



Introduction

Mission:

The mission of the Department of Chemistry & Physics includes the following components: (a) offering a quality educational program for all students enrolled in courses presented by the department, (b) providing an atmosphere conducive to (i) academic inquiry, (ii) the exchange of knowledge, and (iii) the advancement of knowledge through scientific research and/or other scholarly activities, and (c) providing service to the College of Science and Agriculture, the University, and the community. The department seeks to broaden and to enhance the educational experiences for all students enrolled in chemistry courses, to optimize the productivity of the faculty and staff, and to provide service to the academic and industrial communities and to the citizens of Southwest Louisiana.

Institutional Mission Reference:

The department's mission mirrors that of the University in the provision of educational opportunities to students seeking a B.S. degree in chemistry and in providing support courses for students from other disciplines across the campus. In conjunction with the Department of Biology, we offer a M.S. degree in environmental & chemical sciences. We conduct faculty-led research at both the undergraduate and graduate levels and interface many of our research efforts with local industries. The B.S program is approved by the American Chemical Society (ACS) and our program has received laudable reviews from them and from the Louisiana Board of Regents. Students are encouraged to present their research findings in oral or poster form in local, regional, and national meetings, and student publication in scientific peer-reviewed journals is a departmental priority. Faculty serve as ad hoc consultants for a number of local industries, leveraging our technical expertise for the solution of industrial problems. In association with the Southwest Louisiana Crime Laboratory, The Natural Advantage Flavor Plant, Firestone, Axiall, and SASOL North America we offer opportunities for students to intern in and conduct research in practical workplaces prior to graduation. Additionally, through collaboration with the Science Coordinator for Calcasieu Parish, we have a vibrant outreach program to local high schools and elementary schools aimed at sparking and sustaining student interest in science.

Performance Objective 1 Increase enrollment, persistence, retention, and graduation rates for each program offered by the department.

1 Assessment and Benchmark

Benchmark: Increase enrollment by 5% each year, overall and in each program offered by the department.

Prior to 2018-2019, the benchmark was maintain the number of chemistry majors at or above 75.

- CHEM - Chemistry
 - BIOC - Biochemistry
 - CHMG - Chemistry and Management
 - CMED - Chemistry Education Grades 6-12
 - FCHM - Forensic Chemistry
 - PPHA - Prepharmacy
 - PRMD - Premedicine
- MSCP - Mathematical Sciences
 - MPHY - Mathematical Physics
- SECC - Secondary Education and Teaching
 - CMED - Chemistry Education Grades 6-12
- SECP - Secondary Education and Teaching
 - PYED - Physics Education Grades 6-12

1.1 Data

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
CHEM	BIOC	1	0	1	1	3	0	7	1	4	6	18	0	3	4	2	8	17	2
	CHMG	0	0	0	3	3	0	0	0	0	4	4	1	0	1	0	3	4	1
	CMED	0	0	0	1	1	0	0	0	0	1	1	1	0	0	0	1	1	0
	FCHM	0	0	2	0	2	0	8	4	6	4	22	2	7	5	4	4	20	1
	PRMD	0	1	1	2	4	0	7	3	4	5	19	0	4	2	3	6	15	6
	(blank)	2	0	3	2	7	0	14	2	4	9	29	0	7	2	4	8	21	1
	Total	3	1	7	8	19	0	36	10	19	29	94	4	21	14	13	30	78	10
SECC	CMED	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	1	1	0
Grand Total		3	1	7	9	20	0	36	10	19	30	95	4	21	14	13	31	79	10

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
CHEM	BIOC	0	2	0	2	4	0	2	2	4	5	13	1	1	1	4	6	12	3
	CHMG	0	0	0	2	2	0	1	1	0	2	4	1	1	0	1	1	3	0
	CMED	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0
	FCHM	0	0	3	2	5	0	12	6	6	4	28	0	7	8	4	4	23	3
	PPHA	2	0	0	0	2	0	13	1	0	0	14	0	7	2	1	1	11	0
	PRMD	0	0	0	0	0	0	6	1	0	7	14	0	3	2	1	6	12	3
	(blank)	0	0	0	3	3	0	3	2	1	8	14	1	2	3	1	6	12	0

	Total	2	2	3	9	16	0	37	13	11	27	88	3	21	16	11	25	73	9
SECC	CMED	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0
Grand Total		2	2	3	9	16	0	37	13	11	28	89	4	21	16	11	25	73	9

2018-2019:

Major	Conc.	Summer						Fall						Spring					
		F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP
CHEM	BIOC	2	0	1	1	4	0	5	0	1	5	11	0	1	1	0	6	8	1
	CHMG	1	0	0	0	1	0	0	1	1	2	4	1	0	0	0	2	2	1
	CMED	0	0	0	0	0	0	1	0	0	1	2	0	2	1	0	1	4	0
	FCHM	0	1	2	0	3	0	9	7	5	5	26	0	7	4	6	6	23	2
	PPHA	1	0	0	1	2	0	8	2	2	1	13	0	3	0	3	1	7	0
	PRMD	0	0	0	0	0	0	4	1	0	3	8	0	2	2	1	2	7	1
	(blank)	1	0	0	2	3	0	3	1	0	3	7	0	2	1	0	4	7	1
Total		5	1	3	4	13	0	30	12	9	20	71	4	17	9	10	22	58	7

2019-2020:

Major	Conc.	Summer						Fall						Spring					
		F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP
CHEM	BIOC	0	1	0	0	1	0	9	4	2	4	19	1	6	4	2	4	16	1
	CHMG	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	1	1	0
	CMED	0	0	0	0	0	0	2	0	0	0	2	0	1	0	0	0	1	0
	FCHM	0	1	3	1	5	0	5	11	4	7	27	0	2	8	4	7	21	0
	PPHA	2	0	1	1	4	0	7	1	2	2	12	0	3	2	1	3	9	0
	PRMD	1	1	0	0	2	0	1	4	0	1	6	0	0	1	0	2	3	1
	(blank)	1	0	0	1	2	0	2	2	0	2	6	3	1	2	0	1	4	0
Total		4	3	4	3	14	0	26	22	8	18	74	4	13	17	7	18	55	2

2020-2021:

Major	Conc.	Summer						Fall						Spring					
		F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP	F	S	J	Sr	T	CMP
CHEM	BIOC	0	1	1	1	3	0	1	9	0	4	14	0	1	4	4	4	13	1
	CHMG	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0
	CMED	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2	0
	FCHM	0	1	0	2	3	0	5	5	6	8	24	0	3	2	7	8	20	1
	PPHA	1	0	0	2	3	0	5	4	0	3	12	0	5	4	0	2	11	2
	PRMD	0	0	0	1	1	0	2	1	1	0	4	0	1	1	1	0	3	0
	(blank)	0	0	1	1	2	0	2	1	2	5	10	0	0	0	0	3	3	0
Total		1	2	2	7	12	0	16	20	9	21	66	1	11	11	12	18	52	4

Percentage Change between 2017-2018:

Major	Fall	Total	% Change
CHEM	2017	88	-19.318%
	2018	71	
Total	2017	88	-19.318%
	2018	71	

Percentage Change between 2018-2019:

Major	Fall	Total	% Change
CHEM	2018	71	4.225%
	2019	74	
Total	2018	71	4.225%
	2019	74	

Percentage Change between 2019-2020:

Major	Fall	Total	% Change
CHEM	2019	74	-10.811%
	2020	66	
Total	2019	74	-10.811%
	2020	66	

1.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

Since desired level is met, we will continue to work on attracting and keeping chemistry majors.

2017-2018:

2018-2019:

2019-2020:

2020-2021:

The data from the 2020-2021 academic year shows that the department of chemistry & physics lost some students from the fall to the spring, this could be do to multiple factors such as the COVID-19 pandemic or the multiple hurricanes and students wanting to go into the workforce. The department will need to increase it's recruitment efforts to fill in this gap. Also, the Chemistry Management concentration doesn't exist anymore, Mr. Angel Garcia was the last chemistry student to graduate with this degree.

2 Assessment and Benchmark

Benchmark: Conduct at least four recruitment sessions per year for entering students, this includes seminars at high schools, science demos, and invited open houses.

2.1 Data

Academic Year	# of recruitment sessions
2013-2014	8

2014-2015	11
2015-2016	10
2016-2017	10
2017-2018	
2018-2019	
2019-2020	
2020-2021	2

2.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

Since desired level is met, we will continue to work on attracting chemistry majors.

2017-2018:

2018-2019:

2019-2020:

2020-2021:

Recruitment efforts went down this year due to the COVID-19 pandemic and multiple hurricanes that hit the immediate area.

3 Assessment and Benchmark

Benchmark: Maintain number of students in CHEM 203 (Quantitative Analysis) at or above 15.

CHEM 203 is a majors-only course that indicates the "health" of our freshman to sophomore retention.

3.1 Data

Academic Year	# of students in CHEM 203
2013-2014	19
2014-2015	19
2015-2016	20
2016-2017	27
2017-2018	14
2018-2019	14
2019-2020	19
2020-2021	12

3.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

Since desired level is met, we will continue to work on attracting and keeping chemistry majors.

2017-2018:

The data is slightly low the department will focus on retainment and recruitment to help increase enrollment in the course.

2018-2019:

The data is below the benchmark but is holding steady and retainment and recruitment will be increased.

2019-2020:

The data is trending upward. The department will look to continue this success.

2020-2021:

The data is trending downward, CHEM 203 is at a low point right now, 80% of where it needs to be. This could be due to the COVID-19 pandemic and multiple hurricanes damaging Kirkman Hall, as well as enrollment being low around the campus.

4 Assessment and Benchmark

Benchmark: Maintain the total number of students in CHEM 390 + CHEM 380 at or above 10.

4.1 Data

Academic Year	# of students in CHEM 380	# of students in CHEM 390	# of students in CHEM 380 or 390
2013-2014	20	—	20
2014-2015	7	8	15
2015-2016	7	10	17
2016-2017	0	45	45
2017-2018	9	20	29
2018-2019	0	23	23
2019-2020	0	10	10
2020-2021	0	20	20

4.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

Since desired level is met, we will continue to work on attracting and keeping chemistry majors.

2017-2018:

Physical chemistry numbers are holding, primarily through CHEM 390 since CHEM 380 was last offered in Fall of 2017 with only 7 students enrolled in the course.

2018-2019:

Physical chemistry numbers increased in CHEM 390 only. This could be due to some chemical engineering students taking the course.

2019-2020:

Physical chemistry numbers decreased down to 10 students. This aligns with the 14 students in CHEM 203 and means that the department needs to work on retainment and increase recruitment efforts.

2020-2021:

This was the last semester that chemical engineers will be taking CHEM 390 which explains the increase in enrollment.

5 Assessment and Benchmark

Benchmarks:

- A persistence rate (retained students from fall Y1 to spring Y1) of 85%.
- A retention rate of 70% from Y1 to Y2.
- A retention rate of 55% from Y1 to Y3.

- A retention rate of 45% from Y1 to Y4.
- A 4-year graduation rate of 35%.
- A 5-year graduation rate of 40%.
- A 6-year graduation rate of 45%.

Major:

- CHEM - Bachelor of Science in Chemistry

5.1 Data

2012:

Major	Cohort Size	Same Major?	Persistence Rate		Retention Rate						Graduation Rate					
					Y1 to Y2		Y1 to Y3		Y1 to Y4		4-Year		5-Year		6-Year	
			#	%	#	%	#	%	#	%	#	%	#	%	#	%
CHEM	28	Same	22	78.6	15	53.6	9	32.1	5	17.9	4	14.3	6	21.4	6	21.4
		Changed	4	14.3	8	28.6	11	39.3	12	42.9	5	17.9	8	28.6	8	28.6
		Total	26	92.9	23	82.1	20	71.4	17	60.7	9	32.1	14	50.0	14	50.0

*3 students were previously undeclared before declaring CHEM.

2013:

Major	Cohort Size	Same Major?	Persistence Rate		Retention Rate						Graduation Rate					
					Y1 to Y2		Y1 to Y3		Y1 to Y4		4-Year		5-Year		6-Year	
			#	%	#	%	#	%	#	%	#	%	#	%	#	%
CHEM	35	Same	21	60.0	9	25.7	7	20.0	4	11.4	3	8.6	3	8.6	3	8.6
		Changed	9	25.7	12	34.3	14	40.0	12	34.3	6	17.1	11	31.4	11	31.4
		Total	30	85.7	21	60.0	21	60.0	16	45.7	9	25.7	14	40.0	14	40.0

2014:

Major	Cohort Size	Same Major?	Persistence Rate		Retention Rate						Graduation Rate					
					Y1 to Y2		Y1 to Y3		Y1 to Y4		4-Year		5-Year		6-Year	
			#	%	#	%	#	%	#	%	#	%	#	%	#	%
CHEM	25	Same	17	68.0	13	52.0	10	40.0	9	36.0	4	16.0	5	20.0	5	20.0
		Changed	5	20.0	5	20.0	7	28.0	8	32.0	2	8.0	7	28.0	8	32.0
		Total	22	88.0	18	72.0	17	68.0	17	68.0	6	24.0	12	48.0	13	52.0

2015:

Major	Cohort Size	Same Major?	Persistence Rate		Retention Rate						Graduation Rate					
					Y1 to Y2		Y1 to Y3		Y1 to Y4		4-Year		5-Year		6-Year	
			#	%	#	%	#	%	#	%	#	%	#	%	#	%
CHEM	32	Same	16	50.0	13	40.6	6	18.8	4	12.5						
		Changed	8	25.0	8	25.0	13	40.6	8	25.0						

		Total	24	75.0	21	65.6	19	59.4	12	37.5						
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2016:

Major	Cohort Size	Same Major?	Persistence Rate		Retention Rate						Graduation Rate						
					Y1 to Y2		Y1 to Y3		Y1 to Y4		4-Year		5-Year		6-Year		
			#	%	#	%	#	%	#	%	#	%	#	%	#	%	
CHEM	29	Same	18	62.1	8	27.6	3	10.3	1	3.4							
		Changed	9	31.0	11	37.9	11	37.9	14	48.2							
		Total	27	93.1	19	65.5	14	48.3	15	51.7							

2017:

Major	Cohort Size	Same Major?	Persistence Rate		Retention Rate						Graduation Rate						
					Y1 to Y2		Y1 to Y3		Y1 to Y4		4-Year		5-Year		6-Year		
			#	%	#	%	#	%	#	%	#	%	#	%	#	%	
CHEM	31	Same	21	67.7	9	29.0	6	19.3	4	12.9							
		Changed	7	22.6	13	41.9	13	41.9	12	38.7							
		Total	28	90.3	22	71.0	19	61.3	16	51.6							

2018:

Major	Cohort Size	Same Major?	Persistence Rate		Retention Rate						Graduation Rate						
					Y1 to Y2		Y1 to Y3		Y1 to Y4		4-Year		5-Year		6-Year		
			#	%	#	%	#	%	#	%	#	%	#	%	#	%	
CHEM	27	Same	15	55.6	12	44.4	7	25.9									
		Changed	12	44.4	12	44.4	15	55.6									
		Total	27	100	24	88.9	22	81.5									

2019:

Major	Cohort Size	Same Major?	Persistence Rate		Retention Rate						Graduation Rate						
					Y1 to Y2		Y1 to Y3		Y1 to Y4		4-Year		5-Year		6-Year		
			#	%	#	%	#	%	#	%	#	%	#	%	#	%	
CHEM	25	Same	13	52.0	10	40.0											
		Changed	8	32.0	9	36.0											
		Total	21	84.0	19	76.0											

2020:

Major	Cohort Size	Same Major?	Persistence Rate		Retention Rate						Graduation Rate					
					Y1 to Y2		Y1 to Y3		Y1 to Y4		4-Year		5-Year		6-Year	

			#	%	#	%	#	%	#	%	#	%	#	%	#	%
CHEM	18	Same	14	77.8												
		Changed	2	11.1												
		Total	16	88.9												

5.1.1 Analysis of Data and Plan for Continuous Improvement

2018-2019:

Benchmark was meant. Will continue on current plan.

2019-2020:

Failed to meet the benchmark. This could be due to the start of the COVID-19 pandemic that started in March of 2020. Will re-evaluate when major event doesn't occur.

2020-2021:

Meant benchmark, however it could have been due to the multiple hurricanes and teaching online that lead to an increase in cheating in the department. Will re-evaluate when major event doesn't occur.

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

1 Assessment and Benchmark

Benchmark: Dedicate at least two faculty meetings per semester to discuss curricular issues.

1.1 Data

Academic Year	# of faculty meetings dedicated to curricular matters
2015-2016	4
2016-2017	4
2017-2018	4
2018-2019	
2019-2020	
2020-2021	1

Curricular innovation/modification:

2015-2016:

The new BS concentration in Chemistry and Management was activated with Dr. Omar Christian as Adviser. We initiated discussions on introducing Polymer chemistry into the curricula for ACS-certified majors.

We implemented an oral examination for all graduate students in the semester prior to their thesis defense. This was the first year it was held.

2016-2017:

The new BS concentration in Pharmacy has been initiated. This concentration provides a pathway for students who wish to join the pharmacy program and graduate with a chemistry degree.

2017-2018:

2018-2019:

2019-2020:

2020-2021:

At the start of the fall semester industry based chemistry courses were discussed so that chemistry and physics can help students who have difficulty with engineering. As well as recruitment efforts for graduate students for Chemistry and Physics.

1.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

The previous department head departed in 2015. Since desired level is met, we will continue to work on germane curricular matters.

2017-2018:

2018-2019:

2019-2020:

2020-2021:

The benchmark wasn't met due to the multiple hurricanes during the fall semester and a need to regroup and focus on the fundamentals of the curriculum as it stands now. Curriculum changes will be discussed again starting in the Fall 2021 semester.

2 Assessment and Benchmark

Benchmark: Probe stakeholders regarding the adequacy of student preparation.

2.1 Data

2016-2017:

Graduates employed in industry and who are current students in graduate or professional schools are unofficially asked about the adequacy of their undergraduate preparation.

2017-2018:

2018-2019:

2019-2020:

2020-2021:

Currently the department doesn't have a survey to ask students if they've applied for professional school admittance or if they've been interviewed for an industry position. The college is working on creating an exit survey to gather data. Currently 1/5 students graduating in the Spring 2021 has been accepted to medical school.

2.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

Anecdotal evidence strongly suggests that our students compete very effectively in industry, graduate and professional schools.

2017-2018:

2018-2019:

2019-2020:

2020-2021:

Currently the college of SEM is working on creating an exit survey for the departments in CoSEM to use to gather data like this. However, of the 5 graduates, the department knows that 1 of them has been accepted to a medical school.

Performance Objective 3 Maintain all requirements for program approval by the American Chemical Society

1 Assessment and Benchmark

Benchmark: Dedicate at least one meeting per semester with the chemistry faculty to discuss and ensure program requirements for approval.

1.1 Data

Academic Year	# of faculty meetings dedicated to ACS matters
2016-2017	2
2017-2018	2
2018-2019	2
2019-2020	2
2020-2021	1

1.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

Since the desired level is met, we will continue to work on maintaining ACS approval.

2017-2018:

Since the desired level is met, we will continue to work on maintaining ACS approval.

2018-2019:

Since the desired level is met, we will continue to work on maintaining ACS approval.

2019-2020:

Since the desired level is met, we will continue to work on maintaining ACS approval.

2020-2021:

The first meeting of the year was to discuss programs and how to deal with ACS approval. The second meeting was to discuss with faculty the status of the campus, as well as to thank faculty for all of their work through the difficulties that had faced the department. ACS never came up. Will make sure to put ACS on the agenda in future meetings.

2 Assessment and Benchmark

Benchmark: Complete the Annual Report to ACS in a timely fashion.

2.1 Data

2016-2017:

Our report was completed and submitted before the deadline and was accepted without comment.

2017-2018:

Our report was completed and submitted before the deadline and was accepted without comment.

2018-2019:
Our report was completed and submitted before the deadline and was accepted without comment.

2019-2020:
We will complete and submit our report before the deadline.

2020-2021:
Report needs to be submitted to get ACS probation lifted.

2.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
Since the desired level is met, we will continue to work on maintaining ACS approval.

2017-2018:
Since the desired level is met, we will continue to work on maintaining ACS approval.

2018-2019:
Since the desired level is met, we will continue to work on maintaining ACS approval.

2019-2020:
Since the desired level is met, we will continue to work on maintaining ACS approval.

2020-2021:
The ACS report needs to be updated to get the department off probation.

Performance Objective 4 Demonstrate excellence in teaching in order to enhance student recruitment, retention, and graduation.

1 Assessment and Benchmark

Benchmark: All faculty will have SEIs above 70%.

1.1 Data

Academic Year	Faculty meeting SEI goal	
	#	%
2013-2014	—	100%
2014-2015	—	100%
2015-2016	—	100%
2016-2017	—	100%
2017-2018	—	100%
2018-2019	—	100%
2019-2020	—	100%
2020-2021	9/9	100%

1.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:
Since the goal is met, we will continue to stress the importance of excellence in teaching and provide faculty and students with the means to succeed in the classroom. In the 2016-2017 academic year, the benchmark will be changed to 2/3 of faculty will have SEIs above 70% and 1/3 of faculty will have SEIs above 80%.

2016-2017:
All the faculty met the benchmark.

2017-2018:
All the faculty met the benchmark.

2018-2019:
All the faculty met the benchmark.

2019-2020:
All the faculty met the benchmark.

2020-2021:
All faculty whether tenured, tenure-track, or non-tenure track have met the requirement of 70% on their SEIs. This number may need to be increased to 75% due to the lowest faculty member being around 80%, will discuss with the dean of the college to help improve instruction in the department of chemistry & physics.

Performance Objective 5 Demonstrate commitment to research and scholarly activity.

1 Assessment and Benchmark

Benchmark: At least 50% of tenure-track faculty will have a research program that engages undergraduates and/or graduate students.

1.1 Data

Academic Year	# of tenure-track faculty with a research program that engages students	Chemistry faculty with a research program that engages students		Physics faculty with a research program that engages students	
		#	%	#	%
2013-2014	6/12	6/7	86%	0/5	0%
2014-2015	6/7	6/6	100%	0/1	0%
2015-2016	6/7	6/6	100%	0/1	0%
2016-2017	5/5	6/6	100%	0/1	0%
2017-2018	6/6	6/6	100%	0/1	0%
2018-2019	6/6	6/6	100%	2/3	75%
2019-2020	—	—	—	—	—
2020-2021	2/3	6/7	86%	0/2	0%

1.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:
Since the goal is met, we will continue to stress the importance of research and scholarly activity and provide faculty with the support and opportunity needed to be effective researchers. The physicists will be actively encouraged to enhance their scholarly output. The tremendous loss of faculty in this department has impacted the ability to maintain research programs.

2016-2017:
Since the goal is met, we will continue to stress the importance of research and scholarly activity and provide faculty with the support and opportunity needed to be effective researchers. The physicists will be actively encouraged to enhance their scholarly output. The tremendous loss of faculty in this department has impacted the ability to maintain research programs.

2017-2018:

Since the goal is met, we will continue to stress the importance of research and scholarly activity and provide faculty with the support and opportunity needed to be effective researchers. The physicists will be actively encouraged to enhance their scholarly output. The tremendous loss of faculty in this department has impacted the ability to maintain research programs.

2018-2019:

All the faculty, including some instructors, are involved in the research. This year, the physics faculty, Drs. Stinnet and Sun had participated in a large scale, undergrad driven research program. This is a very good development. The department continues to support the faculty to continue to do research and involve both graduate and undergraduate students in every way possible.

2019-2020:

2020-2021:

Two of the three tenure-track faculty members are creating and engaging students in a research program. The third tenure-track faculty member was hired a week and a half before hurricane Laura hit McNeese's campus, which has not left him much time to get a research program started. We'll also monitor the new assistant professor for physics position to see how they will progress and help get a research program started for physics.

2 Assessment and Benchmark

Benchmark: 100% of qualified students seeking a research opportunity in the department will be accommodated.

2.1 Data

Academic Year	Qualified students seeking a research opportunity that were accommodated	
	#	%
2013-2014	—	100%
2014-2015	—	100%
2015-2016	—	100%
2016-2017	—	100%
2017-2018	—	100%
2018-2019	25/25	100%
2019-2020	—	—
2020-2021	23/23	100%

2.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

We will continue to make research opportunities available. In the future, we will track the number of students.

2016-2017:

We will continue to make research opportunities available.

2017-2018:

We will continue to make research opportunities available.

2018-2019:

All the Chemistry majors have availed the research opportunities provided by the department. Research is part of their curriculum, usually, spans at least two semesters. The reported number (25) in 2018-2019 reflects those students who had registered for CHEM 451 classes.

2019-2020:

2020-2021:

Chemistry majors and other majors who requested to conduct research with chemistry and physics faculty were allowed to do so. The department has reestablished a research permission form for the summer of 2021 and onward. It has allowed us to keep better track of students who have registered for the undergraduate research course and which faculty member they're conducting research with.

3 Assessment and Benchmark

Benchmark: The program will generate at least five peer-reviewed publications per year.

3.1 Data

Academic Year	# of peer-reviewed publications generated
2013-2014	9
2014-2015	10
2015-2016	9
2016-2017	7
2017-2018	13
2018-2019	9
2019-2020	—
2020-2021	7

3.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

We will continue to support faculty excellence in research and to assist in research dissemination through publications.

2016-2017:

We will continue to support faculty excellence in research and to assist in research dissemination through publications and presentations.

2017-2018:

We will continue to support faculty excellence in research and to assist in research dissemination through publications and presentations.

2018-2019:

The department had published 9 research articles in peer-reviewed and CAS indexed journals in the year 2018-2019. Note that the department has no major chemical instruments (like NMR, GC-Ms, etc) to support either research or teaching. Despite these limitations, some of our faculty had managed to do fantastic work. The coming year is going to be better as the department is acquiring new instruments and new faculty.

2019-2020:

2020-2021:

The department of Chemistry and Physics had 7 peer-reviewed papers submitted. In the future the department will not lean so heavily on one faculty member to do the majority of publishing papers.

4 Assessment and Benchmark

Benchmark: At least 50% of the tenure-track faculty (or students from their research groups) will present research findings at state, regional or national scientific meetings.

4.1 Data

Academic Year	Tenure-track faculty that presented research findings at state, regional or national scientific meetings	
	#	%
2013-2014	4/8	50%
2014-2015	3/8	37.5%
2015-2016	2/8*	25%
2016-2017	3/7	42.9%
2017-2018	5/7	71.4%
2018-2019	3/7	42.9%
2019-2020	—	—
2020-2021	2/3	66%

*Two of the eight tenure-track faculty or their research students presented at The Regional American Chemical Society and the National American Chemical Society meetings. We did not attend the Louisiana Academy of Sciences meeting this year due to a last minute cancellation due to regional flooding. Three faculty presented research results at other national and international meetings.

4.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

We will continue to support faculty excellence in research and to assist in research dissemination through oral and poster presentations at scientific meetings. Although this benchmark was not met it was an aberration.

2016-2017:

We will continue to support faculty excellence in research and to assist in research dissemination through oral and poster presentations at scientific meetings.

2017-2018:

2018-2019:

Due to the severe budget limits only three faculty Drs Merchant, Boggavarapu and Bussan had participated in national/international level conferences, invited talks. Efforts will be made to increase the participation of students and faculty in various conferences.

We will continue to support faculty excellence in research and to assist in research dissemination through oral and poster presentations at scientific meetings.

2019-2020:

2020-2021:

Two of the three tenure-track faculty members were able to present at virtual conferences this academic year. In the future we will try for a higher percentage, especially with a new assistant professor of physics position being filled.

5 Assessment and Benchmark

Benchmark 1: The program will apply for at least seven grants per year.

Prior to 2016-2017, the benchmark was five grants.

Benchmark 2: The program will obtain or administer at least three grants per year.

5.1 Data

Academic Year	# of grant applications	# of grants administered
2013-2014	11	13
2014-2015	11	12
2015-2016	9	10
2016-2017	4	8
2017-2018	5	5
2018-2019	6	5
2019-2020	—	—
2020-2021	8	7

5.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

We will continue to stress the importance of grantsmanship and provide faculty with the support and needed to be effective grant writers. In the 2016-2017 Academic Year, we will increase the benchmark to 7 grants.

We will continue to stress the importance of grantsmanship and provide faculty with the support and needed to be effective grant writers.

2016-2017:

We will continue to stress the importance of grantsmanship and provide faculty with the support and needed to be effective grant writers. Several new hires need more to adjust to the McNeese, and teaching environment requires more time to reach the benchmark. We will continue to strive for writing more grant proposals.

We will continue to stress the importance of grantsmanship and provide faculty with the support and needed to be effective grant writers.

2017-2018:

We will continue to stress the importance of grantsmanship and provide faculty with the support and needed to be effective grant writers. Several new hires need more to adjust to the McNeese, and teaching environment requires more time to reach the benchmark. We will continue to strive for writing more grant proposals.

We will continue to stress the importance of grantsmanship and provide faculty with the support and needed to be effective grant writers.

2018-2019:

All the chemistry Ph.D. faculty got applied for Endowed fellowships and awarded. However, Dr. Bussan's BoR enhancement grant was denied. Since we got two new faculty and two more yet to come (Spring 2020), the number of grants applied and thereby changes of being awarded will increase.

2019-2020:

2020-2021:

Most faculty received endowed professorships, as well as Dr. Vidura receiving a shearman grant. Dr. Merchant has applied for a grant himself, it however has not been administered. We will continue to try and get more grants for the department of chemistry and physics.

Performance Objective 6 Engage in collaborative ventures and campus and community activities which enhance economic development, cultural and artistic growth, and or educational experiences for the SWLA region and beyond.

1 Assessment and Benchmark

Benchmark: The department will participate in at least five community activities such as lectures/talks to civic groups to promote science in SWLA.

Prior to 2016-2017, the benchmark was three community activities

1.1 Data

Academic Year	# of science promoting community activities attended by faculty
2013-2014	5
2014-2015	5
2015-2016	9
2016-2017	—
2017-2018	—
2018-2019	—
2019-2020	—
2020-2021	—

1.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:

We will continue to seek out and take advantage of such opportunities. In the future we will increase the benchmark to five community activities.

2016-2017:

2017-2018:

2018-2019:

2019-2020:

2020-2021:

It wasn't possible for community engagement, due to the COVID-19 pandemic and multiple hurricanes in the local area.

2 Assessment and Benchmark

Benchmark: Faculty will either host or visit at least six high/middle/elementary schools to conduct science shows.

2.1 Data

Academic Year	# of science shows delivered by faculty
2013-2014	8
2014-2015	9
2015-2016	9
2016-2017	—

2017-2018	—
2018-2019	—
2019-2020	—
2020-2021	0

*Hosted two high schools and visited seven others.

2.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

We will continue to seek out and take advantage of such opportunities. The individual in charge of this outreach is retiring. As a result, this will be put on hold.

2016-2017:

2017-2018:

2018-2019:

2019-2020:

2020-2021:

It wasn't possible for high school or middle school visits in 2020 because of the COVID-19 pandemic and schools going to virtual teaching, and wasn't possible in spring of 2021 due to damage to most of the local area by hurricanes Laura and Delta.

3 Assessment and Benchmark

Benchmark: The department will be engaged in at least three substantive partnerships with local industry.

3.1 Data

Academic Year	# of substantive partnerships with local industry
2016-2017	3
2017-2018	—
2018-2019	—
2019-2020	—
2020-2021	1

3.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:

We have the Sasol Undergraduate Fellowship, the SWLCL Internship, as well as a Sasol-sponsored research project led by Dr. Douvris. We will continue to seek out and take advantage of such opportunities.

2017-2018:

2018-2019:

2019-2020:

2020-2021:

After the start of the COVID-19 pandemic the department of Chemistry and Physics worked with the Department of

Engineering and Computer Science to help make test swabs for COVID-19 patients with a local hospital. However, the pandemic and the multiple hurricanes made it very difficult to work with other local industries.