

# **Electrical Eng. & Computer Sci.**

Department of Electrical Engineering and Computer Science

## Introduction

The Department of Electrical Engineering and Computer Science (EECS) provides a professionally focused education in the fields of Computer Science and Electrical Engineering. 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. EECS students are prepared to study for advanced degrees and work in regional businesses or industries.

### Programs & Services:

- Baccalaureate programs in education, engineering, business, nursing, selected allied health fields, mass communication, and criminal justice.
- Services specifically designed to meet the needs of regional economic development (small business development, support for entrepreneurs, problem-solving).

### Audiences:

- Residents of southwest Louisiana who have completed high school and are seeking either a college degree or continuing professional education;
- Employers in the region, both public and private, school districts, health care providers, local governments, and private businesses;
- Economic development interests and regional entrepreneurs; and
- The area community, by providing a broad range of academic and cultural activities and public events.

### Special Programs/Features:

- Custom academic programs and professional certifications integrated with area business and industry.
- Applied undergraduate research partnerships in engineering, sciences, and allied health.

The Department of EECS delivers a professionally focused education in the fields of Computer Science and Electrical Engineering. EECS faculty and staff are providing students with instruction, scholastic advising, and professional/career counseling. The EECS Department supports related professional and scholarly student activities.

The Department of EECS provides very limited services/courses to distance learning education students except for a few web-based or web-hybrid courses per semester.

## Performance Objective 1 Ensure viable levels of student enrollment, retention, and completion appropriate to institutional resources and goals.

### 1 Assessment and Benchmark

Benchmark: Track student enrollments in the BS Computer Science program at each level and in each concentration.  
Maintain or exceed 2012-2013 levels of declared majors:

- CSCI - BS Computer Science
  - APSC - Applied Computer Science
  - GNCS - General Computer Science
  - INCS - Industrial Computer Science

#### 1.1 Data

2012-2013:

Major	Conc.	Summer						Fall						Spring					
		F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP
CSCI	APSC	1	0	0	1	2	0	2	1	0	1	4	1	4	1	1	3	9	1
	GNCS	0	0	0	0	0	0	13	0	0	0	13	0	13	1	0	1	15	1
	(blank)	5	2	3	11	21	0	19	15	11	28	73	3	10	7	15	25	57	4
<b>Total</b>		<b>6</b>	<b>2</b>	<b>3</b>	<b>12</b>	<b>23</b>	<b>0</b>	<b>34</b>	<b>16</b>	<b>11</b>	<b>29</b>	<b>90</b>	<b>4</b>	<b>27</b>	<b>9</b>	<b>16</b>	<b>30</b>	<b>81</b>	<b>6</b>

2013-2014:

Major	Conc.	Summer						Fall						Spring					
		F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP
CSCI	APSC	1	0	1	2	4	0	10	1	0	0	11	0	10	4	1	3	18	1
	GNCS	4	0	0	0	4	0	27	3	0	0	30	0	25	8	0	2	35	2
	(blank)	3	3	4	10	20	1	13	17	17	27	74	5	5	22	12	25	64	2
<b>Total</b>		<b>8</b>	<b>3</b>	<b>5</b>	<b>12</b>	<b>28</b>	<b>1</b>	<b>50</b>	<b>21</b>	<b>17</b>	<b>26</b>	<b>115</b>	<b>5</b>	<b>40</b>	<b>34</b>	<b>13</b>	<b>30</b>	<b>117</b>	<b>5</b>

2014-2015:

Major	Conc.	Summer						Fall						Spring					
		F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP
CSCI	APSC	5	0	0	3	8	0	10	7	1	5	23	1	8	5	6	7	26	3
	GNCS	4	1	1	0	6	0	22	13	4	1	40	2	16	19	4	2	41	0
	(blank)	1	3	4	14	22	1	9	8	15	24	56	3	6	9	17	20	52	0
<b>Total</b>		<b>10</b>	<b>4</b>	<b>5</b>	<b>17</b>	<b>36</b>	<b>1</b>	<b>41</b>	<b>28</b>	<b>20</b>	<b>30</b>	<b>119</b>	<b>6</b>	<b>30</b>	<b>33</b>	<b>27</b>	<b>29</b>	<b>119</b>	<b>3</b>

2015-2016:

Major	Conc.	Summer						Fall						Spring					
		F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP
CSCI	APSC	1	1	2	2	6	0	16	8	5	6	35	4	7	5	5	10	27	1
	GNCS	3	1	1	3	8	1	30	20	9	3	62	3	41	15	12	19	87	7
	(blank)	1	3	4	10	18	0	14	5	9	27	55	0	3	6	6	10	25	0
<b>Total</b>		<b>5</b>	<b>5</b>	<b>7</b>	<b>15</b>	<b>32</b>	<b>1</b>	<b>60</b>	<b>33</b>	<b>23</b>	<b>36</b>	<b>152</b>	<b>7</b>	<b>51</b>	<b>26</b>	<b>23</b>	<b>39</b>	<b>139</b>	<b>8</b>

2016-2017:

Major	Conc.	Summer						Fall						Spring					
		F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP



ENGR	ELEG	11	6	6	16	39	2	39	11	13	31	94	5	36	17	15	31	99	6
	(blank)	1	0	2	1	4	0	7	3	2	5	17	0	3	0	1	2	6	0
<b>Total</b>		<b>12</b>	<b>6</b>	<b>8</b>	<b>17</b>	<b>43</b>	<b>2</b>	<b>46</b>	<b>14</b>	<b>15</b>	<b>36</b>	<b>111</b>	<b>5</b>	<b>39</b>	<b>17</b>	<b>16</b>	<b>33</b>	<b>105</b>	<b>6</b>

2016-2017:

Major	Conc.	Summer						Fall						Spring					
		F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP
ENGR	ELEG	7	7	4	11	29	1	18	28	8	33	87	7	12	17	16	36	81	8
	(blank)	2	1	1	3	7	0	1	1	2	6	10	0	2	1	1	2	6	0
<b>Total</b>		<b>9</b>	<b>8</b>	<b>5</b>	<b>14</b>	<b>36</b>	<b>1</b>	<b>19</b>	<b>29</b>	<b>10</b>	<b>39</b>	<b>97</b>	<b>7</b>	<b>14</b>	<b>18</b>	<b>17</b>	<b>38</b>	<b>87</b>	<b>8</b>

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	ELEG	2	4	8	12	26	1	30	12	23	30	95	3	28	16	16	44	104	12
	(blank)	0	0	0	0	0	0	1	1	0	2	6	0	0	0	1	1	2	0
<b>Total</b>		<b>2</b>	<b>4</b>	<b>8</b>	<b>12</b>	<b>26</b>	<b>1</b>	<b>31</b>	<b>13</b>	<b>23</b>	<b>32</b>	<b>101</b>	<b>3</b>	<b>28</b>	<b>16</b>	<b>17</b>	<b>45</b>	<b>106</b>	<b>12</b>

**2.1.1 Analysis of Data and Plan for Continuous Improvement**

2016-2017:

Enrollment for ELEN has very stable and consistent in the past few years with an upward trend. The annual completer number is good and as expected. We will continue to monitor enrollment numbers.

2017-2018:

Enrollment for ELEN has been very stable and consistent in the past few years. The annual completer number is good and as expected. A new concentration in Computer Engineering is added for Fall 2018. We will continue to monitor enrollment numbers and are looking into moving Electrical & Computer Engineering into its own degree to align programs with regional/industry needs.

**3 Assessment and Benchmark**

Benchmark: Track student enrollment in the MEng Engineering program. Maintain or exceed a total of 40 students in the MEng Engineering program.

- ENGR - MEng Engineering
  - ELEG - Electrical Engineering

**3.1 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
ENGR	ELEG	4	10	7	2	6	19	13	25	21	14	17	13	3	8	8

**3.1.1 Analysis of Data and Plan for Continuous Improvement**

2016-2017:

Enrollment is also meeting the benchmark. Electrical engineering continues to have the strongest enrollment with high completers.

2017-2018:

Enrollment is meeting the benchmark. Electrical engineering continues to have the strongest enrollment with high completers.

**4 Assessment and Benchmark**

Benchmark: Track student completion in the MEng Engineering program. Maintain or exceed a total of 10 completers in the

MEng Engineering program.

- ENGR - MEng Engineering
  - ELEG - Electrical Engineering
- ENRT - MEng Engineering (Thesis Option; effective 201740)
  - ELEG - Electrical Engineering

#### 4.1 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
ENGR	ELEG	0	3	3	0	1	3	0	9	3	3	6	6	0	1	0
ENRT	ELEG	–	–	–	–	–	–	–	–	–	–	–	–	0	0	3
<b>Total</b>		<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>6</b>	<b>6</b>	<b>0</b>	<b>1</b>	<b>3</b>

##### 4.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

Completion rate is in line with the enrollment and meeting the benchmark.

2017-2018:

Completion rate for the ELEN concentration is in line with the enrollment, meeting the benchmark, and slightly higher than last academic year.

## 5 Assessment and Benchmark

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

- CITE - ASCT Computer Information Technology
- CSCI - BS Computer Science
- ENGR - BS Engineering
- ENGR (MEng) - MEng Engineering
- ENGT - BSEN Engineering Technology
- ENTC - ASEN Engineering Technology

#### 5.1 Data

Fall 2013-Fall 2014:

Major	# of retained students	Retention rate
CITE	3	60.00%
CSCI	60	58.25%
ENGR	51	68.00%
ENGR (MEng)	4	100.00%
ENGT	39	65.00%
ENTC	8	61.54%

Fall 2014-Fall 2015:

Major	# of retained students	Retention rate
CITE	0	0.00%
CSCI	75	70.09%
ENGR	61	57.01%
ENGR (MEng)	10	76.92%
ENGT	31	86.11%

ENTC	0	0.00%
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Fall 2015-Fall 2016:

Major	# of retained students	Retention rate
CSCI	77	56.20%
ENGR	67	66.34%
ENGR (MEng)	10	76.92%
ENGT	8	57.14%
ENTC	2	66.67%

Fall 2016-Fall 2017:

Major	# of retained students	Retention rate
CSCI	100	60.61%
ENGR	54	66.67%
ENGR (MEng)	4	80.00%
ENGT	0	0.00%

### 5.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

The retention rate is meeting the benchmark of 55%. Both Computer Science (Gen) and Electrical Engineering continue to have the strongest enrollment with high completer rates.

2017-2018:

Early data shows the retention rates for 2017-2018 are also meeting the benchmark of 55%. Computer Science General and Electrical Engineering concentration continue to have the strongest enrollment with high completer rates. There are efforts to improve the enrollment for the new Computer Engineering concentrations.

\*The final rate will be tabulated in Fall 2018

## 6 Assessment and Benchmark

### 6.1 Data

2012:

Major	Cohort Size*	Same Major?	Persistence Rate		Retention Rate						Graduation Rate					
			Rate		Y1 to Y2		Y1 to Y3		Y1 to Y4		4-Year		5-Year		6-Year	
			#	%	#	%	#	%	#	%	#	%	#	%	#	%
CITE	3	Same	2	66.7%	2	66.7%	1	33.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
		Changed	1	33.3%	0	0.0%	1	33.3%	2	66.7%	0	0.0%	1	33.3%	0	0.0%
		<b>Total</b>	<b>3</b>	<b>100%</b>	<b>2</b>	<b>66.7%</b>	<b>2</b>	<b>66.7%</b>	<b>2</b>	<b>66.7%</b>	<b>0</b>	<b>0.0%</b>	<b>1</b>	<b>33.3%</b>	<b>0</b>	<b>0.0%</b>
CSCI	19	Same	11	57.9%	7	36.8%	2	10.5%	2	10.5%	2	10.5%	0	0.0%	0	0.0%
		Changed	4	21.1%	3	15.8%	3	15.8%	2	10.5%	1	5.3%	0	0.0%	0	0.0%
		<b>Total</b>	<b>15</b>	<b>78.9%</b>	<b>10</b>	<b>52.6%</b>	<b>5</b>	<b>26.3%</b>	<b>4</b>	<b>21.1%</b>	<b>3</b>	<b>15.8%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>
ENGT	11	Same	7	63.6%	5	45.5%	3	27.3%	3	27.3%	3	27.3%	0	0.0%	0	0.0%
		Changed	1	9.1%	2	18.2%	2	18.2%	1	9.1%	0	0.0%	0	0.0%	1	9.1%
		<b>Total</b>	<b>8</b>	<b>72.7%</b>	<b>7</b>	<b>63.6%</b>	<b>5</b>	<b>45.5%</b>	<b>4</b>	<b>36.4%</b>	<b>3</b>	<b>27.3%</b>	<b>0</b>	<b>0.0%</b>	<b>1</b>	<b>9.1%</b>
ENGR	16	Same	12	75.0%	8	50.0%	6	37.5%	5	31.3%	3	18.8%	1	6.3%	0	0.0%
		Changed	3	18.8%	4	25.0%	5	31.3%	4	25.0%	1	6.3%	0	0.0%	1	6.3%

		<b>Total</b>	<b>15</b>	<b>93.8%</b>	<b>12</b>	<b>75.0%</b>	<b>11</b>	<b>68.8%</b>	<b>9</b>	<b>56.3%</b>	<b>4</b>	<b>25.0%</b>	<b>1</b>	<b>6.3%</b>	<b>1</b>	<b>6.3%</b>
ENTC	2	Same	2	100%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
		Changed	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
		<b>Total</b>	<b>2</b>	<b>100%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.0%</b>
<b>Total</b>	51	Same	34	66.7%	32	62.7%	12	23.5%	11	21.6%	8	15.7%	1	2.0%	0	0.0%
		Changed	9	17.6%	9	17.6%	11	21.6%	9	17.6%	2	3.9%	1	2.0%	2	3.9%
		<b>Total</b>	<b>43</b>	<b>84.3%</b>	<b>41</b>	<b>80.4%</b>	<b>23</b>	<b>45.1%</b>	<b>20</b>	<b>39.2%</b>	<b>10</b>	<b>19.6%</b>	<b>2</b>	<b>3.9%</b>	<b>2</b>	<b>3.9%</b>

\*There were students that were undeclared before declaring:

CSCI = 2  
 ENGT = 1  
 ENTC = 2

2013:

Major	Cohort Size	Same Major?	Persistence Rate		Retention Rate						Graduation Rate					
			Rate		Y1 to Y2		Y1 to Y3		Y1 to Y4		4-Year		5-Year		6-Year	
			#	%	#	%	#	%	#	%	#	%	#	%	#	%
CITE		Same														
		Changed														
		<b>Total</b>														
CSCI		Same														
		Changed														
		<b>Total</b>														
ENGR		Same														
		Changed														
		<b>Total</b>														
ENGT		Same														
		Changed														
		<b>Total</b>														
ENTC		Same														
		Changed														
		<b>Total</b>														
<b>Total</b>		Same														
		Changed														
		<b>Total</b>														

**6.1.1 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, student and workforce demand.**

**1 Assessment and Benchmark**

Benchmark: Computer Science faculty meet four times per academic year to review student progress, curricular offerings, and appropriate professional contacts and opportunities.

**1.1 Data**

Academic Year	# of meetings
2013-2014	8



2014-2015	8
2015-2016	6
2016-2017	7
2017-2018	12

### 1.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

After hiring two new computer science faculty, plans for course improvements in some computer science courses (CSCI 491, CSCI 410, CSCI 413, and CSCI 416 in particular) are in progress. The ABET SLO data from these courses will be used to assess course outcome.

2017-2018:

Two new computer science faculty were hired. Plans for course improvements in some computer science courses (CSCI 491, CSCI 410, CSCI 413, and CSCI 416 in particular) are completed. The ABET SLO data from these courses are used to assess course outcome.

## 2 Assessment and Benchmark

Benchmark: The College of Engineering Industrial Advisory Board reviews one engineering concentration (Chemical, Civil, Electrical, or Mechanical) per year on a four-year cycle. This is a comprehensive review examining the curricula, space, labs, faculty, finances, etc.

### 2.1 Data

Term	Program Reviewed
Fall 2014	CIEG
Fall 2016	CHEG
Spring 2018	CSCI & MEEG

### 2.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

Engineering IAB has met twice during the 2016-2017 cycle. Engineering faculty are developing the rubric/instruments that will measure the achievement level. Results will be reported in the future master plan. The ELEG program will be evaluated in fall 2019.

2017-2018:

Engineering IAB has met twice during the 2017-2018 cycle. Engineering faculty developed the rubric/instruments that will measure the achievement level. Results will be reported in the future master plan. The CSCI program was evaluated in spring 2018. The ELEG program will be evaluated in Fall 2019.

## 3 Assessment and Benchmark

Benchmark: Maintain or exceed a 75% satisfactory level.

MEng Engineering:

- Assessment goal: Knowledge and skill gained in MEng program.
- Instrument: Exit survey data, student perception of gained knowledge and skills through exit survey data.

### 3.1 Data

Academic Year	# of respondents	Average Score
2016-2017	N/A	>80%
2017-2018	3	100%

### 3.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

No action is required.

2017-2018:

The graduate program had three completers. All three completed the survey and indicated complete satisfaction (5/5) with their program goal and learning outcomes. No action is required.

#### 4 Assessment and Benchmark

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

MEng Engineering:

- Assessment goal: Knowledge and skill gained in MEng program.
- Instrument: Graduate Comprehensive Exam (GCE), evaluation of gained knowledge and skills through examination.

##### 4.1 Data

2016-2017:

Average data computed from GCE is 82%. This is the first year of reporting for this assessment. Continue to track and report data.

2017-2018:

There were no non-thesis students requiring GCE in 2017-2018.

##### 4.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

All students passed the GCE exams. No action is required.

2016-2017:

Students have not taken the GCE. No action is needed.

**Performance Objective 3 (ABET Program Education Objective 1) The Computer Science programs will enable students to become productive, responsible computing science professionals capable of conducting research and/or designing, developing, or maintaining projects in the various areas of computer science.**

#### 1 Assessment and Benchmark

Benchmark: A benchmark of 3.00 on a 5-point scale for the McNeese State University Alumni survey for each of the PEOs is set.

- Assessment Goal: To track Program Educational Objectives.
- Instrument: The Computer Science Alumni survey asks questions about Program Educational Objectives.

Prior to 2018, the benchmark was 2.00 on a 3-point scale.

##### 1.1 Data

Term	Average Score	Benchmark Met?
Spring 2014	2.50/3.00	Yes
Spring 2018	3.49/5.00	Yes

##### 1.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

A 2.50 on the 3-point scale means that on the average the McNeese State University alumni agree with all of the PEOs. Next data set will be collected in spring 2018. Average (3-point) answer to questions targeting PEO 1 on the Alumni Survey conducted in spring 2014 was 2.64/3.00.

2017-2018:

A 3.49 average on a 5-point scale with a benchmark of 3.00/5.00 means that based on Alumni surveyed data, McNeese students meet and exceed the set benchmark. Next data set will be collected in 2021.

#### 2 Assessment and Benchmark

Benchmark: A benchmark of 3.00 on a 5-point scale for the Employer survey for each of the PEOs is set.

- Assessment Goal: To track Program Educational Objectives.
- Instrument: The Computer Science Employer Survey asks questions about Program Educational Objectives.

## 2.1 Data

Term	Employer Survey Score	Benchmark Met?
Spring 2014	2.83/3.00	Yes
Fall 2015	4.60/5.00	Yes
Spring 2018	4.33/5.00	Yes

### 2.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

A 4.6 in the 5-point scale, which means that on average the Employers of McNeese State University Computer Science Graduates agree or strongly agree with all of the PEOs.

2017-2018:

In 2018 the surveys are updated and the new benchmark is set at 3.00/5.00. Next data set will be collected in 2021.

## 3 Assessment and Benchmark

Benchmark: A benchmark of 3.00 on a 5-point scale for the MSU Advisory Board Survey for each of the PEOs is set.

- Assessment Goal: To track Program Educational Objectives.
- Instrument: The Computer Science Advisory Board Survey asks questions about Program Educational Objectives.

Prior to 2018, the benchmark was 2.50 on a 3-point scale.

## 3.1 Data

Term	Average Score	Benchmark Met?
Spring 2014	2.85/3.00	Yes
Spring 2018	4.29/5.00	Yes

### 3.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

A 2.50 in the 3-point scale corresponds to a 4.00 or Agree in the 5-point scale which means that on average the McNeese State University Computer Science Advisory Board agree with all of the PEOs.

2017-2018:

A 5-point scale with an updated survey questions is used for the current cycle. Next data set will be collected in 2021.

**Performance Objective 4 (ABET Program Education Objective 2) The Computer Science program will enable students to understand and apply ethical issues and social aspects of computing science in performing their duties as computer science professionals.**

## 1 Assessment and Benchmark

Benchmark: A benchmark of 3.00 on a 5-point scale for the McNeese State University Alumni Survey for each of the PEOs is set.

- Assessment Goal: To track Program Educational Objectives.
- Instrument: The Computer Science Alumni survey asks questions about Program Educational Objectives.

## 1.1 Data

Term	Average Score	Benchmark Met?
Spring 2014	2.65/3.00	Yes
Spring 2018	3.97/5.00	Yes

### 1.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

A 2.50 in the 3-point scale corresponds to a 4.00 or Agree in the 5-point scale, which means that on average the McNeese State University alumni agree with all of the PEOs.

2017-2018:

A 3.97 in a 5-point scale which means that on average the McNeese State University alumni agree that McNeese graduates meet or exceed the set benchmark of 3.00/5.00. Next data set will be collected in spring 2021.

## 2 Assessment and Benchmark

Benchmark: A benchmark of 3.00 on a 5-point scale for the McNeese State University Employer Survey for each of the PEOs is set.

- Assessment Goal: To track Program Educational Objectives.
- Instrument: The Computer Science Employer Survey asks questions about Program Educational Objectives.

Prior to 2015, the benchmark was 2.00 on a 3-point scale.

### 2.1 Data

Term	Employer Survey Score	Benchmark Met?
Spring 2014	2.83/3.00	Yes
Fall 2015	4.60/5.00	Yes
Spring 2018	4.46/5.00	Yes

#### 2.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

A 4.60 in the 5-point scale, which means that on average the Employers of McNeese State University Computer Science Graduates agree or strongly agree with all of the PEOs.

2017-2018:

A 4.46 in the 5-point scale, which means that on average the Employers of McNeese State University Computer Science Graduates agree or strongly agree with all of the PEOs. Next data will be collected in 2021.

## 3 Assessment and Benchmark

Benchmark: A benchmark of 3.00 on a 5-point scale for the McNeese State University Advisory Board Survey for each of the PEOs is set.

- Assessment Goal: To track Program Educational Objectives.
- Instrument: The Computer Science Advisory Board Survey asks questions about Program Educational Objectives.

Prior to 2018, the benchmark was 2.00 on a 3-point scale.

### 3.1 Data

Term	Average Score	Benchmark Met?
Spring 2014	2.76/3.00	Yes
Spring 2018	4.17/5.00	Yes

#### 3.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

A 2.5 in the 3-point scale corresponds to a 4.00 or Agree in the 5-point scale, which means that on average the McNeese State University Computer Science Advisory Board agree with all of the PEOs.

2017-2018:

Score of 4.17 in a 5-point scale means that on average the McNeese State University Computer Science Advisory Board agree with all of the PEOs. Next data set will be collected in 2021.

**Performance Objective 5 (ABET Program Education Objective 3) The Computer Science programs will enable students to continue the learning of new technologies in the computer science area through self- directed professional development or post graduate education.**

**1 Assessment and Benchmark**

Benchmark: 3.00 on a 5-point scale for the McNeese State University Alumni Survey for each of the PEOs is set.

- Assessment Goal: To track Program Educational Objectives.
- Instrument: The Computer Science Alumni survey asks questions about Program Educational Objectives.

**1.1 Data**

Term	Average Score	Benchmark Met?
Spring 2014	2.65/3.00	Yes
Spring 2018	4.03/5.00	Yes

**1.1.1 Analysis of Data and Plan for Continuous Improvement**

2015-2016:

A 2.50 in the 3-point scale corresponds to a 4.00 or Agree in the 5-point scale which means that on average the McNeese State University alumni agree with all of the PEOs.

2017-2018:

A 4.03 in the 5-point scale, which means that on average the Computer Science Alumni agree or strongly agree with all of the PEOs. Next data set will be collected in 2021.

**2 Assessment and Benchmark**

Benchmark: 3.00 on a 5-point scale for the McNeese State University Employer Survey for each of the PEOs is set.

- Assessment Goal: To track Program Educational Objectives.
- Instrument: The Computer Science Employer Survey asks questions about Program Educational Objectives.

**2.1 Data**

Term	Employer Survey Score	Benchmark Met?
Spring 2014	2.83/3.00	Yes
Fall 2015	4.40/5.00	Yes
Spring 2018	4.33/5.00	Yes

**2.1.1 Analysis of Data and Plan for Continuous Improvement**

2015-2016:

A 4.40 in the 5-point scale, which means that on average the Employers of McNeese State University Computer Science Graduates agree or strongly agree with all of the PEOs. Next data set will be collected in late 2017 or spring 2018.

2017-2018:

A 4.33 in the 5-point scale, which means that on average the Employers of McNeese State University Computer Science Graduates agree or strongly agree with all of the PEOs. Next data will be collected in 2021.

**3 Assessment and Benchmark**

Benchmark: A benchmark of 3.00 on a 5-point scale for the McNeese State University Advisory Board Survey for each of the PEOs is set.

- Assessment Goal: To track Program Educational Objectives.
- Instrument: The Computer Science Advisory Board Survey asks questions about Program Educational Objectives.

**3.1 Data**

Term	Average Score	Benchmark Met?

Term	Employer Survey Score	Benchmark Met?
Spring 2014	2.91/3.00	Yes
Spring 2018	4.46/5.00	Yes

### 3.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

A 2.50 in the 3-point scale corresponds to a 4.00 or Agree in the 5-point scale, which means that on average the McNeese State University Computer Science Advisory Board agree with all of the PEOs. Next data set will be collected in late 2017 or spring 2018.

2017-2018:

A 4.46 in the 5-point scale, which means that on average the McNeese State University Computer Science Advisory Board agree with all of the PEOs. Next data will be collected in 2021.

## Performance Objective 6 To prepare graduates of the BS in Engineering program 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 engineering alumni within five years of graduation (2011-2015) who fill out an alumni survey will score this PO with a 2 or higher based on a 3-point scale (1 = unsuccessful, 2 = satisfactorily successful, 3 = very successful).

#### 1.1 Data

Reporting Year	Alumni group	# of surveys completed	% that scored this PO with a 2	% that scored this PO with a 3	% that 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	TBC	TBC	TBC	TBC

\*TBC in fall 2018 with a 5-year frequency.

#### 1.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

The next survey is scheduled for fall 2018.

2017-2018:

Data will be tabulated in fall 2018.

### 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 3-point scale (1 = unsuccessful, 2 = satisfactorily successful, 3 = very successful).

#### 2.1 Data

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

\*2015 was the first reporting year for this assessment.

\*\*TBC in fall 2018 with a 5-year frequency.

#### 2.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

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

2017-2018:

Data will be tabulated in fall 2018.

### 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 3-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	% that scored this PO with a 2	% that scored this PO with a 3	% that scored this PO with a 2 or higher
2015*	78	35.5%	64.5%	100%
2018**	TBC	TBC	TBC	TBC

\*2015 was the first reporting year for this assessment.

\*\*TBC in fall 2018 with a 5-year frequency.

#### 3.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

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

2017-2018:

Data will be tabulated in fall 2018.

### Performance Objective 7 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 five years of graduation who fill out an alumni survey will score this PO with a 2 or higher based on a 3-point scale (1 = unsuccessful, 2 = satisfactorily successful, 3 = very successful).

#### 1.1 Data

Reporting Year	Alumni group	# of surveys completed	% that scored this PO with a 2	% that scored this PO with a 3	% that 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	TBC	TBC	TBC	TBC

\*TBC in fall 2018 with a 5-year frequency.

#### 1.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

The next survey is scheduled for fall 2018.

2017-2018:

Data will be tabulated in fall 2018.

#### 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 3-point scale (1 = unsuccessful, 2 = satisfactorily successful, 3 = very successful).

## 2.1 Data

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

\*2015 was the first reporting year for this assessment.

\*\*TBC in fall 2018 with a 5-year frequency.

### 2.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

The next survey is scheduled for 2017-2018.

2017-2018:

Data will be tabulated in fall 2018.

## 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 3-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	% that scored this PO with a 2	% that scored this PO with a 3	% that scored this PO with a 2 or higher
2015*	78	43%	57%	100%
2018**	TBC	TBC	TBC	TBC

\*2015 was the first reporting year for this assessment.

\*\*TBC in fall 2018 with a 5-year frequency.

### 3.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

No action needed. The next survey is scheduled for 2017-2018.

2017-2018:

Data will be tabulated in fall 2018.

## Performance Objective 8 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 five years of graduation who fill out an alumni survey will score this PO with a 2 or higher based on a 3-point scale (1 = unsuccessful, 2 = satisfactorily successful, 3 = very successful).

#### 1.1 Data

Reporting Year	Alumni group	# of surveys completed	% that scored this PO with a 2	% that scored this PO with a 3	% that scored this PO with a 2 or higher
2013-2014	2010-2014	55	44%	55%	100%
2014-2015	2011-2015	54	50%	50%	100%
2015-2016	2012-2016	NA	NA	NA	NA
2016-2017	2013-2017	NA	NA	NA	NA
2017-2018*	2014-2018	TBC	TBC	TBC	TBC



\*TBC in fall 2018 with a 5-year frequency.

### 1.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

No action needed. The next survey is scheduled for 2017-2018.

2017-2018:

Data will be tabulated in fall 2018.

## 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 3-point scale (1 = unsuccessful, 2 = satisfactorily successful, 3 = very successful).

### 2.1 Data

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

\*2015 was the first reporting year for this assessment.

\*\*TBC in fall 2018 with a 5-year frequency.

### 2.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

No action needed. The next survey is scheduled for 2017-2018.

2017-2018:

Data will be tabulated in fall 2018.

## 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 3-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	% that scored this PO with a 2	% that scored this PO with a 3	% that scored this PO with a 2 or higher
2015*	78	29%	71%	100%
2018**	TBC	TBC	TBC	TBC

\*2015 was the first reporting year for this assessment.

\*\*TBC in fall 2018 with a 5-year frequency.

### 3.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

No action needed. The next survey is scheduled for 2017-2018.

2017-2018:

Data will be tabulated in fall 2018.

## Performance Objective 9 To generate internal and external funding sources for program enhancement and research through writing grant proposals by EECS faculty.

### 1 Assessment and Benchmark

Benchmark: Score of "1.0" 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 EECS faculty.
- Instrument: Annual number of submitted proposals as provided by EECS 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 = High.

### 1.1 Data

Academic Year	# of grant seeking proposals written and submitted	Range of submitted proposals per faculty	Average # of submitted proposals per faculty
2013-2014	NA	NA	NA
2014-2015	22.5	NA	1.95
2015-2016	12.5	0-4	1.25
2016-2017	11	0-2	0.36
2017-2018	9	0-3	0.77

Fraction represents Co-PIs.

#### 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. Compared to the previous years, there was a low number of proposals that are submitted or funded.

2017-2018:

Compared to the previous years, there was a slight improvement and higher number of proposals that are submitted or funded. No action is needed.

There were three theses completed in spring 2018.

## 2 Assessment and Benchmark

Benchmark: Score of "1.0" or higher (Moderate) for number of successful proposals per faculty per year is the desired achievement level.

- PC2: Number of funded proposals submitted by EECS 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 EECS faculty in APR data. Data will be evaluated on a 3-tier scale. Achievement levels for PC2 are: Score range of 0-0.5 = Low, 0.6-1.5 = Moderate, and 1.6-3 = High.

### 2.1 Data

Academic Year	Range of funded proposals per faculty per year	# of successful internal and external proposals	Average # of funded proposals by faculty per year
2013-2014	NA	NA	NA
2014-2015	NA	11.5	1.5
2015-2016	0-1	5	0.5
2016-2017	0-2	6	0.6
2017-2018	0-2	4	0.44

Fraction represents Co-PIs.

#### 2.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

The number of funded proposal are the same. All the funded proposals are internal. There were a TASC big ticket proposal funded this cycle.

2017-2018:

The number of funded proposal are less than last cycle. All the funded proposals are internal. There were a TASC big ticket proposal funded this cycle as well. No action is needed.

Proposal included multiple EP grants and a Pinnacle Award.

## Performance Objective 10 To improve classroom teaching by monitoring course SEI

### 1 Assessment and Benchmark

Benchmark: Score of 80% or higher is the desired achievement level for “Student Satisfaction Rate”.

- PC1: Annual rate of “Student Satisfaction” for all EECS courses.
- Instrument: Annual review of SEI scores for all EECS courses by using the average SEI scores for each EECS 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

Academic Year	Range of SEI scores	Average “Student Satisfaction Rate”
2013-2014	NA	87.01%
2014-2015	NA	85.8%
2015-2016	79-95%	88.11%
2016-2017	70-99%	83.84%
2017-2018	72-95.6%	86.28%

#### 1.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

SEI average is stable and it shows slight decrease in SEI average for 2016-2017 with a wider range of SEI scores.

2017-2018:

SEI average is stable and it shows slight increase in SEI average for 2017-2018 with a higher minimum score and narrower range of SEI scores.

## Performance Objective 11 To increase faculty engagement with Developmental Research, Professional and Scholarly activities.

### 1 Assessment and Benchmark

Benchmark: Score of 31-65% (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 EECS 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

Assessment period	# of faculty	% of Professional & Scholarly Activities	Range*	Benchmark
2014-2015	13	46.3%	15.9-100%	>30%
2015-2016	10	48.9%	10-100%	>30%
2016-2017	11	37.2%	3.6-100%	>30%
2017-2018	9	48.7%	16-100%	>30%

\*Range is the normalized % based on APR points assigned. A score of 100% means highest ranking Professional & Scholarly score in APR evaluation.

#### 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:

The average score and range of activities are stable with 10% improvement on the average Professional & Scholarly activities. No action is needed. Data for the current assessment period is used as a base number for the purpose of creating a benchmark.