

Minutes of the Dean's Advisory Council Meeting
NMSU College of Engineering
February 22, 2019
NMSU, Las Cruces, New Mexico

Council Attendees

Randolph Rothschild, Chair
Michale Johnson
Ron Seidel
Richard Leza
Wencil McClenahan
Peggy Morse
Bud Waters
Eloy Torrez
Wayne Savage
Dan Hicks
Allyson D. Yarbrough
Mark Robertson
Donald Quintana
Harold "Chub" Foreman
Kevin W. Eades
Jack Davis
Leonard Bloom
Lou Gomez
Bruce Hayes

College Personnel

Lakshmi Reddi, Dean
Phillip DeLeon, Associate Dean
Patricia Sullivan, Associate Dean
Mark Gladden, Development Director
Stephanie Armitage Sichler, Development Director
David Jauregui, Civil Engineering Department Head
Ruinian Jiang, Engineering Technology and Surveying
Engineering Department Head
Hansuk Sohn, Industrial Engineering Department Head
Steven Stochaj, Electrical and Computer Engineering
Department Head
David Rockstraw, Chemical and Materials Engineering
Department Head and Interim Mechanical and
aerospace Engineering Department Head
Linda Fresques, College Chief of Staff
Elizabeth Howard, Program Manager

Welcome

Council Chair Randy Rothschild called the meeting to order and welcomed council members and guests. Introductions were made

- October 2018 minutes were approved.
- Action items from October 2018 meeting were reviewed.

Election of Vice Chair

The council members expressed their thanks to Randy Rothschild for his service as Council Chair for the past two years. Christopher Long has served as Vice Chair and will now take the Chair position. Several people were nominated and Jack Davis has been elected as the new Vice Chair.

Dean Lakshmi Reddi

Dean Reddi thanked Stephanie Armitage-Sichler and Mark Gladden for their work in gaining support for the Eloy Torrez Family Learning Communities in Engineering. He also thanked Eloy Torrez and the other donors on the council for their generosity. He noted the pride we have in the facility and the importance it has in supporting our students.

- Ron Seidel is supporting the Engineering Leadership Institute. It will be launched next fall and will help develop students' inter- and intrapersonal skills.
- Richard Leza has established a retention scholarship fund. If students owe more than \$1,000 at semester's end they are automatically disenrolled. This fund can be used to get their

tuition due under \$1,000 and prevent this. It is particularly harmful for students with Pell Grants to be disenrolled because it starts the clock for payback.

- The college is tracking students and if academic issues arise, the college implements a mentoring plan.
- Associate Dean of Academics Sonya Cooper will retire at the end of the spring semester. She has been asked by the Provost to serve as Interim Dean of the College of Health and Social Services until then.
- An offer has been made to a candidate from ASU to fill her vacant position and he has given his verbal agreement.
- Associate Dean Sullivan now is assigned 50 percent to the Chancellor's Office to work on strategic initiatives. She will continue leading recruitment and outreach activities.
- Gabe Garcia has been named Assistant Dean of Student Success.
- There are three faculty and one department head positions to be filled in Mechanical and Aerospace Engineering. David Rockstraw has led an aggressive search which garnered 270 applications.
- One faculty member has been hired in electrical engineering in the power area with funding from the EPSCORE Smart-Grid grant. This individual has a security clearance.
- Engineering Technology and Surveying Engineering hired one faculty member and also rehired a surveying professor who was previously laid off when the department was cut.
- The Aggie Innovation Space has received new funding from state legislators which will be used for modernizing equipment. The focus is to offer every student experiential learning experiences.
- Thomas and Brown Hall is next in line for demolition. This is an opportunity to request space for a unified AIS. It may also be an opportunity to modernize other labs, particularly in civil engineering.
- Department Heads are investigating methods of more efficient course offerings and are looking at offering common courses across disciplines. These would be taught by top-notch faculty members.
- Graduate students enrollments are down in engineering, especially at the master's level. The Provost is looking at low-performing programs and will consider them for removal if a good case is not made for keeping them. The college needs to respond to workforce needs.
- Distance Education in engineering is lagging behind. The college has asked for a new line to pursue this. The new Master's of Professional Engineering is an opportunity to serve industry through DE.
- The college is actively pursuing international agreements to bring more graduate students to our campus. Current countries of focus are China, India and Mexico.

Vice President of Research Luis Cifuentes

Chancellor Arvizu, a '73 engineering alum, said it was very compelling to come back to NMSU. He is a son of immigrants who came to school on a music scholarship. He felt it offered a tremendous opportunity for him to promote advances in education, immigration reform, energy and the environment, health, science and technology. NMSU is a platform for all and it is a very compelling way to spend the capstone of his career. He has been actively working toward bring PSL back to the vibrant organization it was in the past. It is on probation of losing its classified facility status and Arvizu is in the process of reinstating that status which is critical for generating new revenue and contracts.

Cifuentes outlined the three legs of the new strategic vision of NMSU:

1. Become effective in social mobility
2. Regain Carnegie 1 Research Institution status
3. Focus on community engagement

NMSU has a high percentage of low-socioeconomic status students. Anyone in engineering will gain in social mobility, therefore the College of Engineering will be a key player in this plan. The college must perform in increasing metrics for enrollment, retention and graduation rates.

UTEP and UNM are both Carnegie 1 institutions and NMSU is R2. It matters because all R1 institutions have greater research programs and better recruitment and retention performance. The R1 ranking will impact all of our efforts related to student success.

NMSU needs to increase research expenditures. It would be highly impactful to increase the number of post-doctoral researchers by 50 percent. We are last among our peers in this area.

We are looking at the areas of quantum computing and artificial intelligence and important areas that would help increase post-docs. The dean needs the support of administration to make choices about faculty workloads and offering competitive salaries for new faculty. The deans need to push for more flexibility in Human Resources policy.

Hiring faculty with security clearances will help increase this status. The PSL Sensitive Compartmented Information Facility has been restored and will offer engineering students the ability to get security clearances prior to graduation which is greatly important to employers.

American Institute of Aeronautics and Astronautics Design Build Fly Team

Isaac Kassim and John Hernandez, co-presidents of the team gave a presentation on this year's project. This team would benefit from financial support. Their presentation and proposal follow the minutes.

Advisory Council Committee Breakout Sessions and Reports

Committee members met and discussed ideas regarding their respective areas. They gave final reports from their discussion.

Action Items

Aerospace Engineering Committee

- The program doesn't have its own identity.
- Do students graduate with skills to get jobs? We need to identify the skills needed and create a curriculum based on that.
- Needs more systems, avionics and physics instruction.
- Propose to survey graduates 5-10 years out to see how they were served by their degree.
- Dan Hicks and Allyson Yarbrough volunteered to identify workforce needs.
- Dean Reddi will establish a small taskforce to conduct data gathering.

Systems and Manufacturing Engineering Committee

- The group sees systems engineering and manufacturing engineering as two distinct disciplines.
- There is a real need for manufacturing engineering in industry.
- Much of the curriculum may be in different departments.
- There is a need to create a job description for a manufacturing engineers in different industries and build a curriculum around that.
- Systems engineering is a real need in varied industries but where should it fit?
- Maybe align this with aerospace or develop a certificate program.

Professional Skills, Workshops and Training Committee

- Each department teaches various aspects of management, communication, entrepreneurship and business, yet there is no consistency in courses among departments.
- The group suggests to make a single course for all disciplines that involve a project and utilize economics, law, oral and visual communications, etc.
- May be more appropriate for junior and senior-level students.
- Would be a good compliment to capstone courses.
- All students should be exposed to real-world business via internships.
- This could be offered as a Viewing the Wider World course.

Mentoring Students and Career Advising Committee

- Students will be assigned industry mentors (five in committee) in their freshman year for mentoring.
- Elizabeth Howard will set up a matrix to identify at-risk students (first generation, low income, minority, etc.) and assign to the five members.
- The student selected for industry mentors will be assigned via their ENGR 100 course and will have required assignments via their course to complete throughout the semester.
- Future plans: identify other members who would be interested in serving as industry mentors.
 - Alumni Association
 - Dean's Advisory Council
 - Corporate sponsors

Seidel Engineering Leadership Institute Committee

- The first cohort will be selected this spring with 20 students.
- It will be a two-year, loosely structured program.
- Fellowships of \$1k/year will be awarded to participants.
- Books such as Factfulness, A New Mind and the Elements of Style will be provided.
- A slate of speakers and workshops will include business, economics, engineering management and communications.
- The college would like to get a designation of participation added to student transcripts.
- Entrance criteria: minimum GPA 3.0 and a statement of interest based on a vague question to elicit thoughtful responses. No leadership experience required.
- Skype interviews will be conducted to select participants and also at the conclusion of the two-year program to be observed by an educational research specialist who will compare certain performance indicators of the participants.