

# College of Science and Engineering Technology (COSET)

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2020 STATE OF THE COLLEGE ADDRESS

# Overview

**Dean's Office Introductions**

**Departmental New Faculty and Staff Introductions**

**Presentation of College Awards**

**Recognition of Tenure and Promotion**

**Year in Review**

- **Enrollment and Teaching**
- **Research and Scholarship**
- **Service**

**Review of Goals for 2019-2020**

**Goals for 2020-2021**

# Office of the Dean

Dean-Dr. John Pascarella

Associate Dean of Curriculum and Assessment

- Dr. Marcus Gillespie (will retire next year-Dr. Melinda Holt will assume these duties summer of 2021)

Associate Dean of Research and Graduate Programs

- Dr. Anne Gaillard

Assistant to the Dean-Angie Burgess

Administrative Coordinator-DeLynn Say

Administrative Associate-Shellie Armstrong

Administrative Assistant- Susan Floyd

# New Faculty and Staff joining COSET since August 2019

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10 new full-time faculty (4 TT, 5 Visiting Assistant Professors, 1 Lecturer)

1 new staff member

# Agricultural Sciences

Chair: Doug Ullrich

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No new hires

# Biological Sciences

Chair: Aaron Lynne (New), Dr. Tami Cook  
returns to faculty after 3 years service

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Administrative Associate II: Kristin Skillern

# Chemistry

Chair: Donovan Haines

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Visiting Assistant Professor: Dr. Harshani Jayabahu Arachchilage

# Computer Science

Chair: Bing Zhou (New); Dr. Peter Cooper  
returns to faculty after 18 years service as  
chair

Tenure Track Faculty:

Dr. Amar Adnan Rasheed

Visiting Assistant Professor: Dr. Mohamad Baza



# Engineering Technology

Chair: Faruk Yildiz

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Tenure Track Faculty:

Mechanical Engineering Technology: Dr.Sumith Daisy Yesudasan

Dr. Shah Alam (Fred Pirkle Endowed)

# Geography and Geology

Chair: John (Pat) Harris (New); Dr. Brian  
Cooper returns to faculty after 10 years service

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No new hires

# Mathematics and Statistics

## Chair: Melinda Holt

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Tenure-Track Assistant Professor: Dr. Naomi Krawzik

Visiting Assistant Professor: Dr. Ellen Weld

Dr. Chi Phan

Dr. Phuong Nguyen

# Physics and Astronomy

Chair: Joel Walker

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Astronomy/Physics Lecturer: Dr. Holly Sheets

Please join me in congratulating the winners:

**Graduate Student Excellence in Research – Mr. Hasika Wickrama Senevirathna  
(Mathematics and Statistics)**

**Student Excellence in Teaching – no award given this year**

**Adjunct Faculty Excellence in Teaching – Ms. Volha Minich (Biological Sciences)**

**Faculty Excellence in Research – Dr. Juan Daza (Biological Sciences)**

**Faculty Excellence in Teaching – Dr. Ananda Manage (Statistics)**

**Faculty Excellence in Service – Dr. David Thompson (Chemistry)**

College of Science & Engineering  
Technology Excellence Awards

## **Tenure and Promotion to Associate Professor**

- Shyam Nair (Agricultural Sciences)
- Ram Kafle (Mathematics and Statistics)
- James Dent (Physics and Astronomy)

## **Tenure and Promotion to Professor**

- Junkun Ma (Engineering Technology)

## **Tenure (rank of Professor)**

- Recayi Pecen (Engineering Technology)

# Faculty Tenure and Promotion

## Promotion to Professor

- Sibyl Bucheli (Biological Sciences)
- Madhusudan Choudhary (Biological Sciences)
- Aaron Lynne (Biological Sciences)
- Donovan Haines (Chemistry)
- Faruk Yildiz (Engineering Technology)
- John Alford (Mathematics and Statistics)
- Scott Miller (Physics and Astronomy)

Faculty Tenure and Promotion

# Emeritus Professor

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Dr. Mark Klespis, Mathematics Education



# Distinguished Professor

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Dr. Jerry Cook (Biological Sciences)

# Retirements

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Max Coleman (Mathematics)

Mark Klespis (Mathematics)

Melanie Rose (Chemistry)

Thank you for your years of service to SHSU!

We wish you the best in your retirement!

# In Memorium

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John Wilson (Physics)

# Funded Budget Initiatives FY21

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New Funding: \$150,000

- Cohort #3 of 5 additional Doctoral Students in PhD program

Funded HEF: ~\$437,000 (pending confirmation)

- Start-up for new ETEC Faculty: \$50,000
- \$50,000 for Renovation of Art building C for Engineering Technology
- \$150,000 for Equipment for Engineering Technology Labs
- \$20,000 for Computer Science Evidence Room Renovation
- \$66,335 for new Observatory Building for Astronomy
- Chemistry Teaching Equipment: \$52,400
- Agricultural Engineering Technology Teaching Equipment: \$23,157
- Biological Sciences Teaching Equipment: \$4122
- Environmental and Geosciences Teaching Equipment: \$5400

# College Lab and Course Fee, Differential Tuition for ETEC

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Non-majors lab fee doubled from \$8 to \$16, estimated at \$134,430 (about twice what was received last year). Fees used to purchase consumable materials and supplies.

Majors Lab Improvement Fee is \$50/semester: estimated at \$290,000

Majors lab fees were used in FY20 to order two new vans for field trips (\$75,000), to assist with renovation of ART A and WASH for use by ETEC for labs in Mechanical Engineering Technology, Safety Management, and Construction Management. Remainder was directed to departments for use in lab support. In FY21, Majors Lab fees can also be used to cover lab assistant student salaries.

Differential tuition for ETEC: Extra \$4 per credit hour for FY21 and \$8 for FY22. No additional funds come to COSET from this fee though.

# Current and Future Budget Cuts

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FY21: -\$400,000

- Gave up two vacant positions (TT in CS and Lecturer in Math); salary savings from faculty resignation and retirement, moved 3 grad students to DLF funds, reduced summer, adjunct, overload, and instructional reserve funds and O&M in deans office, and reduced departmental travel funds by 15% and departmental O&M by 5%

FY22: estimated at -\$476,772; could be less or more depending on enrollment, state cuts, and federal assistance

- Chairs have been asked to work with departments to propose savings including potential reduction in force of NTT faculty and staff along with O&M and travel cuts and reallocation of revenue funds. Any retirements, resignations and non-reappointments of T/TT faculty are also possible cuts. Consider phasing out or consolidating minors and degree programs with low enrollment and/or lack of flexibility.

# Enrollment and Credit Hours

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UNIVERSITY ENROLLMENT IS FLAT (+0.54% HEAD  
COUNT)

COSET ENROLLMENT IS FLAT UNDERGRAD, UP  
GRAD BY 10% (TOTAL IS +0.08%)

# Undergraduates in COSET

Data (8/11/2020)-compared to 2019 and 2018 3526/3530/3475, flat enrollment  
2<sup>nd</sup> Largest College by Majors (down 45 students to CJ), Most Credit Hours by College Majors!

|                                  |                    |  |                  |
|----------------------------------|--------------------|--|------------------|
| <b>Animal Science</b>            | <b>554/562/557</b> | <b>Chemistry**</b>                       | <b>78/77/102</b> |
| <b>Biomedical Sciences</b>       | <b>447/433/307</b> | <b>Environmental Science</b>             | <b>69/41/1</b>   |
| <b>Biology</b>                   | <b>379/385/447</b> | <b>Cybersecurity</b>                     | <b>61/45/20</b>  |
| <b>Forensic Chemistry</b>        | <b>279/340/303</b> | <b>Geology</b>                           | <b>59/57/55</b>  |
| <b>Construction Management</b>   | <b>282/263/271</b> | <b>Engineering Design Technology</b>     | <b>58/48/41</b>  |
| <b>Computing Science</b>         | <b>223/257/247</b> | <b>Plant and Soil Science</b>            | <b>51/48/43</b>  |
| <b>Agricultural Business</b>     | <b>136/158/182</b> | <b>Physics***</b>                        | <b>40/39/45</b>  |
| <b>Engineering Technology*</b>   | <b>116/119/105</b> | <b>Geography</b>                         | <b>39/35/43</b>  |
| <b>Mathematics</b>               | <b>112/130/150</b> | <b>Agricultural Communication</b>        | <b>30/37/37</b>  |
| <b>Software Engineering</b>      | <b>111/113/89</b>  | <b>General Core</b>                      | <b>23/4/?</b>    |
| <b>Agricultural Eng. Tech</b>    | <b>97/119/108</b>  | <b>Composite Science</b>                 | <b>20/17/3</b>   |
| <b>Interdisciplinary Ag</b>      | <b>95/85/85</b>    | <b>Mechanical Engineering Tech (new)</b> | <b>1</b>         |
| <b>Applied Arts and Sciences</b> | <b>84/104/118</b>  |  |                  |
| <b>Elec/Computer Eng. Tech</b>   | <b>82/91/92</b>    |  |                  |

\* Includes UT Tyler Engineering Transfer Students

\*\* Includes Chemical Engineering Transfer. \*\*\*Includes Physics Pre-Engineering



# Graduate Students in COSET

Data as of 8/11/2020, compared to 2019 and 2018  
Up 10% compared to 2019

## Doctoral

Digital and Cyber Forensic Science 12/4/6

## Masters 245/225/223

Agriculture 43/35/30

Sustainable Agriculture 16/22/32

Biology 36/30/29

Chemistry 10/9/9

Computing and Information Science 16/13/16

Digital Forensics 22/20/19

Information Assurance and Cybersecurity 37/37/33

Geographic Information Systems 31/22/19

Mathematics (MA, MS) 15/20/20

Statistics 15/13/16

## Graduate Certificate 13/10/19

Cyber Security 3/4/10

Data Assurance 0/1/2

Digital Investigation 5/4/5

Geographic Information Systems 5/1/2

# COSET Graduates (AY20/AY19)

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|               | Fall 2019/<br>Fall 2018 | Spring 2020/<br>Spring 2019 | Summer 2020/<br>Summer 2019 | Total AY20/<br>AY19 |
|---------------|-------------------------|-----------------------------|-----------------------------|---------------------|
| Undergraduate | 217/219                 | 327/289                     | 123/116                     | 667/624             |
| Graduate      | 29/22                   | 56/55                       | 18/15                       | 103/92              |
| Total         | 246/242                 | 383/344                     | 141/131                     | 770/716             |

Total graduates up 7.5% over previous year.

Undergraduates up 6.8%

Graduates up 12%

# Teaching and Curriculum

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## **Curriculum and Degree Programs**

- **BS in Mechanical Engineering Technology starts Fall 2020**
- **Advising and Assessment of Environmental Science moves from Dean's Office to Department of Environmental and Geosciences and has new concentration in Water Resources**
- **New Departmental Names**
  - **School of Agricultural Sciences to reflect size and complexity and national trends**
  - **Geography and Geology is now Environmental and Geosciences**
  - **Physics is now Physics and Astronomy**

# Curriculum -continued

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- **New Program Names**
  - **Design & Development is now Engineering Design Technology (BS)**
  - **Digital and Cyber Forensic Engineering Technology is now Cybersecurity (BS)**
  - **Computer Software Engineering Technology is now Software Engineering (BS)**
  - **Information Assurance and Security is now Information Assurance and Cybersecurity (MS)**

# Pandemic Response

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Shift to remote teaching in Spring and Summer 2020

Development of Hybrid Blended Model for Fall 2020

- Weekly contact mandate limits model type adoption

New thinking of how to teach both lectures and labs

- Recorded Lectures and Labs
- Synchronous Lectures and Labs
- Virtual Labs, Simulations, Group Projects
- Technology and Access
- Zoom!



Jim Davis



Ken Smith



Jackman Liu



Yanran Li



Eleazer Allnice



Scarlett Sun



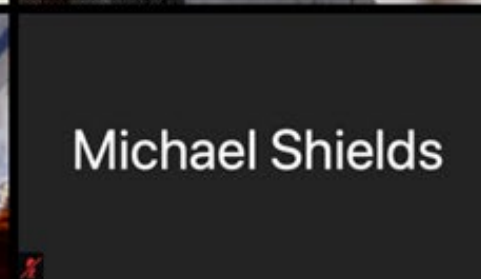
matthewwilliams



Jenna Williams



Calvin Reedy



Michael Shields

Unmute Stop Video

Participants 10

Chat

Share Screen

Record

Reactions

Leave Meeting

# Research and Scholarship

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# External Funding (7/1/19-7/1/20)

| Department             | # New Apps | \$ New Apps        | # Grants Awarded | \$ New Awards      | # Active Awards | \$ spent active grants |
|------------------------|------------|--------------------|------------------|--------------------|-----------------|------------------------|
| Agricultural Sciences  | 2          | \$14,566           | 1                | \$277,424          | 3               | \$48,259               |
| Biological Sciences    | 17         | \$2,367,306        | 5                | \$102,310          | 9               | \$93,614               |
| Chemistry              | 3          | \$504,813          | 0                | \$0                | 3               | \$83,042               |
| Computer Science       | 9          | \$4,007,344        | 0                | \$0                | 1               | \$9,720                |
| Engineering Technology | 5          | \$588,430          | 0                | \$0                | 0               | \$0                    |
| Geography/Geology      | 0          | \$0                | 1                | \$384,205          | 0               | \$0                    |
| Math and Statistics    | 3          | \$2,253,507        | 2                | \$220,365          | 4               | \$200,877              |
| Physics                | 0          | \$0                | 0                | \$0                | 1               | \$11,029               |
| <b>Total</b>           | <b>38</b>  | <b>\$9,735,966</b> | <b>9</b>         | <b>\$979,304</b>   | <b>21</b>       | <b>\$446,541</b>       |
| <b>Last Year</b>       | <b>51</b>  | <b>\$9,740,701</b> | <b>16</b>        | <b>\$2,181,455</b> | <b>41</b>       | <b>\$1,095,713</b>     |

Submissions similar to 19, but awards and expenditures down 50% from 2019



SERVICE

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# Gifts to COSET (7/1/19-6/30/20) compared to last year \$911,242/\$6,391,313

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Agricultural Sciences- \$780,454/\$556,255

Biological Sciences-\$41,677/\$53,307 excluding microscope donation

Chemistry- \$4,143/\$7,177

Computer Sciences-\$3,665/\$4,083

Engineering Technology-\$4,351/\$5,481,254

Geography and Geology-\$30,724/\$23,495

Mathematics and Statistics-\$9,079/\$12,618

Physics-\$4,380/\$6,359

College-\$32,770/\$30,631

Major decline was due to payoff of Fred Pirkle and Quanta Endowment Gifts

# Equipment and Infrastructure

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# Improvements/equipment

LDB basement waterproofing completed prior to repurposing to house Department of Kinesiology from College of Health Sciences-2 flex research labs available in this area for COSET use with externally funded research

Art Buildings A and WASH updated with new ceiling tiles, locks, lighting, paint and some walls removed; new equipment and new/used furniture installed

- Art A is now ETEC Annex A-houses a virtual reality lab, safety lab, and construction materials lab
- WASH is now ETEC Annex C-houses computer CAD area, mechanical engineering labs, and faculty offices
- ART C is now ETEC Annex B-needs extensive renovation for future use

Added additional equipment for SEM in Biological Sciences

# Improvements/equipment

SHSU Natural History Museum opened in old Huntsville High School, added additional library collections and specimens

Bridge rebuilt at Gibbs Ranch and roads redone

University committed internal funding to address Gibbs Ranch construction projects along with external gifts received from Capital Campaign

Lee Drain Annex renovations planned to upgrade HVAC and interior renovation for Geology research

Former GG office space renovated for use by Mathematics for tutoring and offices

# Review of Goals for 2019-2020

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# Goals for FY20

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Recruit the 3<sup>rd</sup> cohort in PhD program in Digital and Cyber Forensic Science

- Some have to delay start due to VISA delays

Complete curriculum planning for online MA in Mathematics Education

- Ongoing

Hire 2 professor to support the BS in Mechanical Engineering Technology

- Completed, one starts August and one in January 2020

Complete repairs/additions for ETEC to use ART A, C, and WASH for laboratories and research space. -2 of 3 completed

Continue preparing for ABET review in Engineering Technology

- Submitted, external review pending for Construction Management in January 2021

External review of ETEC programs (Spring 2020) -on hold due to pandemic

Examine marketing efforts and curriculum revision in declining programs in Physics and Geography

- Will receive NSF Grant which will increase recruitment in Geology and Geography; Physics continuing outreach to High Schools

Complete all training for online faculty through SHSU online -2<sup>nd</sup> among all colleges in completion!

# Goals for 2020-2021

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Assess Teaching Effectiveness of Hybrid Approaches what is working?  
How to improve both pedagogy and technology?

Plan for Continued Hybrid model for Spring and Summer 2021

- Default model adopted by COSET is student rotation model as it meets both weekly contact mandate and reduced density mandate
- Any other model proposed must be approved by Chair, Dean, and Academic Affairs

Plan for Budget Cuts for FY22 and beyond

- Need to think about core programs and mission; can we continue to support all programs under multiyear fiscal stress?

Assess State of Master's Programs

- Move to dual mode of professional online and campus based interdisciplinary?



# FY 21 Goals continued

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Develop Infrastructure for Agricultural Sciences at Gibbs Ranch to replace aging infrastructure at I-45 Ag complex

Propose New High demand programs in Engineering Technology and possibly Engineering