LAMAR UNIVERSITY
COLLEGE OF ARTS AND SCIENCES
Calendar Year: 2014

Department: COMPUTER SCIENCE

Unit Goals for 2014 and Accomplishments

1.   Engaging all the Faculty and Staff members in academic activities meant to accomplish the LU strategic plan at the departmental level (designing new 'Quality Matters' courses, offering innovative programs and concentrations, celebrating the International Food Festival, Orientation Days, Preview Days, renewing the technical equipment necessary for academic activities, offering scholarship to students, and more).
2.   Adopting the new changes in the LU core curriculum to our B.S. in C.S. and C.I.S. Many changes have been submitted and approved by all committees and the Coordinating Board on Fall 2013, and Spring 2014.
3.   Hiring a new Assistant Professor to replace a Faculty member who resigned in 2013.
4.   Continuing the yearly assessment and preparing the 6-year self-study for the ABET accreditation. All Faculty continued this goal.
5.   The department acquired five machines Alienware Aurora-R4 225-2262 to complete the Game Development Laboratory as well as the affiliated furniture.

1.   Compare enrollment (SCH + Student FTE) data for the past three (3) years. Comment on trended data and actions taken this year.

		Fall 2012		Fall 2013		Fall 2014	
		Female	Male	Female	Male	Female	Male
CIS	White	3	16	1	16	1	19
	Black	2	5	6	8	4	7
	Hispanic	0	1	0	0	0	2
	Asian	0	2	0	2	0	2
	American-Indian	0	0	0	0	0	1
	Multiracial	1	0	1	1	0	0
	Intl	0	0	0	1	0	0
	Unknown	0	1	0	2	0	1
	TOTAL	6	25	8	30	5	32
CS	White	7	80	11	100	12	90
	Black	7	19	6	19	7	21
	Hispanic	1	10	1	14	1	4
	Asian	4	4	2	6	3	12
	American-Indian	0	1	0	1	0	0
	Multiracial	0	0	0	3	0	0
	Intl	1	2	1	1	0	2

	Unknown	0	2	0	2	0	0
	TOTAL	20	118	21	146	23	129
MCS	White	0	3	0	2	0	3
	Black	0	0	2	0	0	0
	Hispanic	0	0	0	0	0	0
	Asian	1	3	2	3	19	39
	American-Indian	0	0	0	0	0	0
	Multiracial	0	0	0	0	0	0
	Intl	6	24	11	26	5	28
	Unknown	0	0	0	0	0	0
	TOTAL	7	30	15	31	24	70

Semester
credit hours

	Fall 2012	Fall 2013	Fall 2014
CIS	390	428	413
CS	1665	2070	1792
MCS	318	396	959

Undergraduate major enrollment has increased from 169 in 2012 to 205 in 2013 (hence, an increase of 21%) and 189 in 2014 (hence, a decrease of 8% compared to 2013) for an overall increase of 12% over three years. With respect to Semester Credit Hours (SCH) from 2012 to 2013 the number from undergraduate credit hours increased from 2055 to 2498 for a 22% increase and from 2013 to 2014 the number from undergraduate credit hours decreased from 2498 to 2205 for about 11%. The overall SCH increased over three years is 7%. These are very good numbers, which show a steady growth in enrollment especially in 2013, but a slight decrease in 2014. We will monitor these numbers in Fall 2015.

Enrollment in the MCS program went from 37 in 2012 to 46 in 2013 and to 94 in 2014 for an increase of 24% followed by a dramatically increase of 104%, respectively. The SCH increased from 318 in 2012 to 396 in 2013 and 959 in 2014 which is up 25% for 2012, followed by a dramatically increase of 142% in 2014. It appears that the figures are acceptable to the department. The reasons they come to Lamar are usually based on country, cost, resources and housing available on campus, and, perhaps most important, the reputation of the school and program. Our graduates appear to be very satisfied according to the results of anonymous exit surveys and testimonials from graduates who have found employment. Hopefully, the U.S. will continue to grant visas to high potential students to study in this country and more areas will become familiar with Lamar due to active recruitment. We learned that the Graduate Studies website for students has been improved. Our department is also looking into ways of improving advisement and the curriculum for the final project as ways to retain graduate students.

2.   Examine unit's ability to contribute to teaching, research, and service missions of the organization.

The CS faculty is competitive with the faculties of similar institutions in teaching, research and service. Since the student enrollment increased dramatically at the graduate level, we are looking forward to hire a new Assistant Professor, expert in one of the following areas: high performance computing, computational science and scientific computing, security and privacy, and computational biology. Our faculty continue to publish in prestigious international journals and conference proceedings and to be awarded NSF grants. We have a very active faculty in teaching and service as well with several members either in faculty senate or previously holding positions in faculty senate. As long as our numbers of students remain stable or even increase, we should continue to perform strongly.

3.   Compare graduation rates for past three (3) years, what do these numbers/trends mean and what do you need to change or improve?

				FY12	FY13	FY14	Three Year Total
11010100	2	BS	COMPUTER SCIENCE	10	8	18	36
11010100	2	BSCIS	COMPUTER INFORMATION SCIENCES	10	3	4	17
11070100	3	MSCS	COMPUTER SCIENCE	14	14	23	51

Both BS and BSCIS degrees are treated as one program by the Texas Higher Education Coordinating Board standpoint (that is, the both their CIP codes are identical with 11010100). For the past three years, our undergraduate total is 53, while the graduate total is 51. The undergraduate student numbers increased from 11 in 2013 to 22 in 2014 (hence an increase by 100%) and the graduate student numbers increased from 14 in 2013 to 23 in 2014 (hence an increase by 64%).
We continue to hope that the newly added specialization in game programming and graphics will improve our undergraduate enrollment. In addition, we hope the bioinformatics concentration is reviving strong.

4.   Institutional Effectiveness Plans—Summarize how your unit is doing in setting, evaluating and using data to make revise, maintain, add or eliminate topics or courses.

Each year, our department does an assessment report which is based on the ABET accreditation process. The reports are at http://cs.lamar.edu/abet/abethome.htm. We document our Educational Objectives, Student Outcomes, Performance Criteria, Targets, and faculty responsible for various aspects of the assessment. We take the data collected and analyze it. The data are both direct and indirect, qualitative and quantitative. We then document what actions we are going to take and for what reasons in order to improve the program. Our efforts at continuous improvement include closing the loop and monitoring the results of our improvements to see whether they have been effective.

Each year the entire faculty meets several times in the fall to consider the results of the previous academic year and to approve recommendations from the Assessment Committee and the Curriculum Committees. Periodically members of the department attend workshops and symposiums hosted by ABET to update programs on the latest changes in the ABET process of accreditation.

As part of the process, we look not only at curriculum, but also at other matters including student satisfaction with advisement, scheduling, instruction in teamwork and leadership, opportunities for independent study, participation in student organizations, and knowledge of the impact of computing on the well-being of the environment and global society.

Student Workers

1.   Number employed and how utilized

There were 75 students hired between January 1 and December 31 in 2014. These students were mainly used as graders and teaching assistants, but there were nine that worked as network technicians, two that were webmasters, and three that were office assistants.

Our records indicate the following student workers:
Spring 2014
- 1   Student Office Assistant
- 1   Webmaster
- 4   Technicians
- 19   Graders (Student and Grad Students)

Summer 2014
- 1   Office Assistant
- 2   Webmasters
- 3   Technicians
- 12   Graders (Student and Grad Students)

Fall 2014
- 2   Office Assistants
- 2   Webmaster
- 4   Technicians
- 24   Graders (Student and Grad Students)

2.   Total costs/semester and year

Total Cost for Spring 2014: $34,230.00
Total Cost for Summer 2014: $23,615.50
Total Cost of Fall 2014: $41,862.59
2014 Total: **$99,708.09**

3. **Major goals** for course fee monies for 2014 were:

Goal Accomplished	Dollars Spent
Mathworks Software Maintenance Service Contract	$1,058.40
Microsoft Subscription (3-year contract)	Paid in 2013
Oracle Support Contract Renewal	$3,379.40
WD Hard Drive (Safari Micro, Inc.)	$1,205.10
Hernandez Office Supplies	$1,000.00
Office Depot	$126.53
TOTAL	**$6,769.43**

Faculty Productivity Measures

1.   Publications

__2__ # of Manuscripts submitted not yet published
__18__ # of Manuscripts published

__17__ Refereed
__1__   Non-refereed

__0__ # Books published (book chapters)

2.   Professional Presentations

__0__ Local presentations
__2__ State / Regional
__0__ National
__13__ International
__15__ TOTAL #

3.   Research Grants (# and amount)

_____ Internally Funded – Lamar University of TSUS

Grant Title	Amount
Research Enhancement Grant, Lamar University - Title – Efficacy of Data Serialization Formatting Methods for Mobile Environment, *May 2012-May 2013*, PI is Dr. Kami Makki	$5,000
September 1, 2014 - August 31, 2016: Principal Investigator on **Students Advancing through Involvement in Research Science Talent Expansion Program (STAIRSTEP)** grant from the LU (support of award: President Evans, Dean Nichols, Dr. Andrei), PI and Director is Dr. Peggy Doerschuk	$99,270
Total	$104,270

_____ State Funded

Grant Title	Amount

	Amount
Co-PI: Dr. Sujing Wang, "**Study on Proactive Air-quality Control by Coupling Emission Source Reduction and Air Quality Modeling**", Texas Air Research Center, 09/01/13 – 07/15/15	$40,000
Total	$40,000

_____ National Funded

Grant Title	Amount
2012 - 2017: co-PI of the National Science Foundation Grant **"*Addressing the Gulf Coast Region's Graduation Rate Crisis in Mathematics and Computer Science*"**, Award No. DUE-1154606, PI is Dr. Kumer Das, co-PIs: D. Lawrence Osborne, Dr. Daniel Dale, Dr. Stefan Andrei, Senior Personnel: Dr. Doerschuk	$583,096
Sept. 2009 – 2014: $400,000 from National Science Foundation (NSF), "**CAREER: An Effective Integration of Research and Education on High-Speed and Energy-Efficient Interconnects for Multi-Core and Multi-Thread Systems**," PI is Dr. Jane Liu	$400,000
PI: **"MRI: Acquisition of Equipment to Develop an Ubiquitous Wireless Sensor Networks for Measurement, Modeling, and Prediction in Water Resource Management"**, The National Science Foundation, awarded amount: $200,000, August 2014	$200,000
Academic Partnerships - (Kami Makki (Undergraduate Students Advisor), **PIs**: Sedef U. Smith, Randy J. Davis, Carl J. Sheperis, Education Department) **Title: SMART Feedback application: The much needed tool for revolutionizing the assessment of students' online discussion participation**, June 2014.	$4,950
Co-PI: Dr. Sujing Wang, "**Optimal Scheduling for Decoking Operation of Ethylene Cracking Furnace System**", BASF TOTAL Petrochemicals LLC, 08/01/14 – 12/01/15	$50,000
Total	$1,238,046

4.   Teaching/Program Grants (# and amount)

_____ Internally Funded – Lamar University or TSUS

Grant Title	Amount

_____ State Funded

Grant Title	Amount
Total	

_____ Nationally Funded

Grant Title	Amount

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

Faculty	Organization	Office
Stefan Andrei	The *2014 Texas STEM Conference*, http://www.math.lamar.edu/activities/SSTEM/, Lamar University, October 4, 2014	Member of the Program Committee and Session Chair
Stefan Andrei	The 11th *International Conference on Informatics in Control, Automation and Robotics (ICINCO)*, http://www.icinco.org/, September 1 - 3, 2014, Vienna, Austria	Member of the Program Committee
Stefan Andrei	The *16th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC 2014)*, http://synasc14.info.uvt.ro, IEEE Computer Society, September 22-25, 2014, Timisoara, Romania	Member of the Program Committee
Stefan Andrei	*The Journal of Broad Research in Artificial Intelligence and Neuroscience*, ISSN 2067-3957 (online), ISSN 2068 - 0473 (print), **www.brain.broadresearch.org**	Member of the Editorial Board of BRAIN
Stefan Andrei	The *2013 IEEE International Conference on Green Computing and Communications*: *Metrics, Models, Algorithms, Systems, and Architecture*, http://www.china-iot.net/GreenCom2013.htm, Beijing, China, August 20-23, 2013	Member of the Program Committee
Stefan Andrei	The *7th IEEE Conference on Service-Oriented Computing and Applications* (*SOCA 2014*), Matsue, Japan, November 17-19, 2014, IEEE Computer Society http://conferences.computer.org/soca/	Member of the Program Committee
Stefan Andrei	The *11th International Conference on Embedded Software and Systems (ICESS'14)*, http://conference.icess2014.studiocheik.fr/, August 20 – August 22, 2014, Paris, France	Member of the Program Committee
Stefan Andrei	The 12th IEEE International Conference on Embedded Computing (*EmbeddedCom 2014*), http://action.dlmu.edu.cn/uscience/embeddedcom2014, Dalian, China on August 24-27, 2014	Member of the Program Committee
Kami Makki	The 2014 International Conference on Frontiers of Internet of Things (FIT'14), December 4-6, 2014. HsinChu, Taiwan	Technical Program Committee Member
Kami Makki	The WISE 2014 Workshop on Data Quality and Trust in Big Data (QUAT'14), October 12-14, 2014, Thessaloniki, Greece.	Technical Program Committee Member
Kami Makki	The Second International Symposium on Security in Computing and Communications (SSCC'14), Sept 24-27, 2014, Delhi, India.	Technical Program Committee Member
Kami Makki	The International Conference on Data Communication Networking (DCNET'14), August 28-30, 2014, Austria, Vienna.	Technical Program Committee Member
Kami Makki	The International Conference on Wireless Information Networks and Systems (WINSYS'14), August 28-30, Austria, Vienna.	Technical Program Committee Member
Kami Makki	The IEEE Technically Co-Sponsored Science and Information Conference, August 27-29, 2014, London, UK.	Vice-conference Chair
Kami Makki	The 2014 International Conference on Computer, Information, and Telecommunication Systems	Technical Program Committee Member

	(CITS'14), July 7-9, 2014, Jeju Island, South Korea.	
Kami Makki	Symposium on Performance and Evaluation of Computer and Telecommunications Systems (SPECTS'14), July 6 - 10, 2014, in Monterey, CA, USA.	Technical Program Committee Member
Kami Makki	The 28th IEEE International Conference on Advanced Information Networking and Applications (AINA'2014), Victoria, Canada, May 13-16, 2014.	Technical Program Committee Member
Kami Makki	The Fourth International Conference on Computer Science and Information Technology (CCSIT'14), February 21-22, 2014, Sydney, Australia.	Technical Program Committee Member
Kami Makki	The 16th International Conference on Enterprise Information Systems (ICEIS'14), April 27-30, 2014, Lisbon, Portugal.	Technical Program Committee Member
Kami Makki	The Workshop on Mobile and Wireless 2014 Third, April 15-18, 2014, Jeju National University International Center, Jeju Island, Korea.	Technical Program Committee Member
Kami Makki	The International Conference on Foundations of Computer Science & Technology (CST'14), January 2-4, 2014, Switzerland.	Technical Program Committee Member
Kami Makki	International Journal of Computer Science Applications & Information Technology (IJCSAIT), Publisher- Academy Research and Publication Center. AR Publication.	Editorial Board Member
Kami Makki	International Journal in Foundations of Computer Science & Technology (IJFCST), Academy & Industry Research Collaboration Center Publisher.	Editorial Board Member
Kami Makki	International Journal of Advances in Digital Media and E-Learning (ADML), American Human & Sciences Research Center.	General Editor-in-Chief
Kami Makki	International Journal of Sensors, Wireless Communications and Control (SWCC), Bentham Science Publisher	Editorial Advisory Board Member
Kami Makki	The International Journal of Privacy and Health Information Management (IJPHIM), IGI, Publisher	Associate Editor
Kami Makki	International Journal on Cryptography and Information Security (IJCIS), Academy & Industry Research Collaboration Center (AIRCC) Publisher	Editorial Board Member
Kami Makki	International Journal of Networking (JNW), Science Academy Publisher	Associate Editor-in-Chief
Kami Makki	International Journal of Research and Reviews in Wireless Sensor Networks (IJRRWSN), Science Academy Publisher United Kingdom	Associate Editor-in-Chief
Kami Makki	Journal of Information Assurance and Cybersecurity, JIACS, IBIMA Publishing.	Editorial board member
Kami Makki	International Journal of Communications (JMC), Academy Publisher.	Editorial board member
Kami Makki	International Journal for Infonomics (IJI), Infonomics Society Publisher.	Editorial board member
Timothy Roden	Journal of Graphics Tools (JGT).	Associate Editor
Timothy Roden	International Journal of Computer Game Development and Education (IJCGDE).	Associate Editor
Bo Sun	International Journal of Sensor Networks, Sept. 2010 - Present	Associate Editor

6.   Faculty Honors

Faculty	Honors
Peggy Doerschuk	Director of the STAIRSTEP program
Stefan Andrei	McNair Faculty Mentor
Bo Sun	PI in an NSF Grant (awarded in 2014)

7.   Student Honors and Accomplishments

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

There is no Mirabeau student awarded in 2014 having a Computer Science major. We have the same six Mirabeau Scholars, two awarded in 2011: Kaitlyn Hinch and Brenden Smith and four awarded in 2013: Cameron Henry, Christopher LaChance, Shane Granger, and Timothy Gonzales. We describe their status in the below table. It is first time when the Department of Computer Science has so many Mirabeau Scholars awarded in a year.
If yes, please state their involvement and progress to date.

Student	Honors/Accomplishments
Kaitlyn Hinch	GPA = 3.914 (President's List - Graduated)
Brenden Smith	GPA = 4.0 (Good standing)
Gonzales, Timothy	GPA = 3.683 (Dean's List)
Granger, Shane	GPA = 3.459 (Good standing)
Henry, Cameron	GPA = 3.796 (Dean's List)
LaChance, Chris	GPA = 3.471 (Good standing)

8.   Development activities undertaken by you or faculty in your area.

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.

9.   HEAF summary (goals accomplished, dollars spent and major goal for next year)

Product	Company	Date	Total
Installation of 34 Cat 6 Data Drops Lab 214/MAES Building	Maverick Communications, Inc.	2-19-14	**7,147.50**
PowerEdge R620, PowerVault to PS2 Adapter Cable	SHI Government Solutions, Inc.	3-14-14	**44,320.25**
Painting & Flooring Contractors Faculty Lounge MAES 210	Mike Hogan made arrangements and sent us the price for these services	4-15-14	**3,616.75**
Fujitsu ScanSnap iX500	Safarimicro	4-15-14	**1,002.24**

2 Mini Towers & 2-24" Monitor	Dell	6-23-14	**3,140.36**
Frigidaire Refrigerator & Icemaker	Conn's	9-12-14	**778.83**
		TOTAL	**$60,005.93**

In 2014, the renovation of the pantry lounge was completed. The installation of the PS2 adaptor and the drops allowed us to offer better services of our networks to students. The Frigidaire was purchased using HEAF money, but the department was deducted that amount back to the college.

Maes 202 (Commons Area) seems an enjoyable location for students studying and doing assignments.

Major HEAF goals for next year:

1. We plan to renovate the laboratories from Maes 214 and Maes 215. They have an elevated floor which has to be removed.

2. The regular three-year equipment renewal as a requirement of ABET accreditation will continue case-by-case.

Major goals for course fee monies for this year:

Goal Accomplished	Dollars Spent
Licenses for Matlab and related software	$1,058.40
Seagate Barracude hard drive	$161.12
Oracle software updates and licenses	$3,379.40
Microsoft Subscription	$1,437.00
Hernandez Office Supplies	$202.96
Office Depot	$1,481.94
Manning's Office Supplies	$448.32
TOTAL	**$8,169.18**

10.   Evaluation of accomplishments of your unit this year.

The new Game Development lab located in room 218 opened in August 2013. Dr. Timothy Roden is the Director of this lab. The students seem to appreciate learning about the areas of computer graphics and computer gaming.

Our new Senior Administrative Associate, Mrs. Denise Rode, has brought order and organization to our department Office. She is recognized already for her ability to interact with all types of people and to use technology to improve the efficiency of our operations. The entire faculty appreciates the improvement in all procedures.

The ABET report has been done and submitted to the ABET Headquarters and the ABET team members. Dr. Timothy Roden coordinated the Assessment activities and the writing of the self-study report and supplementary appendix.

Our faculty is looking carefully at our graduate program to ensure the quality of the curriculum and advisement.

The CUDA Teaching Lab is now in room 212B. The space and equipment is used for students for various research projects. The Director of this lab is Dr. Osborne.

Dr. Doerschuk's STAIRSTEP project has been approved for two consecutive years with support from President Evans, Dean Nichols, and Dr. Andrei. The program continues the research activities as well as the outreach events at various high schools in the Golden Triangle.

11.   Report of centers in your department (*goals accomplished, problems, and major goals for next year*).

Research Labs in Computer Science Department served as both research and teaching areas for many students. The research labs are as follows:
Maes 104-106: Computer Architecture (Dr. Liu);
Maes 201: Robotics and Outreach (Dr. Doerschuk);
Maes 208: Database Design (Dr. Makki);
Maes 209: Wireless Sensor Networks (Dr. Sun);
Maes 209 B: Real-time Systems (Dr. Andrei);
Maes 95: Game Design and Development (Dr. Roden).
Maes 103-105: Bioinformatics and Computer Vision (Dr. Zhang)

These labs enable their directors to complete the requirements of grant proposals. Among the problems are keeping the equipment up-to-date since in most cases, no money was placed in the grant nor promised by an entity at Lamar for sustaining the activities begun by the grant. Our goals are simply to continue to advance the state of computing through dedicated research.

In addition to research labs, we designated room 97 for the ABET Assessment to be used by our Faculty to keep records of assessments, and to conduct the analysis of the assessment.

12.   Report of activities/accomplishments of Endowed Chairs in your department.

N.A.

13.   Report any initiatives under taken this year by your unit.

The CS department participated in the renovation of the Maes 210 during 2014.

14.   Identify special projects or initiative you plan for next year.

1.   We plan to renovate the laboratories from Maes 214 and Maes 215. They have an elevated floor which has to be removed.
2.   We hope we'll get a new Faculty as the number of graduate students increased dramatically.

15.   Any *BRAG* points not identified in the above.

None.