



# College of Sciences

2015 STATE OF THE COLLEGE ADDRESS

# Overview

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- ▶ New Faculty and Staff Introductions
- ▶ Presentation of College Awards
- ▶ Recognition of Tenure and Promotion
- ▶ Year in Review
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  - ▶ Research and Scholarship
  - ▶ Service
- ▶ Review of Goals for 2014-2015
- ▶ Goals for 2015-2016



# Dean's Office

- ▶ Dean-Dr. John Pascarella
- ▶ Associate Dean of Curriculum and Assessment-Dr. Marcus Gillespie
- ▶ Associate Dean of Research and Graduate Programs-Dr. Anne Gaillard
- ▶ Assistant to the Dean-Tammy Gray
- ▶ Senior Administrative Assistant-Rhonda Baxter
- ▶ Administrative Assistant-Shellie Armstrong
- ▶ Staff Assistant- Susan Floyd

# College Staff Associates from DELTA

- ▶ DELTA COS Web Content Specialist-  
John Holder ([jmholder@shsu.edu](mailto:jmholder@shsu.edu))



## DELTA ONLINE COURSE DESIGN ASSISTANCE



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# New Faculty and Staff

- ▶ Agricultural Sciences and Engineering Technology
- ▶ Biological Sciences
- ▶ Chemistry
- ▶ Computer Science
- ▶ Mathematics and Statistics
- ▶ Physics



Please join me in congratulating the winners:

- ▶ Graduate Student Excellence in Research – Mr. Zhaoce “Charlie” Liu (Mathematics and Statistics)
- ▶ Student Excellence in Teaching – Ms. Jeannette Carlson (Biological Sciences)
- ▶ Adjunct Faculty Excellence in Teaching – Mr. Michael Moore (Agricultural Sciences and Engineering Technology)
- ▶ Faculty Excellence in Research – Dr. Faruk Yildiz (Agricultural Sciences and Engineering Technology)
- ▶ Faculty Excellence in Teaching – Dr. Scott Miller (Physics)
- ▶ Faculty Excellence in Service – Dr. Dwayne Pavelock (Agricultural Sciences and Engineering Technology)

College of Science  
Excellence Awards

- ▶ Tenure and Promotion to Associate Professor
  - ▶ Tim Pankuk (Agricultural Sciences and Engineering Technology)
  - ▶ Darren Williams (Chemistry)
  - ▶ Cihan Varol (Computer Science)
- ▶ Promotion to Professor
  - ▶ Joe Muller (Agricultural Sciences and Engineering Technology)
  - ▶ John Strait (Geography and Geology)

# Faculty Tenure and Promotion





# Enrollment and Credit Hours

TOTAL UNIVERSITY UNDERGRADUATE ENROLLMENT IS  
17,233, UP 3.25%;

TOTAL GRADUATE ENROLLMENT IS 2,700, DOWN 2.84%,

TOTAL IS 19,933, UP 2.38% (8/18/15)

# Undergraduates in COS

Data as of 8/18/2015-compared to 2014 and 2013, \* moved to Health Sciences, 3<sup>rd</sup> largest college in majors behind COB and CJ

▶ <u>Sciences</u>	2992/4121/4101		
▶ Biology	514/654/737	▶ Engineering Technology	83/79/37
▶ Animal Science	379/350/367	▶ Agricultural Engineering Tech	78/67/69
▶ Forensic Chemistry	274/302/296	▶ General Studies	75/66/115
▶ Computing Science	260/289/269	▶ Geography	58/72/61
▶ Agricultural Business	211/226/206	▶ Design/Development	35/39/36
▶ Construction Management	152/121/117	▶ Plant and Soil Science	37/31/32
▶ Applied Arts and Sciences	139/164/164	▶ Elec. And Computer Eng. Tech	29/1/0
▶ Geology	131/138/124	▶ Agricultural Communications	20/12/0
▶ Mathematics	128/125/143	▶ Electronics	0/2/26
▶ Chemistry	111/113/110	▶ Industrial Safety Management	0/1/15
▶ General Core	98/181/194	▶ Nursing*	0/0/141
▶ Physics	90/101/99	▶ General Studies-Prenursing*	0/822/539
▶ Biomedical Sciences	87/79/32		
▶ Interdisciplinary Ag	86/66/66		



# Graduate Students in COS

Data as of 8/19/2015 , 5<sup>th</sup> largest college in grad students

<u>Masters</u>	<u>228/218</u>
Agriculture	49/33
Biology	30/23
Chemistry	17/19
Computing and Information Science	27/25
Digital Forensics	16/18
Geographic Information Systems	20/26
Information Assurance and Security	25/31
Mathematics	23/24
Statistics	14/19

<u>Graduate Certificate</u>	<u>7/4</u>
Cyber Security	1/0
Data Assurance	2/0
Digital Investigation	1/3
Geographic Information Systems	3/1

# SCH-Fall 2015 to Fall 2014

Data from 8/18/2015 , class day -7

Academic Affairs	3,331	2,699	632	23.42%
Business Administration	36,331	34,988	1,343	3.84%
Criminal Justice	22,735	22,987	-252	-1.10%
Education	19,741	20,632	-891	-4.32%
Fine Arts and Mass Comm.	18,807	17,557	1,250	7.12%
Health Sciences	18,617	12,393	6,224	50.22%
Humanities and Social Sciences	62,602	65,922	-3,320	-5.04%
Sciences	53,806	51,494	2,312	4.49%
Grand Total	235,970	228,672	7,298	3.19%

23% of all credit hours come from COS



# College of Science Graduates

	Fall 2014/ Fall 2013	Spring 2015/ Spring 2014	Summer 2015/ Summer 2014
Undergraduate	177/191	243/212	94/87
Graduate	22/23	44/26	24/11
Total	199/214	287/238	118/98

Total graduates up 9.8% over previous year.  
Undergraduate up 4.9%  
Graduates up 50%!



# Teaching and Curriculum





## ▶ Curriculum and Degree Programs

- ▶ TSUS approved (awaiting THECB approval):
  - ▶ Online Master of Agriculture degree in Sustainable Agriculture and Food Environment (SAFE)
  - ▶ BS in Digital Forensics Engineering Technology
- ▶ Computer Science ABET accreditation to 2019
- ▶ Chemistry received ACS certification approval
- ▶ MS in Math now part of NSF Math Alliance

# Teaching Excellence Awards



- ▶ Dr. Marcy Beverly (Agricultural Sciences) is the recipient of the NARRU Outstanding Educator Award
- ▶ Dr. Madhusan Choudhary (Biological Sciences) won the 2013-2014 Texas Branch American Society for Microbiology Faculty Mentoring Award
- ▶ Dr. Rebecca Garcia (Math) awarded Distinguished University Teaching Award from the Texas Section of the Mathematical Association of America
- ▶ Dr. Foy Mills (Agricultural Sciences) is the NARRU Distinguished Educator Award



# ACE (Academic Community Engagement)

- ▶ Dr. Li-Jen Shannon has the floor



# Research and Scholarship



# SHSU Award of Excellence in Scholarly and Artistic Accomplishment

DR. SCOTT CHAPMAN (MATHEMATICS AND  
STATISTICS)



# Faculty Research Grant (\$5,000): 2 out of the 10 awards were to COS

An Min Kyung (Computer Science): “Efficient Broadcasting in Wireless Sensor Networks”

Jessica Leatherwood (Agricultural Sciences and Engineering Technology): “Non-Invasive Evaluation of Equine Lean Tissue Development”

► Deadline to apply is Oct. 12, 2015



# Enhancement Research Grants (\$15,000): 6 out of the 10 awards were to COS

Shyam Nair (Agricultural Sciences and Engineering Technology):  
“Optimal Water Allocation: Simulating Preliminary Data With DSSAT”

Madhusan Choudhary (Biological Sciences): “Molecular Analysis of  
recA gene in Rhodobacter sphaeroides”

Qinzhong (Frank) Liu and Hyuk Cho (Computer Science): “Novel  
Smartphone Authentication, Data Protection, and Source  
Identification”

Narasimha (Karpoor) Shashidhar and Cihan Varol (Computer  
Science): “iBaTs: Interactive Bash Shell Adaptive Tutoring System

Samuel Adu-Prah (Geography and Geology): “Spatiotemporal and  
Environmental Modeling of Malaria in Ghana”

Jianzhong Wang (Mathematics and Statistics): Autodidactic Iteration  
Schemes for Image Classification

Deadline to apply is Oct. 1, 2015

# Professional Development Leaves

Funded by the Provost

- ▶ Dr. Sibyl Bucheli (Biological Sciences)
- ▶ Dr. Patrick Lewis (Biological Sciences)
- ▶ Dr. Aaron Lynne (Biological Sciences)
- ▶ Dr. Gang Liang (Physics)

Funded by the College of Sciences

- ▶ Dr. Renee James (Physics)



# COS Dean's Office Funding for Research



- ▶ Provided additional funding to EURECA for student-faculty summer research teams (FAST)
- ▶ Funded undergraduate students through COS Undergraduate Research Program
- ▶ Funded SHSU student for Summer NSF Math REU
- ▶ Funded faculty and student publications
- ▶ HEAF funding-New Nuclear Magnetic Resonance Imager for Chemistry

# External Funding (7/1/14-7/1/15)

Department	# New Apps	\$ New Apps	# Grants Awarded	\$ New Awards	# Active Awards	\$ spent active grants
Agricultural Sciences and Engineering Technology	3	\$793,797	3	\$34,600	5	\$263,969
Biology	9	\$1,417,120	1	\$39,920	5	\$158,852
Chemistry	5	\$1,315,230	3	\$383,631	3	\$336,015
Computer Science	1	\$82,930	0	\$0	1	\$52,215
Geography/Geology	2	\$108,053	0	\$0	1	\$36,183
Math and Statistics	1	\$249,515	0	\$0	5	\$396,698
Physics	1	\$138,512	0	\$0	2	\$30,200
Total	22	\$4,570,233	19	\$468,468	22	\$1,274,132
Last Year	34	\$9,514,888	19	\$1,855,390	38	\$606,904



# Selected Awards and Active Grants 2014-2015

- ▶ Biological Sciences-Earthwatch grant to Dr. Wozniak
- ▶ Chemistry-Continued Army funding of Dr. Petrikovics on cyanide antidotes; Darren Williams SDERP grant
- ▶ Math and Statistics-2<sup>nd</sup> year of NSF REU at SHSU



# External Research Awards

- ▶ Biology Graduate Student Kelbi Delaune won the Student Field Natural History Award at the Southwestern Association of Naturalists Meeting
- ▶ Frank Liu (Computer Science) won the 2015 Fraud Impact Award from the Houston Area Association of Certified Fraud Examiners







SERVICE

# COS Faculty in Administrative Service

- ▶ Dr. Jaimie Hebert (Mathematics and Statistics), Provost and Vice President for Academic Affairs
- ▶ Dr. Jerry Cook (Biology), Associate VP of Research
- ▶ Dr. Tamara Cook (Biology), Director of EURECA
- ▶ Dr. Patrick Lewis (Biology), Assistant Director of Honors Program
- ▶ Dr. Bill Lutterschmidt (Biology), Director of TRIES
- ▶ Dr. Diane Neudorf (Biology), ACE coordinator for COS
- ▶ Dr. Todd Primm (Biology), Interim Director of PACE



# Service Activities from Dean's Office

- ▶ Dean's Office and Biology Faculty attended "Houston Hispanic Forum"
- ▶ Organized Annual College Career Fair
- ▶ Served on Faculty Compensation Committee (With Dr. Steve Scariano)
- ▶ Served on Promotion and Tenure Policy Review Committee
- ▶ Served on Let's Talk Fundraiser for Honors College
- ▶ Began College of Sciences Tailgate at Football Games (will continue this year)





## SHSU Staff Excellence Awards

Lisa Langlais (Mathematics and Statistics)

Bubba Miller (Agricultural Sciences and Engineering Technology)





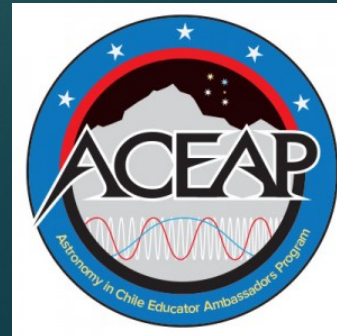
## COS WAS THE TOP COLLEGE FOR THE SHSU ANNUAL FUND!



The College of Sciences was recognized for raising the most money during the campaign. From left: Melinda Holt, Bobby Lane, John Pascarella, and David Burris.

# Other Service Contributions

- ▶ Michael Prokosh (Physics) represented the US Astronomy Education Community in the Astronomy in Chile Educator Ambassador Program
- ▶ Dr. Gary Acton (Geology) gave invited lectures at 8 universities as part of the Ocean Leadership Distinguished lecture series and represented the American Geophysical Union at the Congressional Day visits
- ▶ Dr. David Thompson (Chemistry) was an ACS Project Seed Mentor and was honored for 5 years of mentoring service for Huntsville High School students
- ▶ Dr. Luis David Garcia-Puente (Math) led a workshop at the 2015 Modern Math Workshop and will be a 2016 MSRI-UP advisor
- ▶ Drs. Brandy Doleshal and Taylor Martin (Math) hosted Operation Math Girls (OMG) for female HS students
- ▶ Dr. Mary Swarthout completed two years as President of Research Council on Mathematics Learning
- ▶ Dr. Ananda Manage won the 2015 Graduate Advisor Award from the SHSU Office of Graduate Studies





- ▶ Dr. Don Albert (Geography and Geology) serves as editor of the *International Journal of Applied Geospatial Research*
- ▶ Dr. Scott Chapman (Math) is editor of *The American Mathematical Monthly*, the premier journal of the Mathematical Association of America
- ▶ Dr. Stanley Kelley (Agricultural Sciences) is Associate Editor for *Texas Journal of Agriculture and Natural Resources*
- ▶ Dr. Chris Randle (Biological Sciences) is Editor-in-Chief of *Castanea*, the Journal of the Southern Appalachian Botanical Society
- ▶ Dr. Kyle Stutts (Agricultural Sciences) serves as Associate Editor – *Journal of North American Colleges and Teachers of Agriculture*
- ▶ Dr. David Thompson is Associate Editor for *Analytical Sciences Digital Library*
- ▶ Dr. Jianzhong Wong (Math) is Associate Editor of *Applicable Analysis* and Chief Editor of a special issue of *International Journal of Wavelets, Multiresolution and Information Processing*

## Editorships



# Equipment and Infrastructure



# Christmas Mountains Ecological Reserve-Brewster County, Texas



Next to Big Bend National Park



# 3 new Field Trucks for Agriculture, Biology, Geology





# New Research Vehicle for Biological Sciences





# New Benches for Anatomy and Physiology Students-Lee Drain Building





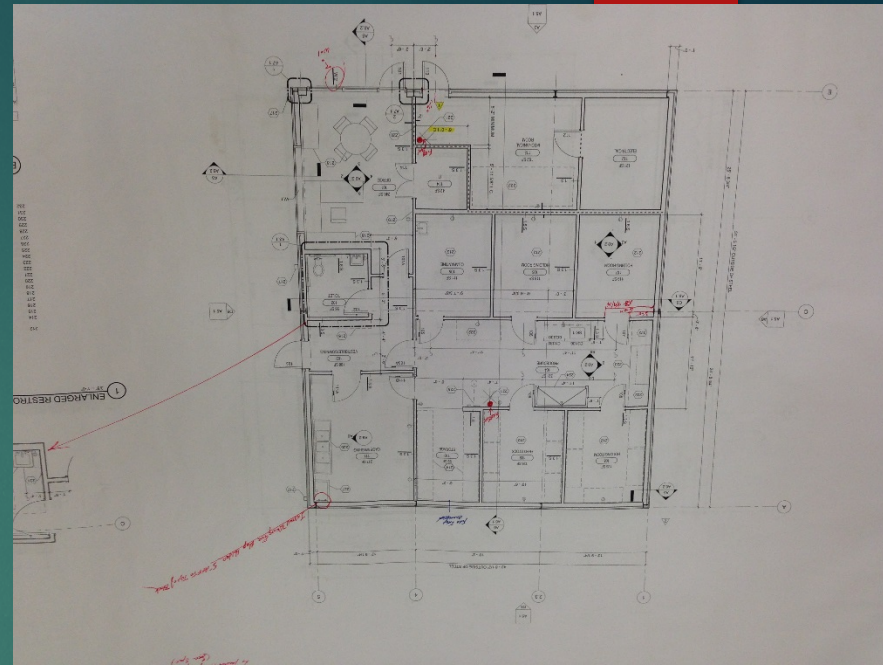
# Academic Buildings

- ▶ Sciences Annex (Vivarium-Animal Care Facility). Open (~\$1.6 million)
- ▶ Fred Pirkle Engineering Technology Building under Construction, open January 2017 (~\$22.5 million)
- ▶ Biology Lab Building, hired architectural firm and construction manager, in design phase, to be finished spring 2018 with August 2018 full occupancy (~\$60 million)

Over 84 million dollars invested in College of Sciences facilities!



# Sciences Annex









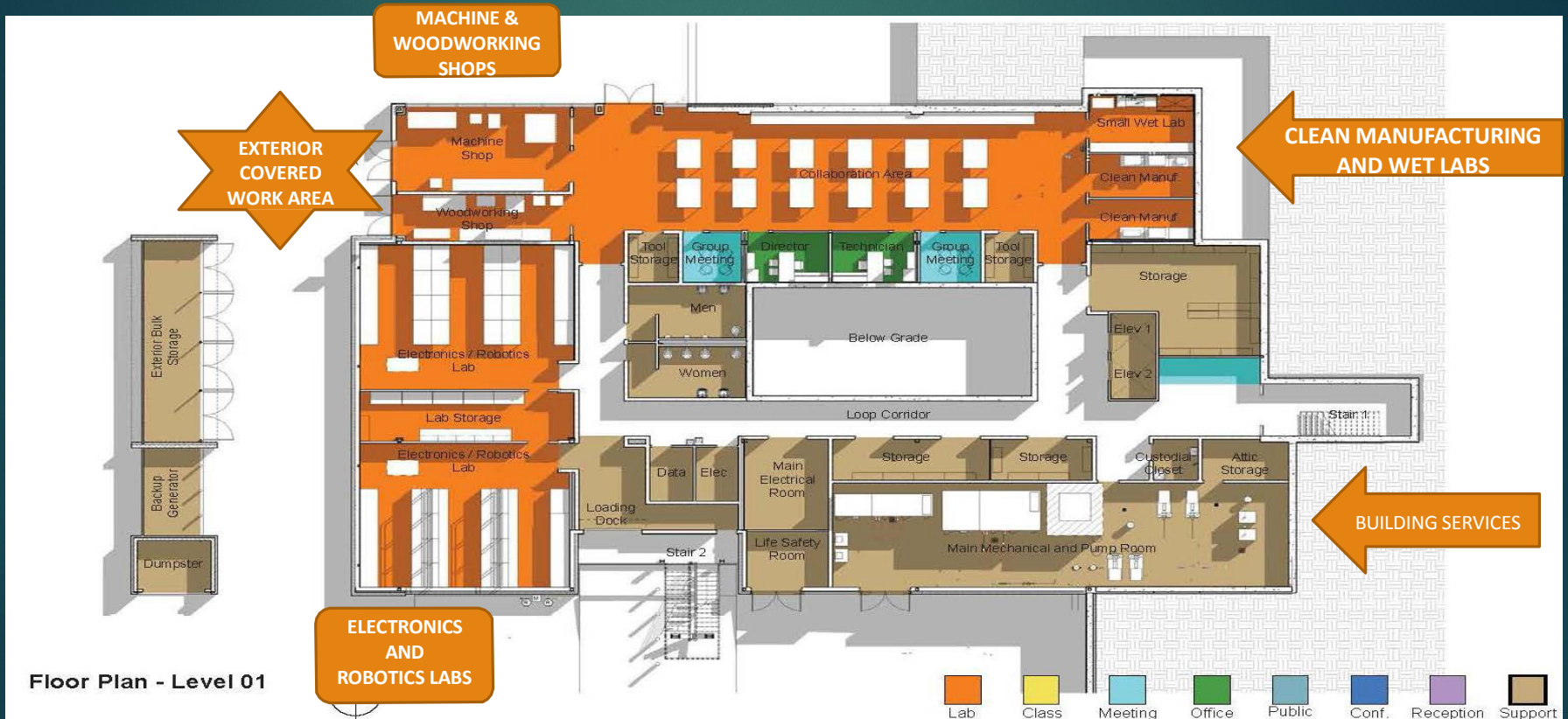


# FRED PIRKLE ENGINEERING TECHNOLOGY CENTER

Sam Houston State University



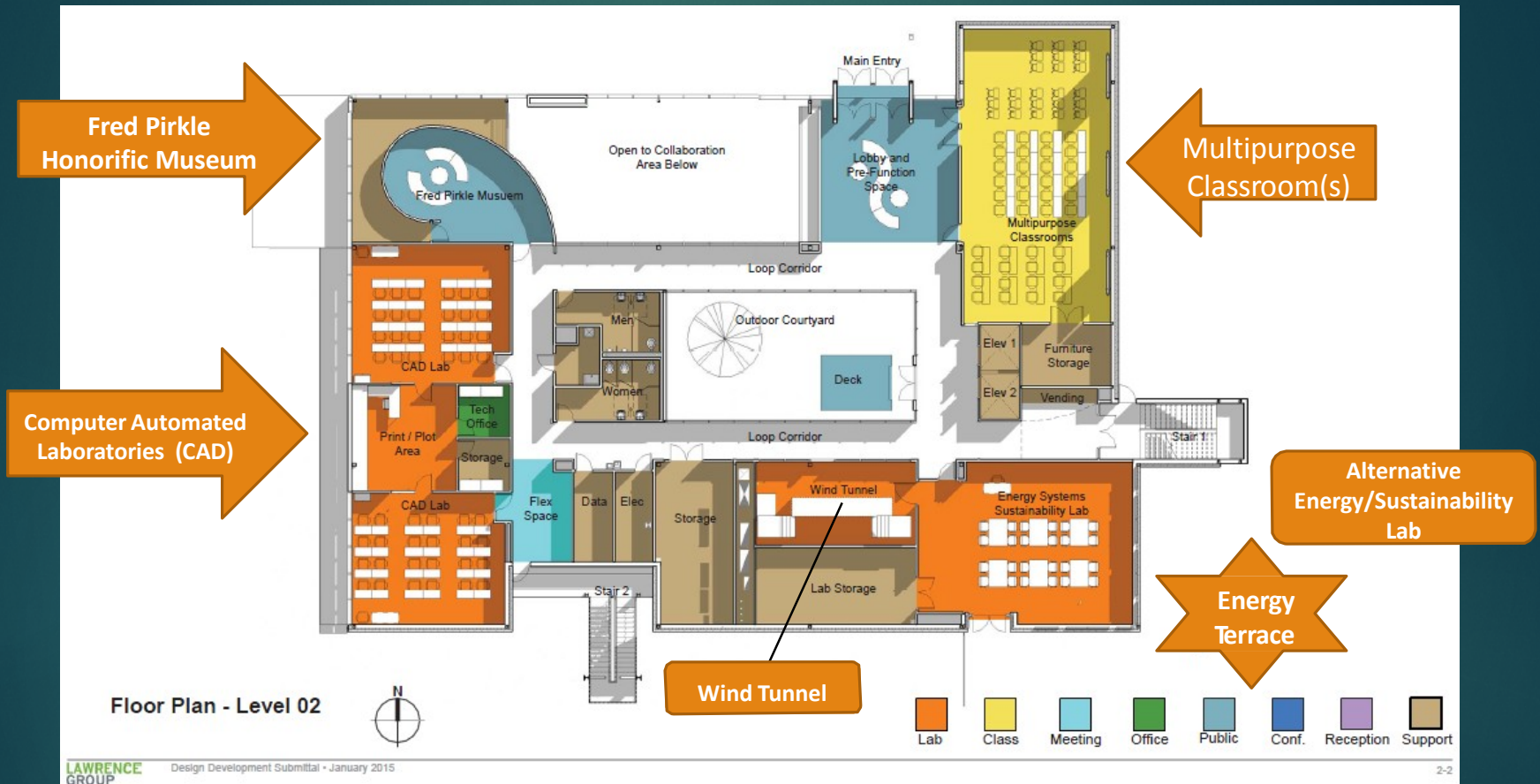
# "EDISON INNOVATION LEVEL" 1



"Genius is one percent inspiration, ninety-nine percent perspiration." Thomas Edison – American Inventor and Businessman

## Fred Pirkle Engineering Technology Center

### “FRED PIRKLE LEVEL” 2



“Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world.” Albert Einstein – Theoretical physicist and violinist



## "THOMAS JEFFERSON LEVEL" 3



"I like the dreams of the future better than the history of the past." Thomas Jefferson

## "SAM HOUSTON LEVEL" 4



Departments Chair Suite  
and  
Faculty Lounge & Work Room

Floor Plan - Level 04

- Lab
- Class
- Meeting
- Office
- Public
- Conf.
- Reception
- Support

"Tell me and I forget. Teach me and I may remember. Involve me and I learn." Benjamin Franklin





EXISTING WATER MAIN

Service Access

120'

120'

**FUTURE  
SING/RESEARCH/  
APPLIED HEALTH**

**3 FLOORS @ 25K  
75,000 GSF**

50'

**SHSU  
BIOLOGY  
LABORATORY  
BUILDING**

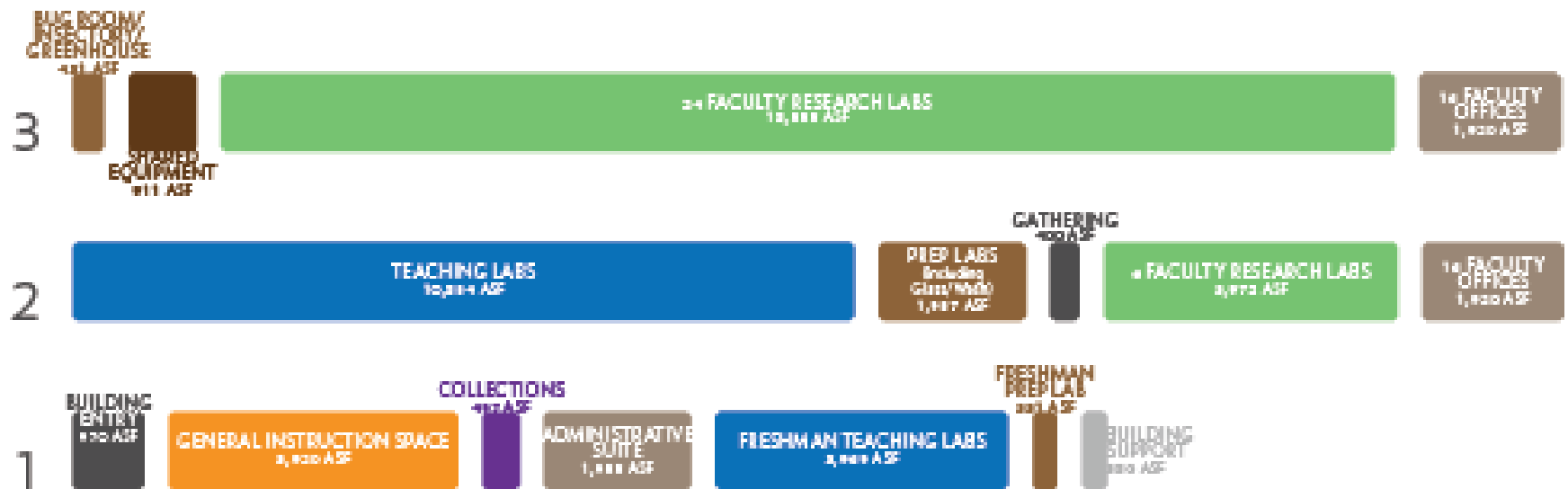
**3 FLOORS @ 28K  
84,000 GSF**

232'



# Biology Lab Building Programming

## STACKING DIAGRAM



# Repurposing of Old Post Office-at Biology Field Station





# Our most significant infrastructure yet?



Harmon Creek, SHSU Biology Field Station





# Review of Goals for 2014- 2015



# Goals from last year

- ▶ Begin Assessing Core Curriculum Courses
  - ▶ Process Underway with writing assessment
- ▶ Analyze opportunities/threats from Lone Star and partners entering local market
  - ▶ ie., SFA approved to offer a Biology degree at LS Montgomery
    - ▶ Not a threat, possibly an opportunity to collaborate
- ▶ Can and should we offer select undergraduate degrees at LS campuses or satellite campuses (Woodlands, University Park)?
  - ▶ Focus efforts on Woodlands Campus while trying out UP.
  - ▶ Seeking to obtain a specialized GIS room at TWC



# Goals from last year

- ▶ Continue developing international partnerships
  - ▶ New Students arriving from Turkey for Computer Science programs, interest also from China for CS
  - ▶ Beijing Mining and Technology would welcome course next summer-they cover all room and board for course
  - ▶ Developing new field Biology course in Costa Rica

Costa Rican Coffee-Good, Costa Rican Monkey-Bad





# Goals from last year

- Develop and Support new programs
  - Submit proposal for Environmental Science BS degree
    - Beginning curriculum process Fall 2015
  - Funding for Computer Science and Engineering Technology Faculty
    - Obtained 4 new faculty lines (2 in each)
  - Signed MOU with UT-Tyler for pre-engineering curriculum for 2+2 transfer program in civil, electrical, and mechanical engineering



# Goals from last year

- Support Fundraising efforts for College
  - Attended Fundraising Workshop for Deans
  - \$500,000 Endowed Professorship in Biological Sciences from Dr. Roland Black (MD), alumni-soon to be paid out
  - Obtained natural history collection of rare books from Dr. Horace Burke, alumni
  - Will soon announce a multimillion dollar (~5 million) gift to support Engineering Technology





# Goals for FY16

- ▶ Change Name of College to College of Science and Engineering Technology
  - ▶ Students do not know that we have pre-engineering and engineering technology as name is not prominently featured; strong growth potential in pre-engineering and engineering technology
- ▶ Submit Full Proposal for First PhD in College
  - ▶ Digital Forensics and Cybersecurity; will increase academic reputation of department and college

# Goals for FY16 continued

- ▶ Support Student Research
  - ▶ Provide Summer Research Grants for Graduate students to encourage timely and high quality research
- ▶ Increase International Recruitment and Course Offerings
  - ▶ Develop proposal with Karz University for 2+2 program in Biotechnology/Bioengineering and Zhejiang Police College for Computer Science 2+2 or 3+2 programs



# Have a great year!

- ▶ Please provide your input into all of these areas through your departmental meetings, department chair, faculty senate representatives, and other venues.
- ▶ I will be visiting with each department during the year to discuss how we can improve teaching, research and scholarship within the COS. I look forward to hearing your ideas.