

NMSU College of Engineering

The background of the slide features a photograph of a white, multi-tiered tower with a prominent copper dome on the left side. The tower is set against a backdrop of rugged, blue-toned mountains under a clear sky. The overall scene is bright and clear, suggesting a sunny day.

NMSU Vision 2020 College Strategic Planning

April 9, 2014

Thomas and Brown 104

Purpose of Today's Discussion

- Review NMSU's Strategic Plan
 - "Vision 2020"
 - Provide feedback to the Provost
- Finalizing the Strategic Plan for the College
 - What do we call it: "College of Engineering Vision 2020"?
 - Revisit: who we serve, core beliefs, and definition of engagement
 - College vision and goals
 - Define and initiate our process

NMSU Vision 2020

Website for NMSU Vision 2020 Goals:

<http://plan.nmsu.edu/strategicplan/>

Website for Vision 2020 pdf file:

<http://plan.nmsu.edu/files/2012/07/Vision-2020-March-5-2014.pdf>

Website for Vision 2020 KPIs Approved August 2013:

<http://plan.nmsu.edu/files/2013/09/Vision-2020-KPIs.pdf>

Vision 2020 Goals

- 1 – Academics and Graduation – Provide stellar programs, instruction, and student services to achieve timely graduation
- 2 – Diversity and Internationalization – Provide a diverse academic environment supportive of a global society
- 3 – Research and Creative Activity – Promote discovery, encourage innovation, and inspire creative achievement
- 4 – Economic Development and Community Engagement – Drive economic, social, educational, and community development
- 5 – Resource Stewardship – Optimize resources to effectively support teaching, research, and service

2012 Engineers' Roundup

January 18, 2012



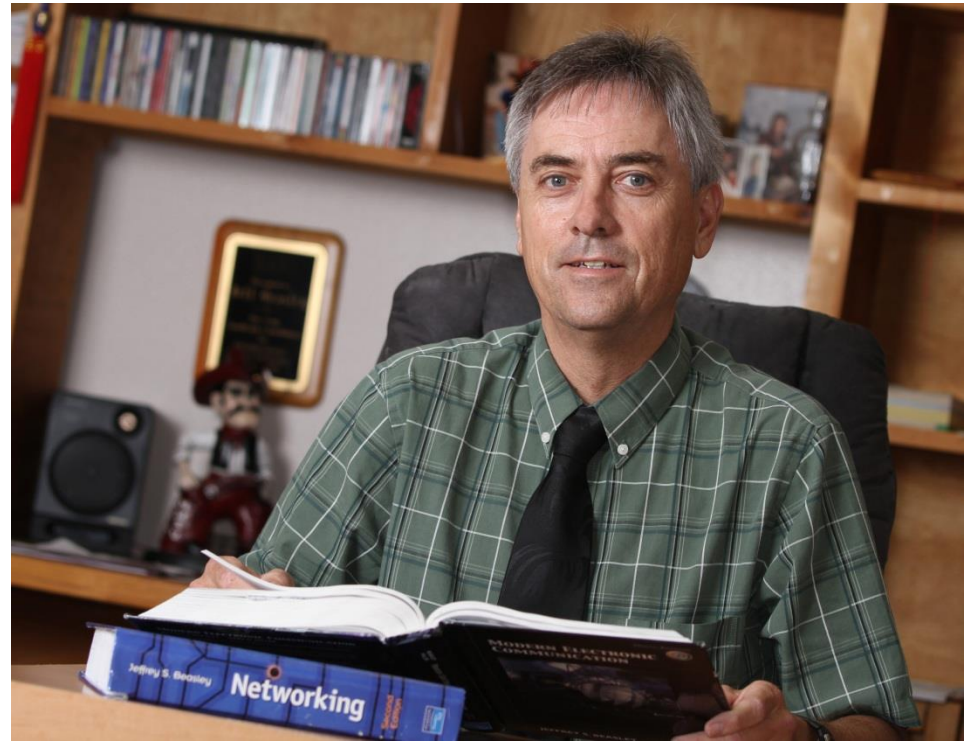
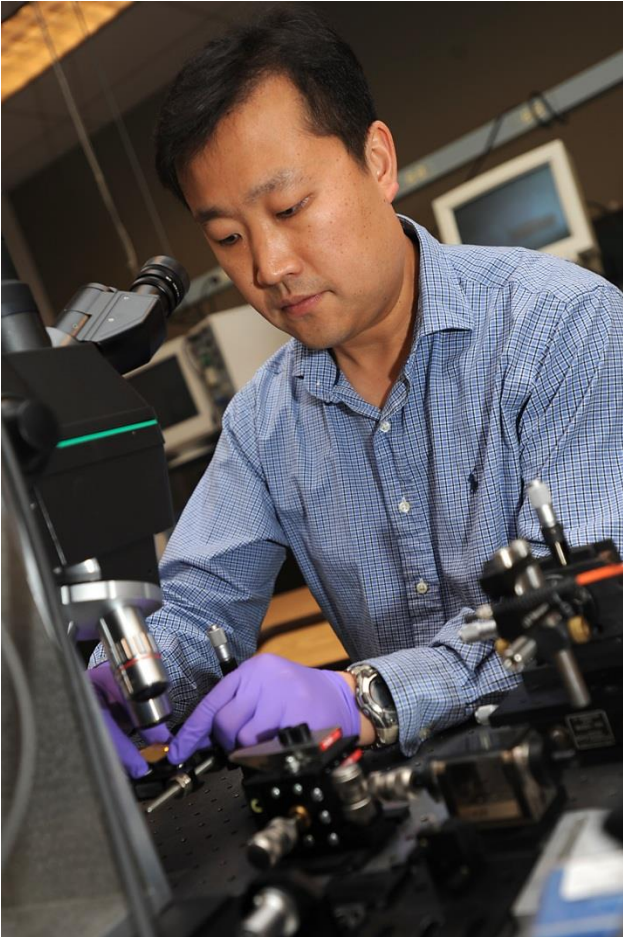
Who Do We Serve and How Do We Serve Them?



All Students Arrive with a Common Dream

- To be educated
- To graduate as a degreed Aggie Engineer
- To secure gainful professional employment
- To make a difference as a degreed engineer

Who Do We Serve and How Do We Serve Them?



All Faculty and Staff Arrive with a Common Dream

- To be an effective educator, or engaged in effective education
- To create new ideas through meaningful and innovative research
- To be recognized by peers through scholarly work
- To make a difference

Core Beliefs

- Outstanding and highly ***committed engineering educators***, passionate about their students and their respective external constituents.
- A ***sense of pride*** and ***tradition***, a history of teaching, research and service, and a ***belief*** that a solid ***engineering education*** can ***make life-changing impacts*** on graduates and society at large.
- ***Highly regarded*** for the ***ability*** and ***commitment to fill the gap*** in ***educational attainment*** of New Mexico's demographically and culturally ***diverse citizens*** by ensuring ***access*** to a ***quality*** and ***relevant engineering education***.
- ***Dedicated to: making a difference*** in how ***engineers*** are ***educated***, an ***innovative approach*** to conducting ***research and teaching***, and ***dissemination*** of ***outcomes*** that are ***regarded*** and ***valued*** by ***peers*** as ***nationally competitive*** technology and knowledge.

Core Beliefs

- **Developments** often **translate** into **intellectual property** that **contribute** to development of the **state's economic engine**.
- Activities and services of the CoEngr, CEMRC, IEE, M-TEC, and SWTDI, are **designed** to contribute to the **fundamental mission** of the **engineering: creating** and implementing **technology** that **stimulates creation of industry** that ensures **global competitiveness** and **higher economic income** – the fundamental elements of a successful economic development model.

A Culture of Engagement



Engaged Faculty and Staff

Engaged faculty and staff of the College of Engineering support the College vision and mission and actively contribute to the College goals in the areas of teaching, research, service and outreach as well as demonstrate leadership in one or more of these areas. Engaged teaching includes the implementation or development of state-of-the-art teaching practices. Engaged research includes publishing in high-quality journals and conferences, securing external research funding, and advising graduate students. Engaged service includes active participation in university and professional activities that improve the College, the University, and the engineering profession in general. Engaged outreach includes participation in useful initiatives that directly assist New Mexico citizens and raise the profile of the University in the public eye.

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Breadth of Vision

Consider the following description as the breadth of our vision for the CoEngr, analogous to the breadth of your eyesight as you look straight ahead and what you see across the peripheral boundaries (left to right) without turning your head.

- Left and right peripheral boundaries, US News and World Report Rankings.
- Between the left and right peripherals and the core, the Vision 2020 peer institutions and a comparison of KPIs.
- The primary visual core, excellence in four program areas.

US News and World Report

NMSU USNWR Ranking:

<http://colleges.usnews.rankingsandreviews.com/best-colleges/new-mexico-state-university-2657>

USNWR Engr Ranking Methodology:

<http://www.usnews.com/education/best-graduate-schools/articles/2013/03/11/methodology-best-engineering-schools-rankings>

NMSU Engineering USNWR Ranking:

<http://grad-schools.usnews.rankingsandreviews.com/best-graduate-schools/top-engineering-schools/new-mexico-state-university-02112>

USNWR Engineering Ranking:

<http://grad-schools.usnews.rankingsandreviews.com/best-graduate-schools/top-engineering-schools/eng-rankings>

Vision 2020 Peer Institutions

Vision 2020 Peer Institutions:

<http://ltv.nmsu.edu/peer-institutions.html>

US News Engineering Ranking Peer Institutions (2013)

- Iowa State University – 46
- University of Arizona – 55
- Colorado State University – 67
- Oregon State University – 78
- Washington State University – 81
- **University of New Mexico – 87**
- Texas Tech – 94
- Kansas State University – 99
- Oklahoma State University – 110
- Utah State University – 116
- **New Mexico State University – 129**
- University of Nevada Reno – 129
- University of Wyoming – 136
- Montana State University – UnRanked
- University of Idaho – UnRanked
- **University of Texas at El Paso – UnRanked**
- **New Mexico Tech – Not in Data Base**

Priority in the Breadth of Vision

During this and future discussions, it's important for us to keep in mind:

- The national ranking of NMSU and the CoEngr,
- The process for ranking engineering programs, and
- Comparison to our peer institutions

National ranking is important to faculty and stakeholders, and NMSU will be comparing itself to its peer institutions.

In the breadth of vision:

- National ranking is tertiary,
- Peer comparison is secondary, and
- Excellence in four core, program goals is primary

Core Engineering Program Goals

- Leading the state in outreach and public service to pre-college and professional engineering constituents (as compared to UNM and NM Tech).
- Maintaining undergraduate retention and 6 yr graduation rates within +/- 5 points of the national average (50%) as well as delivering a curriculum that graduates industry and graduate school ready engineers who value their education and the CoEngr at the time of completing their degree.

Core Engineering Program Goals

- Maintaining robust external funding of research (in technology development and engineering education) led by faculty at an average funding/expenditure rate of \$150-200K/faculty/year (\$10-13 million/yr for 68 faculty in the five graduate engineering departments, 82 total faculty), plus funding for CEMRC, IEE, the AMP program, and SWTDI above the faculty base.
- Maintaining a strong enrollment of high achieving graduate students with an emphasis to graduating 20-25 PhD's per year (1.0-1.25 PhD's per faculty in a 3-5 year cycle among the five graduate engineering departments, 68 faculty).

Vision 2020 Goals

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Initiating the Process

- Dean will delegate responsibility on developing the five Vision 2020 goals:
 - Goal #1 – Sonya Cooper
 - Goal #2 – Sonya Cooper
 - Goal #3 – Martha Mitchell
 - Goal #4 – Patricia Sullivan
 - Goal #5 – Ricardo Jacquez

The Process Detail

An Aggressive Timeline

- Dean assigns goals to the associate and assistant deans (completed)
- Individual deans will identify faculty and staff to serve on goal committees on April 14th (volunteers?)
- Deans will compare lists and finalize lists to reduce duplication of individuals and individuals are invited to participate by April 15th
- Deans will convene their committees once before May 15th to initiate discussion about the goal, objectives, and KPIs (work from BTV will be disseminated to goal committees)

Proposed Process Detail

- Deans will organize their goal committees (leader, recorder, data miners, spokesperson, ?) by May 15th
- Goal committees will initiate a focused discussion and first draft of goal, objectives, KPIs (over the summer if feasible) no later than September 15th
- Second draft of goals with objectives and KPIs and exchange among the goal committees to review for consistency and uniformity across goals as well as Vision 2020 by October 1st
- Second draft of goals and exchange among committees by October 15th

Proposed Process Detail

- Near final draft plan disseminated to the College by November 1st with formal discussion by November 15th
- Final draft sent to the Provost for review by December 15th
- Final version posted to the College website by January 15th 2015 (unless Provost requests revisions to the final draft)
- If committees can work over the summer, the process can be accelerated by three months and will be completed by October 15th