


Center for Energy and Environmental Sustainability

Education and Outreach

EAB/ISC Meeting September 17, 2021

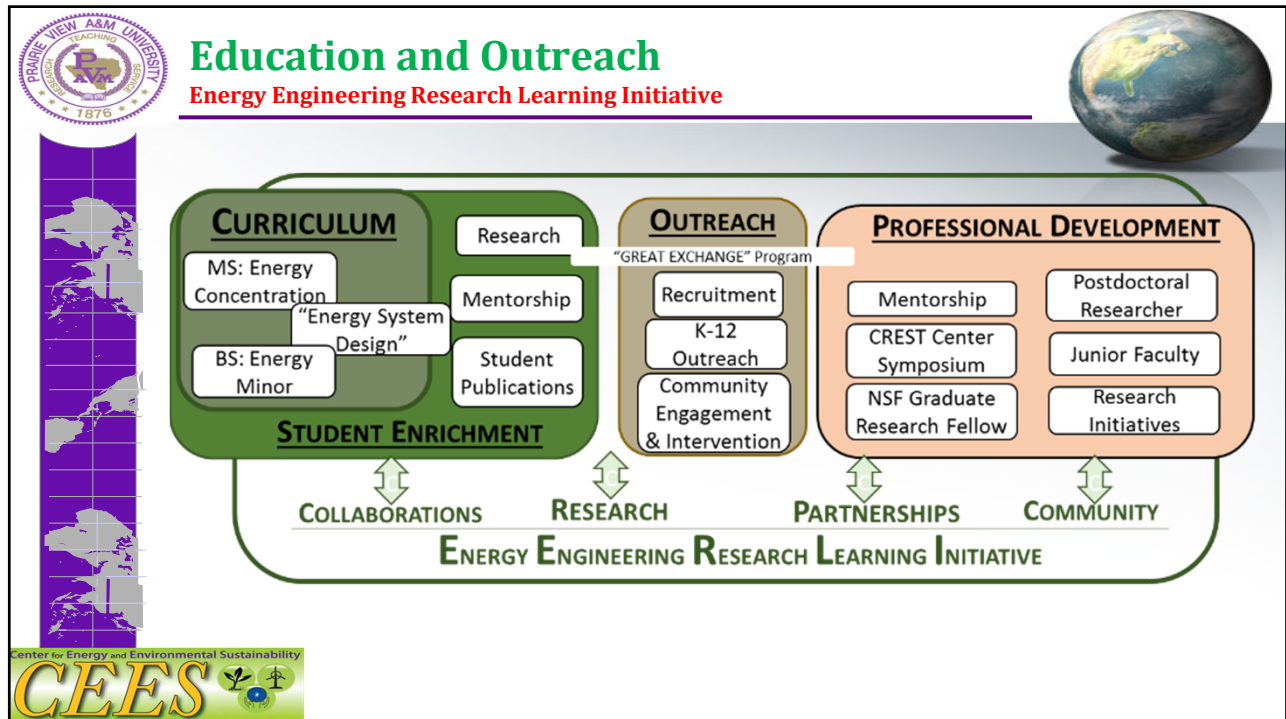


Sheena M. Reeves, PhD
Co-PI & Education & Outreach Leader
Associate Professor of Chemical Engineering
Prairie View A&M University


Kimberly S. Washington
Program Coordinator, CEES
Prairie View A&M University

1

1





2



Education and Outreach


Phase I Goals & Accomplishments







CEES Phase I E&O Goals:

- Increase participation of students from underrepresented groups in STEM disciplines
 - Accomplished!
- Develop undergraduate level energy engineering minor
 - Accomplished!
- Create graduate level energy concentration
 - In Progress






3



Education and Outreach


Phase II Goals




- Expand and strengthen the **energy curriculum and recruitment** for the Energy Engineering minor at the undergraduate level and enhance and establish the graduate Energy Engineering concentration.
- Coordinate a series of **student-centered activities**, including graduate school preparation workshops, corporate/industry mentoring, internships, and presentations at national and regional symposiums.
- Increase **K-12 and community engagement efforts** aimed at improving energy education by participating in local K-12 activities, providing training for K-12 teachers, hosting *EERLI* seminars, workshops and symposiums, and providing energy-related summer camp events for K-12 students.
- Develop a **network of industry partners and research collaborators** to advance CEES research efforts, increase students' engagement in the field beyond the university and seek avenues for continued sustenance of the Center's goals.



4



Education and Outreach

Energy Curriculum and Recruitment







- **Undergraduate Energy Minor**
 - Increase the number of students enrolled in the minor
 - Increase advertising of minor in energy courses by using resources with the marketing/communication department
 - Update the course offerings based on new TCCN numbers


- **Graduate Energy Concentration**
 - Identify new graduate courses/faculty in the in energy and environmental sustainability
 - Resubmit concentration paperwork in FY22

The Energy Engineering Minor has 4 focus areas:

- **Chemical Engineering** - Fossil Fuel and Nuclear Energy
- **Civil and Environmental Engineering** - Energy and Environment
- **Electrical Engineering** - Generation and Distribution
- **Mechanical Engineering** – Renewable Energy






5



Education and Outreach

Student-Centered Activities



- **Student Research**
 - Continue to support undergraduate and graduate research experiences throughout the year
 - Encourage presentations and student publications for students in the CEES center especially those associated with the center for 2+ years

- **CEES Seminar Series**
 - Speakers in Energy Sustainability (such as Climate Change) will present to research students and departments in CEES during 4 – 5 presentations during the academic year

- **Project B.O.W.E.S.**
 - Summer program for incoming PVAMU freshman students who are interested in an Energy career

B.O.W.E.S
**Bio-Energy, Off-shore Wind,
 Energy Sustainability**

6



Education and Outreach

K-12 and Community Engagement Efforts






- **Summer High School Research Experience**
 - Non-residential program for local high school students
 - Experience will last between 3 – 5 weeks depending on the amount of activities (3 week is solely research/5 week involves group activities)
- **Energy Sustainability Teacher Workshops**
 - Train K12 teachers in the latest energy and environmental sustainability topics
 - Provide educational materials such as informational videos (light bulbs, etc.)




7



Education and Outreach

K-12 and Community Engagement Efforts







- **Science and Engineering Fair of Houston**
 - The event occurs every February at either UH or GRB Convention Center.
 - CEES has the opportunity to give a certificate to the best Energy/ Environmental Sustainability project.
- **Energy Day – Houston (cancelled 09/15/2021)**






8




Education and Outreach

Industry Partners and Research Collaborators






- Research Partnership Experiences:
 - Jackson State Opportunity
 - Area high school and undergraduate students will participate in summer research at Jackson State University
- The Great Exchange 2023?
 - Proposed activity that will have interactions between K12 students/teachers, community college students, PVAMU students/faculty/staff, and industry partners.
 - Phase II planned a slow roll-out of events; however, COVID has prevented full implementation.
 - CEES will consider re-envisioning this event with online workshops/seminars.





9




Visit Us Online:

WWW.PVAMU.EDU/CEES





CENTER FOR ENERGY & ENVIRONMENTAL SUSTAINABILITY (CEES)



PVAMU Engineering Center Awarded \$5M for Sustainable Energy Research
[Learn more >](#)



Biofuels
Renewable
Energy

Wind
 Energy

Environmental
 Impacts
Renewable
Energy



Questions/Further Information?

Please contact:

Raghava Kommalapati, Ph.D, PE, BCEE, F. ASCE
Director, Center for Energy & Environmental Sustainability
Professor of Civil & Environmental Engineering
Roy G. Perry College of Engineering
rrkmmalapati@pvamu.edu, (936) 261 1660/ 1650 (off)

10