

**LAMAR UNIVERSITY  
COLLEGE OF ARTS AND SCIENCES  
Calendar Year 2017**

Department: Computer Science

*Please take a few minutes to reflect on your department/program's progress toward the each of the following:*

1. ***IE Plans***—What has the department learned from the assessment data so far? What are your plans as a result of the evaluation? Do you need anything to enhance your plans?
  - The department learned that we need to monitor some of the courses as per the yearly ABET assessment report.
  - Engaging all the Faculty and Staff members in academic activities meant to accomplish the LU strategic plan at the departmental level.
  - Renovate room 110 to create two laboratories: one in the area of Cybersecurity and another one in the area of Data Analytics.
  - Continuing the yearly assessment and preparing the 6-year self-study for the ABET accreditation. All Faculty contributed to achieve this goal.
  - The department acquired some computer equipment, but we need to replace some of the older equipment by new ones. In addition, some labs need new furniture.
  
2. ***Strategic Plans***—Which of the following strategic initiatives has your department contributed to this year? What are your plans for next year?
  - Firstly, we shall continue to involve students in undergraduate and graduate research, programming competitions, and other academic activities.
  - Secondly, we shall maintain our programs accreditation (e.g., ABET, SACS), considering new programs (e.g., Computer Graphics Animation) and improve our effective recruitment and retention practices.
  - Thirdly, we shall continue to cooperate for getting support from the higher administration, advisory board, industry, and collaborate with other academic departments.
  - Fourthly, we shall continue to submit proposals to funding agencies.
  - Lastly, we shall continue our cooperation with high schools and community colleges from many counties, including Golden Triangle and Harris County.

3. **Enrollment**--Review the enrollment (SCH + Student FTE) data for the past three (3) years. Has your SCH/FTE's increased/decreased or remained static? Please provide a rationale for your results.

Enrollment:

		Fall 2015		Fall 2016		Fall 2017	
		Female	Male	Female	Male	Female	Male
CIS	White	3	20	2	21	3	21
	Black	3	10	4	15	4	8
	Hispanic	0	2	0	1	1	6
	Asian	1	0	0	1	1	4
	American-Indian	1	0	0	0	0	0
	Multiracial	0	0	0	0	0	2
	Intl	0	0	0	0	0	0
	Unknown	0	0	1	0	1	5
	<b>TOTAL</b>	<b>8</b>	<b>32</b>	<b>7</b>	<b>38</b>	<b>10</b>	<b>46</b>
	<b>GRAND TOTAL</b>	<b>40</b>		<b>45</b>		<b>56</b>	
CS	White	16	110	13	112	11	83
	Black	6	25	5	27	5	25
	Hispanic	0	9	1	5	7	30
	Asian	3	11	5	19	5	29
	American-Indian	1	0	2	4	0	1
	Multiracial	0	0	0	0	0	3
	Intl	0	2	0	2	0	2
	Unknown	5	2	3	4	1	21
	<b>TOTAL</b>	<b>31</b>	<b>159</b>	<b>33</b>	<b>175</b>	<b>29</b>	<b>194</b>
	<b>GRAND TOTAL</b>	<b>190</b>		<b>202</b>		<b>223</b>	
	<b>UNDERGRADUATE TOTAL</b>	<b>230</b>		<b>247</b>		<b>279</b>	
MCS	White	1	1	0	2	0	4
	Black	0	0	0	0	0	1
	Hispanic	0	0	0	0	0	0
	Asian	15	32	16	56	0	2
	American-Indian	0	0	0	0	0	0
	Multiracial	0	0	0	0	0	0
	Intl	31	168	17	117	18	69
	Unknown	0	2	0	0	0	0
	<b>TOTAL</b>	<b>47</b>	<b>203</b>	<b>33</b>	<b>176</b>	<b>18</b>	<b>76</b>
	<b>GRAND TOTAL</b>	<b>250</b>		<b>209</b>		<b>94</b>	

Semester credit  
hours

	Fall 2015	Fall 2016	Fall 2017
CIS	491	536	683
CS	2291	2218	2503
MCS	2698	1874	784
<b>TOTAL</b>	<b>5480</b>	<b>4628</b>	<b>3970</b>

The **undergraduate** student enrollment increased in Fall 2017 by **13%** compared to Fall 2016. However, the semester credit hours increased in Fall 2017 by **16%** compared to Fall 2016. It demonstrated that undergraduate students tend to take more classes in 2017 compared to 2016.

Regarding the **graduate** studies, the graduate student enrollment decreased in Fall 2017 by **55%** compared to Fall 2016. The semester credit hours decreased in Fall 2017 by **58%** compared to Fall 2016.

What is your proposed plan of action to increase your SCH/FTE? Do you need any resources to implement this plan of action?

There is a slight increase in the number of undergraduate students, but the number of graduate students decreased dramatically. We are working toward increasing the number of both undergraduate and graduate students. Among them, we enumerate the On-time Graduation Scholarship for Students who graduate in the minimum number of semesters (8 long semesters for undergraduate and 4 long semesters for graduate students), Competitive Scholarship for Students (\$2,000 for GPA = 4.0, \$1,750 for 3.99 >= GPA >= 3.5, \$1,500 for 3.49 >= GPA >= 3.25, and \$1,250 for 3.24 >= GPA >= 3.0), initial Start-up package of \$360 for freshman undergraduate and graduate students (covering the initial expenses).

4. **Graduation Rates**--Compare graduation rates for past three (3) years, has the number increased/decreased or remained static?

The below table indicates the graduation rates for the past three years relative to the last six years:

Graduation rates for the past three years				FY 2015	FY 2016	FY 2017	<b>Three years total</b>
11010100	2	BS	Computer Science	42.9%	31.3%	12.9%	<b>27.4%</b>
11010100	2	BSCISC	Computer Information Science	20.0%	0.0%	0.0%	<b>11.1%</b>
11070100	3	MSCS	Computer Science	25.0%	68.2%	44.4%	<b>54.5.1%</b>

The below table indicates the number of degrees awarded for the past three years:

Degrees Awarded for the past three years				FY 2015	FY 2016	FY 2017	Three years total
11010100	2	BS	Computer Science	14	14	18	<b>46</b>
11010100	2	BSCISC	Computer Information Science	3	1	2	<b>6</b>
11070100	3	MSCS	Computer Science	35	108	160	<b>303</b>

What does the department need to increase the number of graduates?

The graduation rate for our undergraduate students in Fall 2017 decreased by 18.4% compared to Fall 2016, and we did not graduate any CIS student. However, we had a large amount of graduate students graduating in Fall 2017 by 48% compared to Fall 2016. The main reason is probably because we had a very large population of graduate students in Fall 2015.

The number of degree awarded looks better that the graduation rate. We graduated the same number of undergraduate CS students in 2016 compared to 2015. We had two less CIS students awarded in 2016. However, the number of degrees awarded for Master in Computer Science increased by 209%.

What does the department need to increase the number of graduates?

Although the number of graduates increases, we need to check the number of degrees awarded in FY 2018.

### Student Workers

Please indicate how many students are currently employed and how they are utilized:

#### SPRING 2017

Position	Numbers	Undergraduate Students	Graduate Students	Total	Position
Research	8		8	8135	Research
Technicians	4		4	8840	Technicians
Web Master	2		2	1700	Web Master
Graders	28		28	16072	Graders

#### SUMMER 2017

Position	Numbers	Undergraduate Students	Graduate Students	Total	Position
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Research					Research
Technicians					Technicians
Web Master					Web Master
Graders	3		3	830	Graders
Office Assistant(s)					Office Assistant(s)

### FALL 2017

Position	Numbers	Undergraduate Students	Graduate Students	Total	Position
Research	7		7	8910	Research
Technicians	3		3	3900	Technicians
Web Master	1		1	650	Web Master
Graders	29	2	27	16640	Graders
Office Assistant(s)	1		1	650	Office Assistant(s)

### *Department of Computer Science*

Is your budget sufficient for student workers? If not, provide a plan of action that indicates the needs of your department, estimated costs and benefits.

Total Costs/Semester and Year	
\$35812	Spring 2017
\$830	Summer 2017
\$30750	Fall 2017
<b>\$67,392.00</b>	<b>Student Total</b>

Is your budget sufficient for student workers? If not, provide a plan of action that indicates the needs of your department, estimated costs and benefits.

We actually struggled to be able to pay the student workers this academic year due to the large number of students willing to work for the department. We have to maintain a balance between helping students and instructors, and at the same to preserve the quality of our program. We will consider approaching the Higher Administration for a budget adjustment, if needed.

### *Student Honors, Accomplishments and Recognition*

Identify any honors or recognition that your students have achieved.

### SPRING 2017

Student	Honors/Accomplishments
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Noman Humayun	<b>Crawford/Lewis Scholarship</b>
Kender Myers	
Judah Roden	
John Ellis	<b>Bill Nylin Scholarship</b>
April Gray	
none	<b>Bobby Waldron Scholarhsip</b>

**FALL 2017**

<b>Student</b>	<b>Honors/Accomplishments</b>
Carolyn Langhoff	<b>Crawford/Lewis Scholarship</b>
Thomas King	
Caitlin Ambeau	
Lauren Forse	<b>Bill Nylin Scholarship</b>
Bailey Moore	
Judah Roden	<b>Bobby Waldron Scholarhsip</b>

**Does your Department have a Mirabeau Scholar? Yes No**

1. Timothy Gonzales (graduated in Spring 2017)
2. Cameron Henry (graduated in Spring 2017)
3. Foster Kevin (graduated in Spring 2017)
4. Murphy Aimee (graduated in Spring 2017)
5. Smith Colin (graduated in Spring 2017)
6. Smith Logan (graduated in Spring 2017)

All these students were awarded the Mirabeau scholarship in 2012/2013 academic year. We did not have any new students awarded this impressive (full ride) scholarship to the Computer Science majors in the last couple of years.

**Describe any student mentoring activities undertaken by faculty.**

All faculty do student mentoring and advising in Graduate Project class, course projects, research projects, and more. Most of our faculty have publications co-authored with undergraduate and/or graduate students. STAIRSTEP is our impressive research undergraduate program which has a positive attitude in the department and LU in general.

***Faculty Productivity Measures***

1. Publications

\_3\_ # of Manuscripts submitted not yet published

\_29\_ # of Manuscripts published

\_23\_ Refereed

\_6\_ Non-refereed

\_0\_ # Books published (book chapters)

2. Professional Presentations

\_6\_ Local presentations

\_3\_ State / Regional

\_3\_ National  
 \_10\_ International  
 \_22\_ TOTAL #

3. Describe professional development activities undertaken by you or the faculty in your area.

N/A

4. Faculty holding office in national/international professional organization - **Only**

Faculty	Organization	Office
None		

5. Faculty Honors

Faculty	Honors
Dr. Jing Zhang (PI), Dr. Sujing Wang (co-PI), and Mr. Frank Qingguo Sun (Senior Personnel)	Award #: 1726500 received from the National Science Foundation, titled MRI: <i>Acquisition of a Hybrid CPU/GPU High Performance Computing Cluster for Research and Education</i> at Lamar University in the amount of \$516,031.00 for a period of three years starting on October 1, 2017.
Jiangjiang (Jane) Liu	Lamar University's 2017 University Professor and Ann Die-Hasselmo Faculty Scholar

6. Any issues/problems with faculty?

N/A

### **Budget**

What were your major capital expenditures this year?

<b>Capital Expenditures for 2017</b>	
<b>Beaumont Trophies</b>	93.9
<b>B &amp; H</b>	139.95
<b>CDW Government, Inc. - Computer Equipment</b>	2139.71
<b>Chartwells</b>	1274.61
<b>Dell – Laptops for Faculty/Projectors, Lasers</b>	11801.6
<b>Dell - Batteries, Cables, External Hard Drives</b>	1625.8
<b>Educational Testing Service (ETS) –</b>	840
<b>Fuction 4 LLC - New Copier</b>	5275.53
<b>Hernandez Office Supplies – Office Supplies for the Department</b>	985.1
<b>Kirksey's – Business Cards</b>	67
<b>Lenovo – Think Pad</b>	1608.25
<b>Mathworks – Contract Renewal</b>	870.7
<b>MatterHackers Inc.</b>	116

<b>Major Field Tests for Undergraduate Students</b>	840
<b>Olmsted Kirk Paper Co</b>	252
<b>Oracle – Contract Renewal</b>	2042.23
<b>Laminating &amp; Binding Solutions – Large Laminator &amp; Printer</b>	3259.99
<b>ProCard - Object management Group (OMG) Univ Membership Fee for our department</b>	550
<b>Purdue</b>	150
<b>Star Graphics - Cost Contract - Printing</b>	1860
<b>Tele Communication Inc.</b>	201.28
<b>GRAND TOTAL</b>	<b>\$35,993.65</b>

What are your immediate and longer term major capital needs?

<b>Major Capital Needs for 2018</b>	
Computer Furniture and Chairs	
	<b>\$18,300.04</b>
Solaris UNIX machines in Room 214 (D8G63AV-1 – Configurable – HP Z1 G2 Workstations)	
20 needed	<b>\$35,800.00</b>
Dell Linux Desktop \$1,200.00	To replace the current computers in lab 215 bought in 2/13/2012 24 <b>\$28,800.00</b>

We intend to divide room 110 into two Labs: The Cybersecurity Laboratory and The Data Analytics and Computation Laboratory.

The computer lab 208 needs proper computer tables, since the current tables are from the Writing Center left over when they move out some years back. Those furniture are not proper for the computer lab. Power cables are hanging on the floor, and tables are easy to push around.

Computer lab rooms 214 and 215 have raising floors and all power cables and network cables are under floor. It is vulnerable to flood in our hurricane-prone region.

**Centers/Endowed Chairs or Distinguished Faculty**

Report on the Center(s) in your department (*goals accomplished, problems, and major goals for next year*). How does the Center promote the goals of the department, College and University?

None

Report of activities/accomplishments of Endowed Chairs in your department. How did the individual support the program's goals?

N/A

**Departmental Analysis**

Report any initiatives or special projects under taken this year by your unit.



Most of the Department of Computer Science Faculty are involved in research, publishing papers and writing grants. All of the Department of Computer Science Faculty are involved in teaching, improving their courses and revising their online courses. All Faculty submitted their assessment materials, necessary for the ABET yearly assessment. In addition, Faculty uploaded their assessment results in the online website. All Faculty reviewed publications including journals, books, and conferences. Our department organized the Spring 2017 Advisory Board on March 3, 2017. All Advisory Board members, students, faculty and participating staff appreciated the event.

Aside from these initiatives, we had on February 7, 2017 our Second Computer Science Career Forum at Lamar University. It was a very successful event for students, faculty and industry (source <https://www.lamar.edu/news-and-events/news/2017/03/lu-hosts-second-computer-science-career-forum.html>)

Identify special projects or initiatives you plan for next year.

Firstly, we shall continue to involve students in undergraduate and graduate research, programming competitions, and other academic activities. Secondly, we shall maintain our programs accreditation (e.g., ABET, SACS), considering new programs (e.g., Computer Graphics Animation) and improve our effective recruitment and retention practices. Thirdly, we shall continue to cooperate for getting support from the higher administration, advisory board, industry, and collaborate with other academic departments. Fourthly, we shall continue to submit proposals to funding agencies. We shall continue our cooperation with high schools and community colleges from Golden Triangle and Harris County. We shall organized the Spring 2018 Advisory Board Conference, too.

In addition, we shall continue our new event about the Computer Science Career Forum with its 2018 edition.

What are the major challenges in your department?

1. Hiring an Assistant Professor in the area of cyber-security
2. Renovate room 110 to form the Cybersecurity Laboratory and the Data Analytics and Computation Laboratory
3. Cope (reinvent ourselves) with the apparent sudden decrease of international students that we had in Spring 2018 while maintaining the same quality of learning.

What are the major strengths of your department?

1. We cooperate and help each other to fulfil students, staff, faculty, and higher Administrators requests.
2. We do yearly ABET assessment of our Bachelor in Computer Science. We need to prepare in Fall 2018 the ABET 6 year Report.
3. Cooperate and help with other departments from the college and university as well as other universities and associations.