with a 2	% scored this PO with a 3	% scored this PO with a 2 or higher
2015*	24/27	25%	75%	100%
2018	NA	NA	NA	NA

*2015 was the first reporting year for this assessment.

2.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

We will collect three years of data before setting a benchmark or making changes. The next survey is scheduled for 2016-2017.

2016-2017:

This is a new measure and the next survey is scheduled for 2017-2018.

2017-2018:

As the data is cumulatively collected for the college, it is not available this cycle..

3 Assessment and Benchmark

Benchmark: 85% of the Southwest Louisiana plant managers and engineering business owners who hire McNeese engineering graduates and fill out a survey will score this PO with a 2 or higher based on a three point scale (1 = unsuccessful, 2 = satisfactorily successful, 3 = very successful).

3.1 Data

Reporting Year	# of employers of engineering graduates that responded to the survey	% scored this PO with a 2	% scored this PO with a 3	% scored this PO with a 2 or higher
2015*	78	35.5%	64.5%	100%
2018	NA	NA	NA	NA

*2015 was the first reporting year for this assessment.

3.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

We will collect three years of this data before setting a benchmark or making changes. The next survey is scheduled for 2016-2017.

2016-2017:

This is a new measure and the next survey is scheduled for 2017-2018.

2017-2018:

As the data is cumulatively collected for the college, it is not available this cycle.

Performance Objective 4 To provide graduates with the motivation and skills to advance into positions of increased responsibility and to pursue continuing education or graduate studies. (ABET PEO 2)

1 Assessment and Benchmark

Benchmark: 85% of the engineering alumni within 5 years of graduation who fill out an alumni survey will score this PO with a 2 or higher based on a three point scale (1 = Successful, 2 = Satisfactorily successful, 3 = Very Successful).

1.1 Data

Reporting Year	Alumni group	# of surveys completed	% scored this PO with a 2	% scored this PO with a 3	% scored this PO with a 2 or higher
2013-2014	2010-2014	55	44%	51%	95%
2014-2015	2011-2015	54	52%	43%	95%
2015-2016	2012-2016	NA	NA	NA	NA
2016-2017	2013-2017	NA	NA	NA	NA
2017-2018	2014-2018	NA	NA	NA	NA

1.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

The next survey is scheduled for 2016-2017.

2016-2017:

The next survey is scheduled for Fall 2018. The benchmark was 85% on a three point scale.

2017-2018:

As the evaluation has been cumulative for the college, data is not available.

2 Assessment and Benchmark

Benchmark: 85% of the College of Engineering Industrial Advisory Board (IAB) members who fill out a survey will score this PO with a 2 or higher based on a three point scale (1 = unsuccessful, 2 = satisfactorily successful, 3 = very successful).

2.1 Data

Reporting Year	# of IAB members that completed the survey	% scored this PO with a 2	% scored this PO with a 3	% scored this PO with a 2 or higher
2015*	24/27	33.3%	66.6%	100%
2018	NA	NA	NA	NA

*2015 was the first reporting year for this assessment.

2.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

We will collect three years of data before setting a benchmark or making changes. The next survey is scheduled for 2016-2017.

2016-2017:

The next survey is scheduled for 2017-2018.

2017-2018:

As the data is cumulatively collected for the college, it is not available this cycle..

3 Assessment and Benchmark

Benchmark: 85% of the Southwest Louisiana plant managers and engineering business owners who hire McNeese engineering graduates and fill out a survey will score this PO with a 2 or higher based on a three point scale (1 = unsuccessful, 2 = satisfactorily successful, 3 = very successful).

3.1 Data

Reporting Year	# of employers of engineering graduates that responded to the survey	% scored this PO with a 2	% scored this PO with a 3	% scored this PO with a 2 or higher
2015*	78	43%	57%	100%
2018	NA	NA	NA	NA

*2015 was the first reporting year for this assessment.

3.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

We will collect three years of data before setting a benchmark or making changes. The next survey is scheduled for 2016-2017.

2016-2017:

The next survey is scheduled for 2017-2018.

2017-2018:

As the data is cumulatively collected for the college, it is not available this cycle.

Performance Objective 5 To produce graduates who are not only ethical and professional as engineers but also are responsible members of their communities and the larger society. (ABET PEO 3)

1 Assessment and Benchmark

Benchmark: 85% of the engineering alumni within 5 years of graduation who fill out an alumni survey will score this PO with a 2 or higher based on a three point scale (1 = Successful, 2 = Satisfactorily successful, 3 = Very Successful).

1.1 Data

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Reporting Year	Alumni group	# of surveys completed	% scored this PO with a 2	% scored this PO with a 3	% scored this PO with a 2 or higher
2013-2014	2010-2014	55	45%	55%	100%
2014-2015	2011-2015	54	50%	50%	98%
2015-2016	2012-2016	NA	NA	NA	NA
2016-2017	2013-2017	NA	NA	NA	NA
2017-2018	2014-2018	NA	NA	NA	NA

1.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

The survey was not administered in 2015-2016, but the next survey is scheduled for 2016-2017.

2016-2017:

The next survey is scheduled for 2017-2018. The benchmark was 85% on a three point scale.

2017-2018:

As the evaluation has been cumulative for the college, data is not available.

2 Assessment and Benchmark

Benchmark: 85% of the College of Engineering Industrial Advisory Board (IAB) members who fill out a survey will score this PO with a 2 or higher based on a three point scale (1 = unsuccessful, 2 = satisfactorily successful, 3 = very successful).

2.1 Data

Reporting Year	# of IAB members that completed the survey	% scored this PO with a 2	% scored this PO with a 3	% scored this PO with a 2 or higher
2015*	24/27	17%	83%	100%
2018	NA	NA	NA	NA

*2015 was the first reporting year for this assessment.

2.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

We will collect three years of data before setting a benchmark or making changes. The next survey is scheduled for 2016-2017.

2016-2017:

This is a new measure and the next survey is scheduled for 2017-2018.

2017-2018:

As the data is cumulatively collected for the college, it is not available this cycle..

3 Assessment and Benchmark

Benchmark: 85% of the Southwest Louisiana plant managers and engineering business owners who hire McNeese engineering graduates and fill out a survey will score this PO with a 2 or higher based on a three point scale (1 = unsuccessful, 2 = satisfactorily successful, 3 = very successful).

3.1 Data

Reporting Year	# of employers of engineering graduates that responded to the survey	% scored this PO with a 2	% scored this PO with a 3	% scored this PO with a 2 or higher
2015*	78	29%	71%	100%
2018	NA	NA	NA	NA

*2015 was the first reporting year for this assessment.

3.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

We will collect three years of this data before setting a benchmark or making changes. The next survey is scheduled for 2016-2017.

2016-2017:

This is a new measure and the next survey is scheduled for 2017-2018.

2017-2018:

As the data is cumulatively collected for the college, it is not available this cycle.

Performance Objective 6 To generate internal and external funding sources for program enhancement and research through writing grant proposals by CCME faculty.

1 Assessment and Benchmark

Benchmark: Score of 1.1 or higher (Moderate) for number of submitted proposals per faculty per year is the desired achievement level.

PC1: Number of grant/fund seeking proposals submitted by CCME faculty.

Instrument: Annual number of submitted proposals as provided by CCME faculty in APR data. Data will be evaluated on a 3-tier scale. Achievement levels for PC1 are:

Score range of 0–1.0 = Low, 1.1–3.0 = Moderate, and 3.1–5.0 = High.

1.1 Data

Academic Year	# of grant seeking proposals written and submitted by CCME faculty	Range of proposals submitted per faculty per year	Average # of submitted proposals per faculty per year
2015-2016	19	0-5	2.7
2016-2017	13	0-5	1.9
2017-2018	21	0-7	2.3

1.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

No action is needed. Data for the current assessment period is used as a base number for the purpose of creating a benchmark.

2017-2018:

We would like to delete this PO as this information is already included in PO 8. The grant proposal and award activities are part of the APR Professional & Scholarly activities.

2 Assessment and Benchmark

Benchmark: Score of 1.1 or higher (Moderate) for number of successful proposals per faculty per year is the desired achievement level.

PC2: Number of funded proposals submitted by CCME faculty. Annual evaluation of number of successful (funded) proposals submitted seeking grant/enhancement internal or external funds.

Instrument: Annual number of funded proposals as provided by CCME faculty in APR data. Data will be evaluated on a 3-tier scale. Achievement levels for PC2 are:

Score range of 0–1.0 = Low, 1.1–3.0 = Moderate, and 3.1–5.0 = High.

2.1 Data

Academic Year	# of successful internal and external proposals written by CCME faculty	Range of funded proposals per faculty per year	Average # of funded proposals per faculty per year
2015-2016	13	0-4	1.9
2016-2017	13	0-4	1.9

2017-2018	13	0-4	1.4
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2.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

No action is needed. Data for the current assessment period is used as a base number for the purpose of creating a benchmark.

2017-2018:

We would like to delete this PO as this information is already included in PO 8. The grant proposal and award activities are part of the APR Professional & Scholarly activities.

Performance Objective 7 To improve classroom teaching by monitoring course SEI.

1 Assessment and Benchmark

Benchmark: Score of 85% or higher is the desired achievement level for "Student Satisfaction Rate".

PC1: Annual rate of "Student Satisfaction" for all CCME courses.

Instrument: Annual review of SEI scores for all CCME courses by using the average SEI scores for each CCME faculty. Data is normalized and evaluated on a 3-tier scale. Achievement levels for PC1 are:

Score range of 0–65% = Low Satisfaction, 66 –85% = Moderate Satisfaction, and 86 –100% = High.

1.1 Data

Calendar Year	APR range of SEI scores	Average Student Satisfaction Rate
2013	NA	91%
2014	84%-96%	91%
2015	86%-95%	92%
2016	84%-94%	90%
2017	79%-97%	89%

1.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

No action is needed as the performance is above the benchmark.

2017-2018:

We believe the SEIs are stable. The benchmark is reasonable but still will work to improve the performance.

Performance Objective 8 To increase faculty engagement with Developmental Research, Professional and Scholarly activities.

1 Assessment and Benchmark

Benchmark: Score of 35% (Moderate) is the desired achievement level for faculty "Professional and Scholarly" activities.

PC1: Annual rate of "Professional and Scholarly" activities dedicated toward research and professional development.

Instrument: Annual review of P&S activities engaged by CCME faculty. Data is provided by P&S section of APR data. Data is normalized and is evaluated on a 3-tier scale. Achievement levels for PC1 are:

Score range of 0–30% = Low, 31–65% = Moderate, and 66–100% = High.

1.1 Data

Calendar Year	APR Range of P&S Activity Scores	Average APR P&S Activity Score
2014	6%-100%	33%
2015	6%-100%	32%
2016	6%-100%	37%

2017	1%-100%	37%
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1.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

No action is needed as the performance is above the benchmark.

2017-2018:

We would like to set our benchmark as 35%. We are performing above the benchmark, but we encourage our faculty to write more proposals, get more grants and involve in professional development activities.