

# UNLV

HOWARD R. HUGHES

# College of ENGINEERING



## Strategic Planning 2015-2016

## Howard R. Hughes College of Engineering

Compiled March 2016

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## Introduction

The last strategic planning exercise that was conducted by the College of Engineering occurred more than a decade ago, and before the economic downturn of 2008 – 2009. Since the economic downturn, the College of Engineering suffered stunted growth and the loss of several degree programs. For more than two decades prior to the downturn, the College was reliant on Federal Grant Pass-Through Funds – politically designated research funds that no longer are easily available – rather than competitively awarded grants. Compared to peak research expenditures in 2007 of \$14,000,000, college research expenditures bottomed out at \$4,000,000 in 2010.

Starting in spring of 2010, the College gained new leadership with a vision of putting the College back on a growth track. Since then:

- Undergraduate enrollment has grown steadily from 1,600 in 2007 to 2,300 in 2016.
- The number of competitive grant proposals submitted and grants received have increased significantly. Annual research expenditures are now at \$10,000,000.
- Along with several junior faculty members, new hires have included a few senior faculty who have extensive experience in funded grants, and are well known in the areas of expertise.
- The College improved its efficiency in space utilization, and found additional, quality research space for the new hires.
- To support research efforts, the infrastructure has increased substantially in terms of professional employees hired for their expertise in research, fund raising, communications, special events, among several other specialties.
- The College has begun to collaborate with other colleges and schools on campus on multi-disciplinary grant writing, curriculum development, joint seminars, and workshops.

All these efforts have paid off in several ways.

- In 2013, UNLV's team place first in the United States and second worldwide in the Solar Decathlon competition held by the U.S. Department of Energy.  
[http://www.solardecathlon.gov/past/2013/team\\_lasvegas.html](http://www.solardecathlon.gov/past/2013/team_lasvegas.html)
- In 2015, UNLV's team took eighth place in the Robotics Challenge Program of the Defense Advanced Research Projects Agency (DARPA).  
<http://www.theroboticschallenge.org/>
- Most recently, in 2016, *U.S. News and World Report* gave our graduate programs their best rankings ever: Civil Engineering at 87, Mechanical Engineering at 109, and Electrical Engineering at 139.  
<http://grad-schools.usnews.rankingsandreviews.com/best-graduate-schools/top-engineering-schools/eng-rankings?int=a74509>

We are on a positive trajectory, especially since UNLV recently completed a Top Tier Plan to become one of the "best public research universities" in the nation (<https://www.unlv.edu/toptier>). It was time for the College and its stakeholders to reflect collectively on the place and role of Engineering on campus, in the southern Nevada region, and nationally, and globally. To make the Strategic Planning exercise effective and efficient, the College engaged the services of Academic Leadership Associates, LLC in the fall 2015; this consultancy previously helped the Lee Business School with their strategic plan and UNLV with the Top Tier Plan. The College formed a committee of 44 members, including faculty, professional staff, administrative assistants, students, alumni, and advisory board members. Task Forces, consisting of five to seven members, were formed for the following areas:

- Mission, Shared Purpose, and Shared Values
- People
- Scholarship
- Education
- External Relations
- Internal Relations

The Strategic Planning Committee met with the consultants four times throughout the fall semester, for a total of five days. In addition, each Task Force conducted meetings, discussions, and surveys. Every time the committee met with the consultants, each Task Force made a presentation on their progress, which was open to discussion and debate, including directions to pursue and suggestions to improve and refine the recommendations presented.

This report presents the combined efforts of the Strategic Planning Committee to crystallize our vision, mission, strategies, and specific actions to be taken that would lead us to the next level in achieving our goal to be a first-class research university with regards to engineering.

## Mission

The Strategic Planning Committee had a series of discussions on what the Mission statement should be, including how long it should be and what it should cover. This always was the first item discussed by the committee whenever we met with the consultants.

By the third meeting, the committee agreed upon the following statement:

### **Educate, Engage, Inspire, and Innovate**

This Mission statement was designed to be catchy, pithy, and at the same time, capture all that the College does. The common threads that are observable in the Mission statement are: Education, Innovation, Entrepreneurialism, Collaboration, Community, and Leadership.

#### The Mission

<b>Educate</b>	<ul style="list-style-type: none"><li>▪ Workforce</li><li>▪ Innovators</li><li>▪ Entrepreneurs</li><li>▪ Community</li></ul>
<b>Engage</b>	<ul style="list-style-type: none"><li>▪ Various diverse groups</li><li>▪ Other campus units</li><li>▪ Local, regional, and global communities</li><li>▪ Industry partners</li></ul>
<b>Inspire</b>	<ul style="list-style-type: none"><li>▪ Leaders</li><li>▪ Educators</li><li>▪ Innovators</li><li>▪ Entrepreneurs</li></ul>
<b>Innovate</b>	<ul style="list-style-type: none"><li>▪ Technologies</li><li>▪ Educational methodologies</li></ul>

## Shared Purpose

Education of a workforce, creation of knowledge, and community engagement are commonly shared purposes of any engineering college. However, for UNLV's College of Engineering, this purpose directly relates to serving a growing metropolitan region of southern Nevada, with a goal to diversify its economy by drawing upon and attracting technology-based companies.

The purpose that all the stakeholders of the College of Engineering share is as follows.

### Shared Purpose

- **Serving a dynamic metropolitan region through the diversification of economy and improvement in quality of life by:**
  - **Education and workforce development**
  - **Creation of Knowledge and Technology to advance the field of Engineering and Computer Science**
  - **Community service including input to policy making**

First and foremost, we need to educate and train a workforce that is prepared for the ever-changing global needs.

Second, we need to create new knowledge and technologies in service to the community and the world.

Third, we need to engage with the community in order to address their problems.

# Shared Values

The values that all the stakeholders of the College of Engineering share are as follows.



Most of the values that were identified – by means of a series of discussions and surveys – already are embedded in many of the College's activities and daily operations. Some of these values will be emphasized more strongly than others so that they become pervasive in all our activities.

## Indicators of Success

A mission, shared purpose, and shared values must rest on a bedrock of indicators of success, letting us know that we are on the right path and achieving our goals. These are the indicators that were chosen.

### Indicators of Success

<b>Educate</b>	<ul style="list-style-type: none"><li>▪ Number of B.S., M.S., and Ph.D. students graduated</li><li>▪ Number of Certificates granted</li><li>▪ Satisfaction surveys of employers, students, and alumni</li></ul>
<b>Engage</b>	<ul style="list-style-type: none"><li>▪ Number of alumni, industry, community partners, and entrepreneurial mentors</li><li>▪ Growth in diversity of student, faculty, and staff population</li><li>▪ Number of annual service projects or engagements by the College</li><li>▪ Survey</li></ul>
<b>Inspire</b>	<ul style="list-style-type: none"><li>▪ Survey of students, faculty, staff, and alumni on this issue</li><li>▪ Number of undergraduates engaged in research and continue onto graduate school</li><li>▪ Number of entrepreneurs (students and faculty) from UNLV Engineering</li><li>▪ Number of Ph.D. graduates who become leaders in their field</li></ul>
<b>Innovate</b>	<ul style="list-style-type: none"><li>▪ Number of patents, disclosures, software, and publications</li><li>▪ Education methodologies</li><li>▪ Research techniques</li></ul>

## People Task Force

The People Task Force was represented by a range of stakeholders, including engineering faculty, an entrepreneur, an engineering graduate student, an administrator from Clark County School District, and a part-time employee of UNLV. Each individual brought a different perspective to the overriding question:

*How to treat all people who are part of the UNLV Community?*

Based on the many conversations undertaken by this task force – including conversations with representatives from other task forces as well as surveys to such stakeholders as engineering graduate students – the following Distinctive Capability Statement, Measures, and Strategies were developed.

## People: Distinctive Capability Statement

**A diverse community engaged in promoting UNLV's mission through excellence in an environment fostering trust, professionalism, openness, cooperation, and personal development.**

## People: Measures

1. Create an environment that fosters trust, professionalism, openness, cooperation, and personal development for COE faculty, students, staff, and stakeholders. Obtain periodic feedback from all COE faculty, staff, and students with the goal of:
  - a. 70% satisfaction by 2016
  - b. 80% satisfaction by 2018
  - c. 90% satisfaction by 2020
2. By 2020, increase the number of qualified faculty, with an emphasis on women (increase by 3% of total faculty) and other under-represented groups.
3. Maintain current level for recruiting, retaining, and graduating undergraduates, and raise the quality of recruited students. This needs dialogue on what COE defines as 'quality' of students and which measures to use.



4. Increase recruitment of graduate students to 300 applicants, and increase enrollment of graduate students by 90 by 2017.
5. All faculty, staff, and students are adequately trained for their duties, rights, and responsibilities by December 2016, and ongoing training is provided annually for new people.

## **People: Strategies**

The strategies are tied to the measures as follows:

**Measure 1. Create an environment that fosters trust, professionalism, openness, cooperation, and personal development for COE faculty, students, staff, and stakeholders.**

Strategy 1. Develop a plan for increasing social interactions, camaraderie, and a sense of belonging among faculty, staff, and students.

**Measure 2. By 2020, increase the number of qualified faculty, with an emphasis on women (increase by 3% of total faculty) and other under-represented groups**

Strategy 2. Attract, retain, and develop women and other under-represented groups for faculty, students, and staff.

**Measure 3. Maintain current level for recruiting, retaining, and graduating undergraduates, and raise the quality of recruited students.**

Strategy 3. For undergraduates, increase:

- a. Opportunities in tutoring and mentoring, and
- b. Recruitment efforts that target high-achieving students.

**Measure 4. Increase recruitment of graduate students to 300 applicants, and increase enrollment of graduate students by 90 by 2017.**

Strategy 4. For graduate students:

- a. Increase graduate recruitment efforts at regional colleges,
- b. Improve the graduate student enrollment process, and

c. Increase incentives to choose UNLV for graduate school.

**Measure 5. All faculty, staff, and students are adequately trained for their duties, rights, and responsibilities by December 2016, and ongoing training is provided annually for new people.**

Strategy 5. Establish and implement a mandatory training plan for all faculty; staff, including part-time employees; and students.

## People: Measure 1, Strategy 1

Develop a plan for increasing social interactions, camaraderie, and a sense of belonging among faculty, staff, and students.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Establish social functions where faculty, staff, and/or students can mingle, with a goal that COE employees know each other within a year. This could include, for example, a Halloween or Winter Holiday event featuring competitions (baking, costumes, door decorations, etc.), fall sports event, or a spring picnic.</li> </ul>	<p>September 2016, and every six months thereafter</p>	<ul style="list-style-type: none"> <li>▪ Dean (R. Venkat)</li> <li>▪ Committee that provides input from stakeholders, faculty, staff, and students</li> <li>▪ Director of Special Events (M. Marks)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Establish a speaker series for topics of interest to faculty, staff, or students. Speakers may be from diverse walks of life, such as entrepreneurs, politicians, artists, etc.</li> <li>▪ Topics can include activities that promote understanding of different cultures, races, religions, and gender orientation; ethics; happenings around the Las Vegas Valley of interest, and other skills and interests that are not 'on the resume'.</li> <li>▪ These presentations could be given by anyone from COE, either about their research or about their hobbies and interests; or they can be given by invited speakers on topics of interest.</li> <li>▪ Follow the talks with a mixer.</li> <li>▪ Audience / attendance may be an issue to discuss.</li> </ul>	<p>By September 2016, and then have these kinds of events twice a semester</p>	<ul style="list-style-type: none"> <li>▪ R. Venkat</li> <li>▪ Committee that provides input from stakeholders, faculty, staff, and students</li> <li>▪ Director of Special Events (M. Marks)</li> <li>▪ May need to collaborate with Liberal Arts</li> </ul>

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Establish an annual College of Engineering conference and networking event, with several tracks to address interests of faculty, staff, students, and stakeholders. This conference is designed to promote collaboration and teamwork. This conference could possibly be built upon the graduate student poster session held each spring.</li> </ul>	<p style="text-align: center;">Annual</p>	<ul style="list-style-type: none"> <li>▪ Dean and Associate Dean</li> <li>▪ Committee that includes members of the Internal Operations Task Force, who suggested this idea.</li> <li>▪ Director of Communication</li> <li>▪ Director of Development</li> <li>▪ Director of Special Events</li> </ul>
<ul style="list-style-type: none"> <li>▪ Create a venue where faculty and staff can mingle. This requires obtaining space for such a facility.</li> </ul>	<p style="text-align: center;">2020</p>	<ul style="list-style-type: none"> <li>▪ R. Venkat (Dean)</li> </ul>

## People: Measure 2, Strategy 2

Attract, retain, and develop women and other under-represented groups for faculty, students, and staff.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Institute a scholarship program to promote the increase of women students in the College of Engineering (see tables on the next page).</li> </ul>	<p>Established by December 2016</p>	<ul style="list-style-type: none"> <li>▪ STEM Admission Counselor (J. Ly)</li> <li>▪ Director of Development (J. Aylor)</li> <li>▪ Department Chairs</li> <li>▪ CCSD (D. McElwain)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Hire and retain qualified, research-active faculty members and staff who are women or belong to other under-represented groups.</li> </ul>	<p>As positions open</p>	<ul style="list-style-type: none"> <li>▪ Dean's Faculty Recruitment Committee</li> <li>▪ Office of Diversity Initiatives, STEM (J. Jezierska)</li> <li>▪ COE Search Committees</li> </ul>

## Current Female Representation in the College of Engineering 2012 - 2015

Female undergraduate students			
Year	#	Total students	%
2012	81	460	17.6%
2013	91	523	17.4%
2014	101	697	14.5%
2015	123	661	18.6%

## Current Female Faculty by Department in the College of Engineering (2015)

Year	CEEC			ECE			ME			CS		
	Total	Women	% Women	Total	Women	% Women	Total	Women	% Women	Total	Women	% Women
2015	16	2	13%	19	3	16%	19	2	11%	21	3	14%

## Number and Percentage of Female Faculty vs. Undergraduates (2015)

All Faculty	Total Faculty		Total Undergraduates		
	Women	% Women	Total	Women	% Women
75	10	13%	661	123	19%
75	12	16%			
75	14	19%			

### People: Measure 3, Strategy 3

For undergraduates, increase: a) opportunities in tutoring and mentoring and b) recruitment efforts that target high-achieving students.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>Maintain the current level of services offered to undergraduates for tutoring, and collect accountability data.</li> </ul>	Ongoing	<ul style="list-style-type: none"> <li>Academic Success Center</li> <li>Dean, Undergraduates (G. Mauer)</li> <li>Associate Dean (M. Trabia)</li> </ul>
<ul style="list-style-type: none"> <li>Establish a college-wide committee for recruitment of high-achieving undergraduate students.</li> </ul>	May 2016	<ul style="list-style-type: none"> <li>STEM Admission Counselor (J. Ly)</li> <li>Dean (R. Venkat)</li> <li>Department Chairs</li> </ul>
<ul style="list-style-type: none"> <li>Create internal summer research / internship opportunities for high-achieving high school students.</li> </ul>	May 2016	<ul style="list-style-type: none"> <li>Career and Internship Coordinator (M. Mason)</li> <li>Department Chairs</li> <li>COE Faculty</li> </ul>
<ul style="list-style-type: none"> <li>Create application fee waivers for students who meet certain criteria</li> </ul>	Summer 2016	<ul style="list-style-type: none"> <li>STEM Admission Counselor (J. Ly)</li> <li>Admissions</li> <li>Dean (R. Venkat)</li> </ul>
<ul style="list-style-type: none"> <li>Establish a Supplemental Instruction program for undergraduates.</li> </ul>	Already being done with differential fees for Fall 2016	<ul style="list-style-type: none"> <li>Academic Success Center</li> <li>COE Faculty</li> <li>Dean, Undergraduates (G. Mauer)</li> </ul>

## People: Measure 4, Strategy 4

For graduates, increase: a) increase graduate recruitment efforts at regional colleges, b) improve the graduate student enrollment process, and c) increase incentives to choose UNLV for graduate school.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Hire a full-time staff member to coordinate and streamline recruitment, admission, and matriculation activities at the college level.</li> </ul>	Already occurred	<ul style="list-style-type: none"> <li>▪ STEM Admission Counselor (J. Ly)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Invite potential graduate students to visit UNLV to see the campus and meet faculty.</li> </ul>	ASAP	<ul style="list-style-type: none"> <li>▪ Career and Internship Coordinator (M. Mason)</li> <li>▪ Associate Dean (M. Trabia)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Visit western/regional schools with no graduate program or M.S.-only programs.</li> </ul>	Every Fall semester Already being done; first visit was to UC San Luis Obispo	<ul style="list-style-type: none"> <li>▪ STEM Admission Counselor (J. Ly)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Supplement stipends for assistantships in order to make them comparable with neighboring schools.</li> </ul>	Summer 2016	<ul style="list-style-type: none"> <li>▪ Associate Dean (M. Trabia)</li> <li>▪ Graduate College</li> </ul>
<ul style="list-style-type: none"> <li>▪ Create application fee waivers for students who meet certain criteria.</li> </ul>	Summer 2016	<ul style="list-style-type: none"> <li>▪ STEM Admission Counselor (J. Ly)</li> <li>▪ Admissions</li> <li>▪ Dean (R. Venkat)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Attend student organization conferences to recruit graduating or near-graduation undergraduate students.</li> </ul>	As the opportunity arises	<ul style="list-style-type: none"> <li>▪ STEM Admission Counselor (J. Ly)</li> </ul>



## People: Measure 5, Strategy 5

Establish and implement a mandatory training plan for all faculty; staff, including part-time employees; and students.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Establish a planning committee within the College of Engineering to create this training program, or retain a consultant to create this training.                             <ul style="list-style-type: none"> <li>○ Consider the UNLV Top Tier Customer Service Initiatives.</li> <li>○ Provide 'basics', such as where COE offices and people are located, break rooms, restrooms, how to work the phones, who to contact for troubleshooting (IT, facilities, equipment) etc.</li> <li>○ Ensure that faculty and staff remain current on the latest trends and technology. This could include:                                     <ul style="list-style-type: none"> <li>▪ Team building seminars that focus the entire college on 'student outcomes', and</li> <li>▪ An online interactive quiz that educates the entire College on what it takes to perform research, and the role that employees play.</li> </ul> </li> </ul> </li> </ul>	<p>Committee already created</p> <p>First training program to be implemented by Sept 2016</p>	<ul style="list-style-type: none"> <li>▪ Dean (R. Venkat)</li> <li>▪ HR</li> <li>▪ COE Administration</li> </ul>
<ul style="list-style-type: none"> <li>▪ Consider creating orientation handbooks for faculty, professional staff (including part-time staff), classified staff (AAs), and students.</li> </ul>	<p>By March 2016 and updated annually.</p> <p>Already started, but needs to be completed</p>	<ul style="list-style-type: none"> <li>▪ Dean (R. Venkat)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Obtain periodic feedback from all COE faculty, staff, and students with the goal of 70% satisfaction by 2016, 80% satisfaction by 2018, and 90% satisfaction by 2020.                             <ul style="list-style-type: none"> <li>○ Include finding out what employees believe they do not know about the College and what they would like to have changed to make the environment more open, transparent, and</li> </ul> </li> </ul>	<p>Annually</p>	<ul style="list-style-type: none"> <li>▪ Dean (R. Venkat)</li> <li>▪ COE Admin</li> </ul>

<p>inclusive.</p> <ul style="list-style-type: none"><li>○ When the survey gets evaluated, form a committee to evaluate the feedback and create action items based on that feedback.</li><li>○ Use the survey to act upon areas that hinder openness, transparency, and inclusiveness.</li></ul>		
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## Questions Raised by the People Task Force

As the People Task Force researched all the avenues possible in developing strategies, measures, and action items, questions remained that might be kept in mind moving forward:

- How do we 'brand' ourselves and still maintain 'Truth in Advertising'?
- Should we have a legislator as one of the stakeholders looking at our Strategic Planning efforts?
- In our meetings, the issue of a lack of communication both at UNLV and at CCSD became evident and is deeply ingrained in both cultures – how can we turn this around?
- How do we make the COE a welcoming environment for transfer students? For out-of-state students?

With regards to the last question, roughly one-third of undergraduate students in the College of Engineering are transfer students and one-quarter are out-of-state or international students.

## International, Out-of-State, and Transfer Students (2012 – 2015)

<b>International Undergraduate Students</b>			
Year	#	Total Undergraduate Students	%
2012	19	460	4.1%
2013	16	523	3.1%
2014	22	697	3.2%
2015	25	661	3.8%
<b>Out-of-State Students (includes international)</b>			
Year	#	Total	%
2012	129	460	28.0%
2013	148	523	28.3%
2014	168	697	24.1%
2015	140	661	21.2%
<b>New Transfer Students</b>			
Year	#	Total	%
2012	160	460	34.8%
2013	136	523	26.0%
2014	219	697	31.4%
2015	204	661	30.9%

## Recommendations of the People Task Force

The following is a set of recommendations – a 'wish list' – to be considered.

For general operations:

1. Transparent budgets, and designate a recognizable point of contact regarding budget management for COE.
2. Communications plans from:
  - a. The Special Events Director for internal communications, and
  - b. The Communications Director for external communications.
3. A calendar of events for COE sent to faculty, staff, and stakeholders.

For incoming freshmen and those transitioning from high school to UNLV COE, ensure that AP courses that are aligned with engineering (Calculus, Physics, etc.) receive college credit for advanced placement to UNLV COE.

## Scholarship Task Force

The Scholarship Task Force included representatives from engineering, and Allied Health Science faculty. Based on the many conversations undertaken by this task force – including conversations with representatives from other task forces, the following Distinctive Capability Statement, Measures, and Strategies were developed.

### Scholarship: Distinctive Capability Statement

**A climate of innovation in which faculty, students, and research staff:**

- **Produce high-impact research and scholarship activities that address key national needs**
- **Contribute to the economic diversification of the region.**

### Scholarship: Measures

1. Research expenditures<sup>1</sup> and related data (awards and proposal submission).
2. Scholarship activities in the academic communities, as measured by:
  - a. Publications in high-impact journals, such as those tracked by reputable indices;
  - b. Citations;
  - c. Invited or peer-reviewed presentations at premier academic conferences and symposia;
  - d. Monographs published with scholarly presses; and
  - e. Development and use of software & hardware components (open-source platforms).
3. Economic impact of the College on our community, as measured by:

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<sup>1</sup> Measures highlighted in red are from the matrix of the Carnegie Classification of Institutions of Higher Education™ (2015).

- a. Invention disclosures, filed provisional patents, and non-provisional patents applied for and granted;
  - b. Licensing deals and number of start-ups; and
  - c. Consulting activities of the faculty.
4. Graduate and undergraduate student participation in scholarship, as measured by:
- a. Number of students working in research laboratories;
  - b. Number of publications and software produced by students with faculty; and
  - c. Intellectual property and other economic development activities developed by students with faculty.
5. **Number of researchers with Ph.D.s** employed by the College.
6. **Doctoral degrees granted** annually by the College and the number of Ph.D. students per faculty member.
7. National rankings of the College and its graduate programs.
8. Placement of Ph.D. graduates.
9. Number of nationally recognized high-volume Center of Excellence led by the College.

### Scholarship Measures: Action Steps / Results

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Collect all required data</li> </ul>	Annually (by March 31, 2016)	<ul style="list-style-type: none"> <li>▪ Individual faculty</li> </ul>
<ul style="list-style-type: none"> <li>▪ Evaluate all collected data</li> </ul>	Annually (by June 30, 2016)	<ul style="list-style-type: none"> <li>▪ College leadership</li> </ul>

<ul style="list-style-type: none"> <li>▪ Publish and distribute all collected data as part of the Annual Report (similar to what our competing institutions are doing) to the UNLV communities, including our COE alumni and to our competing institutions</li> </ul>	<p>Annually (by August 15, 2016)</p>	<ul style="list-style-type: none"> <li>▪ College leadership</li> </ul>
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## Scholarship: Strategies

The three strategies developed by the Scholarship Committee are not necessarily tied to specific measures. However, the measures identify whether or not these strategies have been adopted and if so, how effective they have been in achieving the Mission of the College of Engineering.

**Strategy 1.** Create a productive, dynamic, and collaborative faculty and an effective administrative support environment to enhance the productivity of our research and scholarship activity across the College and its academic units.

**Strategy 2.** Place an environment within the College that rewards high-impact scholarship activities by aligning promotion and tenure standards with UNLV's Top Tier initiative.

**Strategy 3.** Identify and develop the College's strength in selected areas to enhance access to current and future research funding, leading to national and international recognition.



## Scholarship: Strategy 1

Create a productive, dynamic, and collaborative faculty and an effective administrative support environment to enhance the productivity of our research and scholarship activity across the College and its academic units.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Send Tenure Track faculty to NSF-supported NSF CAREER workshop(s)</li> </ul>	Done	<ul style="list-style-type: none"> <li>▪ College leadership</li> </ul>
<ul style="list-style-type: none"> <li>▪ Provide PIs with meaningful incentives to increase and maintain externally funded research grant and contract applications</li> </ul>	TBD	<ul style="list-style-type: none"> <li>▪ UNLV Central Administration</li> </ul>
<ul style="list-style-type: none"> <li>▪ Form a task force to strategize large-volume and flagship grant applications so that the college infrastructure can place resources, in advance, in a cohesive and effective way.</li> </ul>	TBD Continuing improvement	<ul style="list-style-type: none"> <li>▪ College leadership</li> <li>▪ PIs</li> </ul>
<ul style="list-style-type: none"> <li>▪ Strategically expand seed-investment funding for faculty research and scholarship activity.</li> </ul>	Continuing improvement	<ul style="list-style-type: none"> <li>▪ UNLV Central Administration</li> </ul>
<ul style="list-style-type: none"> <li>▪ Assign appropriate teaching loads for research-productive faculty, ensuring the availability of their release time for research</li> </ul>	TBD Continuing improvement	<ul style="list-style-type: none"> <li>▪ UNLV Central Administration</li> <li>▪ College leadership</li> </ul>
<ul style="list-style-type: none"> <li>▪ Further develop the college-wide infrastructure to support research and scholarship.</li> </ul>	Continuing improvement	<ul style="list-style-type: none"> <li>▪ College leadership</li> </ul>

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ In collaboration with the Graduate College, put in place a recruitment plan for high-performing graduate students.</li> </ul>	TBD	<ul style="list-style-type: none"> <li>▪ UNLV Central Administration</li> </ul>
<ul style="list-style-type: none"> <li>▪ Encourage UNLV faculty to go to federal funding agencies as a Program Director by means of the Intergovernmental Personnel Act (IPA)</li> </ul>	TBD	<ul style="list-style-type: none"> <li>▪ UNLV Central Administration</li> <li>▪ College leadership</li> </ul>
<ul style="list-style-type: none"> <li>▪ Improve collaborative research environment across colleges</li> </ul>	Being done. Continue improvement	<ul style="list-style-type: none"> <li>▪ College leadership</li> </ul>
<ul style="list-style-type: none"> <li>▪ Improve support for laboratory equipment</li> </ul>	Continuing improvement	<ul style="list-style-type: none"> <li>▪ College leadership</li> <li>▪ Vice President for Research and Economic Development</li> </ul>
<ul style="list-style-type: none"> <li>▪ Place a college-wide economy-based Research Space Utilization (RSU) plan to create an interchangeable and hotel-like need-based operation.</li> </ul>	TBD	<ul style="list-style-type: none"> <li>▪ UNLV Central Administration</li> <li>▪ College leadership</li> </ul>

## Scholarship: Strategy 2

Place an environment within the College that rewards high-impact scholarship activities by aligning promotion and tenure standards with UNLV's Top Tier initiative.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Employ consistent, transparent promotion and tenure language, policies, and procedures across the College and within departments.</li> </ul>	Continuing improvement	<ul style="list-style-type: none"> <li>▪ UNLV Central Administration</li> <li>▪ College leadership</li> </ul>
<ul style="list-style-type: none"> <li>▪ As part of a faculty member's overall portfolio, place appropriate emphasis on rigorous, highly selective, and effective standards for research and scholarship activities in promotion, tenure, and merit guidelines.</li> </ul>	Continuing improvement	<ul style="list-style-type: none"> <li>▪ UNLV Central Administration</li> <li>▪ College leadership</li> </ul>
<ul style="list-style-type: none"> <li>▪ Actively promote external awards and recognition.</li> </ul>	Continuing improvement	<ul style="list-style-type: none"> <li>▪ UNLV Central Administration</li> <li>▪ College leadership</li> </ul>

### Scholarship: Strategy 3

Identify and develop the College's strength in selected areas to enhance access to current and future research funding and lead to national and international recognition.

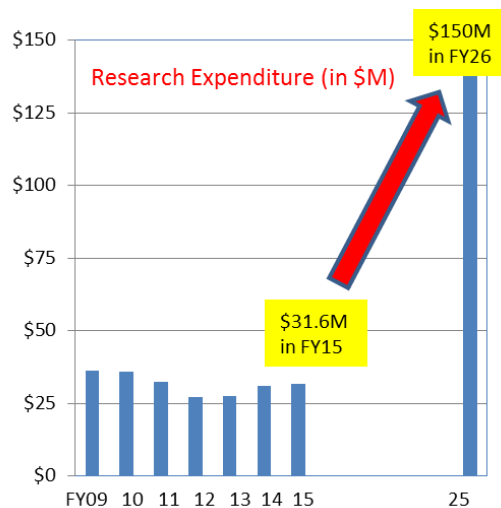
Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Identify nationally competitive new research themes, clusters, and Centers of Excellence. Some 'potentially new' proposals for large volume/ nationally competitive Centers – with a minimum annual research expenditure of greater than \$1.5M/Institute and a minimum annual research expenditure of greater than \$6M – from the College of Science and College of Engineering may include, but are not limited to:                             <ul style="list-style-type: none"> <li>○ Institute for Biomedical Science and Engineering;</li> <li>○ Institute for Radiological Studies, which may include the Center for Radiological Chemistry, Center for Medical Physics, and Center for Nuclear Engineering;</li> <li>○ Center for Advanced Materials; and</li> <li>○ Center for Big Data.</li> </ul> </li> </ul>	<p>TBD</p> <p>Continuing improvement</p>	<ul style="list-style-type: none"> <li>▪ UNLV Central Administration</li> <li>▪ College Leadership</li> <li>▪ Individual Faculty</li> </ul>
<ul style="list-style-type: none"> <li>▪ Provide incentives and support hiring and retaining top-tier faculty in areas that support these themes / Centers of Excellence. This includes cluster hiring of key faculty members as a hiring and retention initiative.</li> </ul>	<p>TBD</p> <p>Continuing improvement</p>	<ul style="list-style-type: none"> <li>▪ College Leadership</li> <li>▪ UNLV Central Administration</li> </ul>

<ul style="list-style-type: none"> <li>▪ Strategically develop new, targeted crosscutting, college/university-wide interdisciplinary Ph.D. programs in which future growth and faculty demand look promising. These might include Environmental Engineering / Water, Big Data, and Biomedical Engineering.</li> </ul>	<p>Summer 2016 or TBD</p>	<ul style="list-style-type: none"> <li>▪ College Leadership</li> <li>▪ UNLV Central Administration</li> </ul>
<ul style="list-style-type: none"> <li>▪ Provide early-career researchers with seed investment and mentorship support to help them effectively launch their research and prepare to apply for early career or selected research awards. These include, for example, NSF CAREER, DoD/DoE/NASA Young Investigator, and other programs.</li> </ul>	<p>Continuing improvement</p>	<ul style="list-style-type: none"> <li>▪ UNLV Central Administration</li> <li>▪ College Leadership</li> </ul>

## Scholarship: Background Information

One of the major goals of the Top Tier Initiative is for UNLV to achieve at least \$150M/year in research expenditures by 2025. Where is UNLV now?

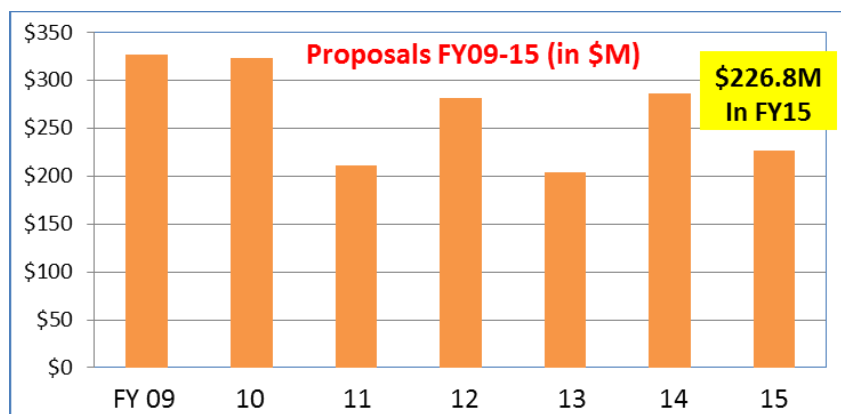
- FY15 Research expenditure of \$31.6M
- FY15 Research awards of \$32.1M
- FY15 Research proposals of \$227M



What is needed to achieve \$150M/year in research expenditures by 2025.

Moreover:

- FY09 - FY15 total research expenditure = \$222M, and
- FY09 – FY15 total proposal dollar amount = \$1.858B.



Amount of research proposals for FY09 – FY15

In terms of dollar volume, approximately 12% of the submitted proposals are materialized. Considering this success rate, UNLV needs to produce more proposal submissions. For example, \$500M/year proposal submission will produce about \$60M at a 12% rate.

To achieve such a challenging goal, the Research, Scholarship, and Creative Activity (RSCA) Top Tier Subcommittee #2-3 (FY 2016) strongly feels that the UNLV operation for research support needs to become:

- More risk-taking,
- Creative, and
- Business-minded!

## Scholarship: Urgency of Needs

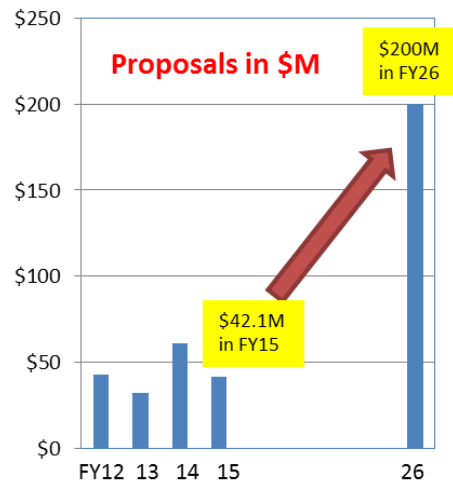
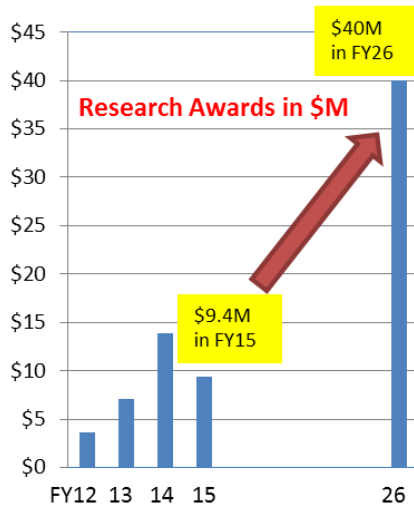
One of the major goals of the Top Tier initiative for UNLV's College of Engineering is to achieve approximately \$37.4M/year of research expenditure by 2025. Where are we now, with 70 faculty?

- FY15: Research awards of \$9.3M, approximately \$130K/faculty
- FY15: Research proposals of \$42.1M, approximately \$600K/faculty
- FY15: The number of research proposals is 178, approximately 2.5 proposals/faculty

Note that in terms of dollar volume, approximately 19% of the submitted proposals materialized.

Moreover, from FY12 – FY15:

- Total research awards in four years = \$33.9M
- Total proposal dollar amount in four years = \$179.0M



**Goals to reach by FY26 in terms of research awards and proposal \$ amount.**

To achieve such a challenging goal, the COE Scholarship Committee feels that the UNLV COE operation for research support needs to become:

- More risk-taking,
- Creative, and
- Business-minded!



## Scholarship: References

The Trustees of Indiana University (2015). The Carnegie Classification of Institutions of Higher Education™. Retrieved from: <http://carnegieclassifications.iu.edu/>

UNLV (2015). *Top Tier Vision, Mission, Goals, and Strategies*. pp. 2 – 4. Retrieved from: [https://www.unlv.edu/sites/default/files/page\\_files/27/TopTier-VisionMissionGoalsStrategies.pdf](https://www.unlv.edu/sites/default/files/page_files/27/TopTier-VisionMissionGoalsStrategies.pdf)

## **Education Task Force**

The Education Task Force was represented by including faculty from engineering, science and fine arts, alumni, professional employee and students. Based on the many conversations undertaken by this task force – including conversations with representatives from other task forces, the following Distinctive Capability Statement, Measures, and Strategies were developed.

### **Education: Distinctive Capability Statement**

- Immerse students in an innovative, research-focused design and problem-solving process.
- Encourage student success and lifelong learning through critical thinking and experiential laboratory programs.
- Develop professionalism in business, research, and interdisciplinary collaboration.

**Motto:**

*We cultivate success by learning from the past  
so that we can invent the future.*

## Education: Measures

1. **Undergraduate Students.** Increase retention and graduation rates for undergraduates for the college.
2. **Graduate Students.** Increase the number of graduate students for the college.
3. **STEAM.** Embrace the Science, Technology, Engineering, ART, and Mathematics (STEAM) movement within the College of Engineering. Improve and increase the collaboration between the College of Engineering and non-STEM colleges on campus, specifically, Fine Arts.
4. **High-quality Students.** Increase the perception that we are producing high-quality graduates.
5. **Advisory Board.** An active and engaged advisory board, providing input and guidance on the direction of the College and the education it provides as it relates to various degree and certificate programs. Encourage engagement of the advisory board at both the departmental and college levels as it relates to the curriculum and needed skill sets for graduates of the program.
6. **Community Support.** Community support is measured by a number of internships, co-op opportunities, part-time and full-time jobs, and an increase in endowments and scholarships.
7. **Instructor Engagement.**

## Education: Strategies

The strategies developed by the Education Task Force are tied to the Measures, as follows.

**Measure 1. Undergraduate Students. Increase retention and graduation rates for undergraduates for the college.**

Strategy 1. Increase the undergraduate retention rate by 10% each year for the next five years.

Strategy 2. Increase the number and quality of experiential opportunities for undergraduate students, and encourage engagement in entrepreneurship education and experience.

Strategy 3. Increase the undergraduate graduation rate by 10% each year for the next five years.

**Measure 2. Graduate Students. Increase the number of graduate students for the college.**

Strategy 4. Increase the number of UNLV undergraduates who continue their graduate education in the college by 5% for the next 5 years.

Strategy 5. Increase the overall number of graduate students by 10% each year for the next five years.

Strategy 6. Increase the number of students who complete their Ph.D. program.

**Measure 3. STEAM. Embrace the Science, Technology, Engineering, ART, and Mathematics (STEAM) movement within the College of Engineering.**

Strategy 7. Improve and increase the collaboration between the College of Engineering and non-STEM colleges on campus, specifically, Fine Arts.

**Measure 4. High-Quality Students. Increase the perception that we are producing high-quality graduates.**

Strategy 8. Increase the overall number of undergraduate and graduate applicants and recipients for national and internationally recognized scholarship awards (Truman, Fulbright, etc.) by 5% each year for the next five years.

Strategy 9. Research and encourage the traits of high-quality graduates by means of a series of surveys to current students, recent graduates, and local employers.

**Measure 5. Advisory Board. An active and engaged advisory board, providing input and guidance on the direction of the College and the education it provides as it relates to various degree and certificate programs.**

Strategy 10. Encourage engagement of the advisory board at both the departmental and college levels as it relates to the curriculum and needed skill sets for graduates of the program.

Strategy 11. Offer workshops focused on developing soft skills for post-graduation employment.

Strategy 12. Work with department / program advisory boards on updating curriculum in response to new and emerging technologies.

**Measure 6. Community Support. Community support is measured by a number of internships, co-op opportunities, part-time and full-time jobs, and an increase in endowments and scholarships.**

Strategy 13. Increase the number of undergraduate students participating in internships.

Strategy 14. Develop a mentoring program specifically geared towards graduate students, research, and innovation.

**Measure 7. Instructor Engagement.**

Strategy 15. Provide instructional development opportunities for new and existing faculty, lecturers, and part-time instructors.

Strategy 16. Require all graduate students to attend training each semester.

## Education: Measure 1, Strategy 1

**Undergraduate Students: Increase the undergraduate retention rate by 10% each year for the next five years**

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Encourage student retention and graduation by facilitating greater opportunities for expanded student support services, including:                             <ul style="list-style-type: none"> <li>○ Academic advising, international advising, career services, and peer mentoring;</li> <li>○ Tutoring and supplemental instruction</li> <li>○ An eAlert System, using the Student Success Collaborative (SSC)</li> </ul> </li> </ul>	Currently being done	<ul style="list-style-type: none"> <li>▪ Advising Center</li> </ul>
<ul style="list-style-type: none"> <li>▪ Use the First-Year Seminar Experience (FYS, EGG 101) to improve the level of preparedness and the initial performance of freshmen in the College. This includes:                             <ul style="list-style-type: none"> <li>○ A more centralized integration of the EGG 101 curriculum, which greater emphasis on the high school to college transition;</li> <li>○ Service learning; and</li> <li>○ A greater exploration of the various disciplines within the College that reflects the model more commonly used by the majority of the campus for the FYS and major exploration.</li> </ul> </li> </ul>	Currently being discussed for Fall 2017	<ul style="list-style-type: none"> <li>▪ Dept. Chairs</li> <li>▪ Dr. Mauer</li> </ul>
<ul style="list-style-type: none"> <li>▪ Work to develop transfer articulation agreements with the community colleges in the regions – Arizona, LA County, San Bernardino County, San Diego County, Southern Utah, etc. – to increase the number of qualified transfer students to the program from neighboring states.                             <ul style="list-style-type: none"> <li>○ Model this recruitment strategy off the agreements of the College of Southern Nevada (CSN) and Fort Valley State University in Georgia.</li> <li>○ Partner with the Office of Admissions and the Director of Undergraduate Recruitment on which schools for the Advising Center and the departments/programs to focus on for transfer course articulation.</li> </ul> </li> </ul>	Currently being done	<ul style="list-style-type: none"> <li>▪ Advising Center</li> <li>▪ J. Kennedy</li> </ul>

## Education: Measure 1, Strategy 2

**Undergraduate Students: Increase the number and quality of experiential opportunities for undergraduate students, and encourage engagement in entrepreneurship education and experience.**

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Work with faculty to align curriculum with a consistent discussion of course applicability to the creation of a Senior Design project. As students progress through their degree program, they can consistently think about Senior Design; the curriculum is used to help reinforce how research and design play a role in innovation. The goal is to have students think about Senior Design options their entire time at UNLV, and have more well-developed projects.</li> </ul>	Fall 2016	<ul style="list-style-type: none"> <li>▪ Dept. Chairs</li> <li>▪ Faculty</li> </ul>
<ul style="list-style-type: none"> <li>▪ Require all students in the First-Year Seminar Experience (EGG 101) to attend Senior Design events each semester as a class 'field trip'. Conclude with a panel discussion about identifying and developing a senior design idea to encourage students to start thinking about the process early in their education.</li> </ul>	Fall 2016	<ul style="list-style-type: none"> <li>▪ Dept. Chairs</li> <li>▪ Faculty</li> </ul>
<ul style="list-style-type: none"> <li>▪ Encourage faculty to support their students attending Senior Design by giving extra credit, giving a guided tour as class that week, and discuss how projects apply to the specific class they are teaching, among other possible ideas.</li> </ul>	Fall 2016	<ul style="list-style-type: none"> <li>▪ Dept. Chairs</li> <li>▪ Faculty</li> </ul>
<ul style="list-style-type: none"> <li>▪ Encourage a greater number of interdepartmental Senior Design Projects to encourage cross-disciplinary collaboration.                             <ul style="list-style-type: none"> <li>○ The goal is to improve the ability of students to work in inter-disciplinary teams after graduation.</li> <li>○ This would require the coordination of Senior Design class times among the various disciplines.</li> <li>○ Inter-departmental brainstorming sessions during the shared class times to encourage successful engagement and 'group think'.</li> </ul> </li> </ul>	Currently being done	<ul style="list-style-type: none"> <li>▪ Senior Design Instructors</li> <li>▪ Dept. Chairs</li> </ul>

### Education: Measure 1, Strategy 3

Undergraduate Students: Increase the undergraduate graduation rate by 10% each year for the next five years.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Create a more streamlined approach to the hands-on design experience from freshman year through senior year to encourage students to see the relevance of both the theoretical and practical applications of their classes.</li> </ul>	Fall 2017	<ul style="list-style-type: none"> <li>▪ Dept. Chairs</li> </ul>
<ul style="list-style-type: none"> <li>▪ Mentoring program to improve the individual student experience and encourage a connection to the College and the programs for short-term and long-term goals, including improving retention/graduation and building a more consistently supportive alumni base. Program options can include:                             <ul style="list-style-type: none"> <li>○ Internal: Peer mentoring from freshmen to seniors.</li> <li>○ External: Advisory board &amp; alumni partnering to mentor students.</li> <li>○ One-on-one and group mentoring with college faculty specific to each discipline.</li> </ul> </li> </ul>	Currently being done	<ul style="list-style-type: none"> <li>▪ Intern Coordinator (M. Mason)</li> <li>▪ Alumni Advisory Board</li> </ul>



### Education: Measure 2, Strategy 4

Graduate Students: Increase the number of UNLV undergraduates who continue their graduate education in the College by 5% for the next five years.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"><li>▪ Create more cross-disciplinary B.S. / M.S. integrated programs to create well-rounded students and serve as a pipeline to the College's graduate programs.</li></ul>	<p>Already complete in a few programs.</p> <p>Currently being done in other programs.</p>	<ul style="list-style-type: none"><li>▪ Departments</li></ul>

## Education: Measure 2, Strategy 5

**Graduate Students:** Increase the overall number of graduate students by 10% each year for the next five years.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Work with student professional organizations and diversity organizations to create a more competitive recruitment system at national conferences of professional organizations.</li> </ul>	Ongoing	<ul style="list-style-type: none"> <li>▪ Grad. Coordinators</li> </ul>
<ul style="list-style-type: none"> <li>▪ Consider offering scholarship via national conferences and research symposiums to encourage graduate students to come to UNLV.</li> </ul>	Ongoing	<ul style="list-style-type: none"> <li>▪ M. Trabia (Associate Dean)</li> <li>▪ Dept. Chairs</li> </ul>

## Education: Measure 2, Strategy 6

Graduate Students: Increase the number of students who complete their Ph.D. program.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Identify the 'all but dissertation' (ABD) students who have gone inactive with the College, and work to support them within their departments so they can complete their dissertation, defend, and graduate.</li> </ul>	Currently being done	<ul style="list-style-type: none"> <li>▪ Graduate Coordinators</li> <li>▪ Faculty</li> </ul>
<ul style="list-style-type: none"> <li>▪ Coordinate with faculty mentors on improving efforts to guide and track students so that students do not drop out of the graduate programs due to a lack of mentoring / guidance or a lack of understanding of what the degree can bring them related to post-doctoral research and employment opportunities within both higher education and industry.</li> </ul>	Currently being done	<ul style="list-style-type: none"> <li>▪ Graduate Coordinators</li> <li>▪ Faculty</li> </ul>
<ul style="list-style-type: none"> <li>▪ Work with the Internship &amp; Career Services Coordinator on creating a database of post-doctoral resources and opportunities. Require all Ph.D. students to submit their CVs for extensive review by a faculty mentor and Career Coordinator.</li> </ul>	Currently being done	<ul style="list-style-type: none"> <li>▪ Graduate Coordinators</li> <li>▪ Faculty</li> <li>▪ Intern Coordinator (M. Mason)</li> </ul>

### Education: Measure 3, Strategy 7

**STEAM: Improve and increase the collaboration between the College of Engineering and non-STEM colleges on campus, specifically, Fine Arts**

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Revise the engineering science minor to have a broader curriculum base with specific sub-tracks for the various disciplines so non-engineering majors can acquire a better understanding of emerging technologies.</li> </ul>	Spring 2016	<ul style="list-style-type: none"> <li>▪ Dean of Undergraduates (G. Mauer)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Encourage greater partnerships with the College of Fine Arts for Senior Design. For example, UNLV sent one Computer Science student and one Graphic Design students to Huntsville, Alabama to work with NASA/Teledyne Brown Engineering; they like the model so much that they are requesting other schools to consider sending a student with an art or graphic design background.</li> </ul>	Fall 2016	<ul style="list-style-type: none"> <li>▪ Chairs of Engineering and Fine Arts</li> </ul>

### Education: Measure 4, Strategy 8

High-Quality Students: Increase the overall number of undergraduate and graduate applicants and recipients for national and internationally recognized scholarship award (e.g., Truman or Fulbright) by 5% each year for the next five years.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Partner with the Honors College on developing cross-disciplinary opportunities for research, entrepreneurship, and related experiences to cultivate competitive students from our program.</li> </ul>	Ongoing	<ul style="list-style-type: none"> <li>▪ Dean of Undergraduates (G. Mauer)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Provide a listing of scholarly opportunities on the website for students to view, and offer workshops on how to apply and compile the needed materials and recommendations.</li> </ul>	Spring 2016	<ul style="list-style-type: none"> <li>▪ Director of Communications (C. Bella)</li> <li>▪ Dept. Chairs</li> <li>▪ Faculty</li> </ul>

## Education: Measure 4, Strategy 9

High-Quality Students: Research and encourage the traits of high-quality graduates by means of a series of surveys to current students, recent graduates, and local employers.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Send out an annual satisfaction survey to both internal and external groups to help identify what components of the educational experience help or hinder the success of students. Develop a system of surveys focused on the following:                             <ul style="list-style-type: none"> <li>○ Current students. What characteristics do they observe in successful classmates or in their own habits? What are hindrances they have observed that negatively affect the retention, progression, and graduation of students?</li> <li>○ Students post-graduation (1-2 years). What areas have contributed the most to their post-graduation successes? Areas they felt their education lacked?</li> <li>○ Employers. Survey of the skills they see in UNLV graduates that they find bring the most value to the workplace. Identify areas that may need improvement.</li> </ul> </li> </ul>	<p>By Fall 2016</p> <p>Ongoing thereafter</p>	<ul style="list-style-type: none"> <li>▪ Director of Communications (C. Bella)</li> <li>▪ Survey Committee</li> </ul>
<ul style="list-style-type: none"> <li>▪ Survey results to be reviewed with advisory boards at the departmental and college levels, with a goal of continuous assessment evolution curriculum to support both theoretical and practical application of the College's programs.</li> </ul>	<p>Ongoing</p>	<ul style="list-style-type: none"> <li>▪ Dept. Chairs</li> </ul>

## Education: Measure 5, Strategy 10

**Advisory Board: Encourage greater engagement of the advisory boards at both the departmental and college levels as it relates to the curriculum and needed skill sets for graduates of the program.**

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Introduce revised times for board meetings to the meeting structure of advisory boards, both for the departmental advisory boards and the college-wide advisory board.</li> </ul>	Fall 2016	<ul style="list-style-type: none"> <li>▪ Dean</li> <li>▪ Chairs</li> </ul>
<ul style="list-style-type: none"> <li>▪ Have a laid out and defined tracking system of survey results and steps taken to improve areas of concern; conversely, highlight areas of excellence and showcase them.</li> </ul>	Spring 2017	<ul style="list-style-type: none"> <li>▪ Dean</li> <li>▪ Chairs</li> </ul>
<ul style="list-style-type: none"> <li>▪ Propose two meetings per semester for each departmental board.</li> </ul>	Fall 2016	<ul style="list-style-type: none"> <li>▪ Chairs</li> </ul>
<ul style="list-style-type: none"> <li>▪ Organize one "best practices" meeting each semester with all the advisory boards in attendance to support ideas and programs of success. For example, an advisory board spotlight? Slam sessions, five minutes each?</li> </ul>	Spring 2017	<ul style="list-style-type: none"> <li>▪ Dean</li> </ul>
<ul style="list-style-type: none"> <li>▪ Organize an annual retreat with lunch included during summer months to go over progress within the last year and areas for which further assistance and guidance is needed from the advisory board.</li> </ul>	2017	<ul style="list-style-type: none"> <li>▪ Dean</li> </ul>

## Education: Measure 5, Strategy 11

Advisory Board: Offer workshops focused on developing soft skills for post-graduation employment.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ For undergraduates, offer workshops in resume building, mock interviews, and research slams.</li> </ul>	Currently being done	<ul style="list-style-type: none"> <li>▪ Intern Coordinator (M. Mason)</li> </ul>
<ul style="list-style-type: none"> <li>▪ For graduates:                             <ul style="list-style-type: none"> <li>○ Offer tips on fellowship applications, research slams, and writing workshops for thesis organization.</li> <li>○ Conduct satisfaction surveys for feedback from graduate students.</li> </ul> </li> </ul>	Spring 2016	<ul style="list-style-type: none"> <li>▪ Intern Coordinator (M. Mason)</li> <li>▪ Technical Writer (J. Longo)</li> <li>▪ Associate Dean (M. Trabia)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Post-graduation follow-up / assessment with recent alumni, within one to two years, for feedback on the usefulness of workshops on soft skills, and areas that need to improve.</li> </ul>	Ongoing	<ul style="list-style-type: none"> <li>▪ Dept. Chairs</li> </ul>
<ul style="list-style-type: none"> <li>▪ Partner with the Director of Multicultural Programs, department advisory boards, and program advisory boards, and local professional and diversity organizations to identify workshop options and to teach workshops.</li> </ul>	Ongoing	<ul style="list-style-type: none"> <li>▪ Director of Multicultural Program (J. Jezierska)</li> <li>▪ Dean of Undergraduates (G. Mauer)</li> </ul>



## Education: Measure 5, Strategy 12

Work with department / program advisory boards on updating curriculum in response to new and emerging technologies.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"><li>For example, the Department of Mechanical Engineering no longer teaches the AutoCAD class, as it is not a relevant anymore in the light of emerging 3D technologies.</li></ul>	No action	<ul style="list-style-type: none"><li></li></ul>

## Education: Measure 6, Strategy 13

Community Support. Increase the number of undergraduate students participating in internships.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Encourage all departments and programs to create a three-credit upper-division professional elective that can be taken during their junior or senior year and used towards their degree requirements.                             <ul style="list-style-type: none"> <li>○ We are seeing an increase in students struggling to get internships because they are not able to enroll in a class for the internship; additionally, companies will not allow internships unless they are receiving college credit.</li> <li>○ The College could assist by creating a 'master template' for students to see when requesting approval of an internship opportunity from their particular department. Make class number 491 for independent studies across all departments / programs and class 493 for internships (CEE 491, CEE 493, EE 491, EE 493, etc.</li> </ul> </li> </ul>	TBD	<ul style="list-style-type: none"> <li>▪ Intern Coordinator (M. Mason)</li> <li>▪ Undergraduate committees of each unit</li> </ul>
<ul style="list-style-type: none"> <li>▪ Improved partnerships with companies locally and nationally to facilitate internships, co-ops, and post-graduation employment opportunities.</li> </ul>	Ongoing	<ul style="list-style-type: none"> <li>▪ Intern Coordinator (M. Mason)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Increase the number of scholarship partners and funds awarded (AY 2015-2016 = \$450,000). The goal is to increase this number by 25% within the next three years so that annual awarding is over \$550,000.</li> </ul>	Already completed	<ul style="list-style-type: none"> <li>▪ College</li> </ul>

## Education: Measure 6, Strategy 14

Community Support. Develop a mentoring program specifically geared towards graduate students, research, and innovation.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"><li>A partnership between each graduate student, their faculty advisor, and a community mentor / local employer on idea development, implications of research on policy planning, and policy development in both the private and public sectors.</li></ul>	<ul style="list-style-type: none"><li></li></ul>	<ul style="list-style-type: none"><li></li></ul>

## Education: Measure 7, Strategy 15

**Instructor Engagement. Provide instructional development opportunities for new and existing faculty, lecturers, and part-time instructors.**

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Opportunities for instructors to learn about new research in pedagogy techniques, technology do's and don'ts in education, and how to implement them in STEM classes.</li> </ul>	Ongoing	<ul style="list-style-type: none"> <li>▪ Dept. Chairs</li> </ul>
<ul style="list-style-type: none"> <li>▪ Initiate collaboration with the following UNLV units to develop workshops and training:                             <ul style="list-style-type: none"> <li>○ College of Education</li> <li>○ Academic Success Center</li> <li>○ Office of Diversity Initiatives</li> </ul> </li> </ul>	Spring 2016	<ul style="list-style-type: none"> <li>▪ Dean of Undergraduates (G. Mauer)</li> <li>▪ Dean (R. Venkat)</li> </ul>

## Education: Measure 7, Strategy 16

Instructor Engagement. Require all graduate students to attend training each semester.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ All graduate students to attend training each semester with the Academic Success Center</li> </ul>	<p>Currently being done</p>	<ul style="list-style-type: none"> <li>▪ Director of Advising (J. Kennedy)</li> <li>▪ Graduate Coordinators</li> </ul>
<ul style="list-style-type: none"> <li>▪ All graduate students to attend training each semester with faculty from the department on tips and tools for teaching classes, leading discussions, and guiding labs.</li> </ul>		<ul style="list-style-type: none"> <li>▪</li> </ul>

## **External Relations Task Force**

The External Relations Task Force was represented by including faculty from engineering, alumni, and advisory board members. Based on the many conversations undertaken by this task force – including conversations with representatives from other task forces, the following Distinctive Capability Statement, Measures, and Strategies were developed.

### **External Relations: Distinctive Capability Statement**

**Focused branding and networking strategies resulting in mutually beneficial constituent-based results to promote and develop a college of national distinction.**

### **External Relations: Measures**

1. An Office of Branding and Networking established within the College of Engineering in order to conduct effective external affairs and public relations with the community.
  - a. The measures are:
    - i. The level of community engagement and
    - ii. The level of community support.
  - b. The operational specifics are:
    - i. Develop collaterals and reports on college highlights,
    - ii. Create a database for distribution,
    - iii. Leverage other UNLV departments as resources, and
    - iv. Establish a PR/Communications office with a full staff and roles.
2. Stakeholders. A visible and ongoing interaction with constituencies, and assessment of graduates by alumni and employers.
  - a. The measures are:

- i. The level of engagement of industry partners and alumni,
    - ii. The number of industry-college projects, and
    - iii. The number of alumni involvement.
  - b. The operational specifics are:
    - i. Events and
    - ii. A mentorship program.
- 3. Donor contributions. Implement focused branding and networking strategies to support fundraising outcomes benefitting students, faculty, and the University.
  - a. The measures are to:
    - i. Meet or exceed the university participation rate for donor participation (alumni, friends, industry, and organizations);
    - ii. Meet or exceed university averages for donor contributions for annual giving and designated program support.
    - iii. Utilize a College 'brand', and networking among constituents, both internally and externally.
    - iv. Meet or exceed the university rate of new endowment programs (scholarship, research, departmental programs, service, and innovation).
  - b. The operational specifics are:
    - i. Build broad-based support throughout the College for integrated development and alumni operations, including fundraising, alumni and parent relations, and student alumni relations.
    - ii. The objective is to identify and build constituency support for long-term sustainability in the key areas of scholarship, research, departmental programs, service, and innovation.

4. Develop Entrepreneurs. Develop entrepreneurs through collaboration between the College and the community, giving them a hands-on, immersive experience.
  - a. The measures are:
    - i. Engineering College integration,
    - ii. Intercollege collaboration, and
    - iii. More coordination with the community, and
    - iv. More examples of successful alumni.
  - b. Operational specifics are:
    - i. Many courses and programs are disparate
    - ii. Lee Business School and the College of Engineering have a fair amount of collaboration, but more collaboration is needed between the College of Engineering and the College of Science, for example, regarding biomedical research.
    - iii. More collaboration with corporations, such as DTP Ventures (formerly The Downtown Project) and SWITCH to develop hackathons and start-up business weekends, for example.
5. Internships and Faculty Consultancies. Employers offer student internships and faculty consultancies. In order to achieve this, the College of Engineering provides availability of high-quality interns and faculty, and service to the community.
  - a. Measures are:
    - i. The number of companies who hire interns and faculty consultants.
    - ii. The number of student interns and faculty consultants.
    - iii. The number and amount of funded projects that stem from the consulting relationship.



- iv. The number of employers who participate in surveys and events; develop a database of these potential employers.
  - v. Feedback from employers of our students and faculty.
  - vi. The growth rate of the above measures.
  - vii. Diversity of the hiring industry and the fields, such as mechanical engineering, solar technology, computer science, etc.
- b. The operational specifics are:
- i. The success of internship and faculty fellowships/consultancies strongly depend on wide participation in them.
  - ii. A reward system and promotion at the Dean's level is required.

## **External Relations: Strategies**

Each of the strategies relate to a measure.

### **Measure 1. Establish an Office of Branding and Networking within the College of Engineering**

Strategy 1. Organize an Office of Branding and Networking within the College of Engineering.

### **Measure 2. A visible and ongoing interaction with stakeholders**

Strategy 2. Visible and ongoing interaction with constituencies, and assessment of graduates by alumni and employers.

Strategy 3. Events and a mentoring program that supports a visible and ongoing interaction with constituencies and the College of Engineering

### **Measure 3. Donors**

Strategy 4. Implement focused branding and networking strategies to support fundraising outcomes that benefit students, faculty, and the university.

**Measure 4. Develop entrepreneurs through collaboration between the College and the community.**

Strategy 5. Develop students into entrepreneurs, employing a hands-on, immersive experience.

**Measure 5. Employers offer student internships and faculty consultancies.**

Strategy 6. Availability of high-quality interns from the College of Engineering.

Strategy 7. Opportunities for faculty consultancies with the business community.

## External Relations: Measure 1, Strategy 1

Organize an Office of Branding and Networking within the College of Engineering.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Establish office with full time staff that includes, but is not limited to, a director, an event coordinator, a copy writer, a graphic designer, a media and social media person, etc.</li> </ul>	<p>Q1 2016</p> <p>Ongoing thereafter</p>	<ul style="list-style-type: none"> <li>▪ Dean's Office</li> </ul>
<ul style="list-style-type: none"> <li>▪ Assess COE's strength and create highlight points, establish "our brand," and create initial collateral and marketing materials with stories.</li> <li>▪ Create and establish a full marketing plan, with branding &amp; messaging, growth targets, and metrics.</li> </ul>	<p>Q2 2016</p> <p>Ongoing thereafter</p>	<ul style="list-style-type: none"> <li>▪ Communications Director</li> <li>▪ Director of Development</li> <li>▪ Dean's Office</li> <li>▪ Director of Admissions</li> <li>▪ Internship Coordinator</li> <li>▪ Department Chairs</li> </ul>
<ul style="list-style-type: none"> <li>▪ Establish a relationship with other UNLV departments – including Marketing, Graphic Design, Video and Film, and Journalism.</li> <li>▪ Create an inter-college GA position/interns for copy writing, graphics, public relations, and social media.</li> </ul>	<p>Q3 2016</p> <p>Ongoing thereafter</p>	<ul style="list-style-type: none"> <li>▪ Communications Director</li> </ul>
<ul style="list-style-type: none"> <li>▪ Create an effective college-wide database with alumni, employers, and local relationships, including schools.</li> </ul>	<p>Q3 2016</p> <p>Ongoing thereafter</p>	<ul style="list-style-type: none"> <li>▪ Alumni chapters</li> <li>▪ Director of Development</li> <li>▪ Internship Coordinator</li> <li>▪ Admission Director</li> </ul>

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Create a public relations strategy and database.</li> </ul>	<p style="text-align: center;">Q3 2016 Ongoing thereafter</p>	<ul style="list-style-type: none"> <li>▪ Communications Director</li> <li>▪ UNLV Media Relations Office</li> </ul>
<ul style="list-style-type: none"> <li>▪ Create an analytics method and obtain results on the engagement level, and obtain feedback from industry and the community.</li> <li>▪ Provide reporting to the Dean’s Office, Department Chairs, and other COE units (advisory boards, alumni chapters, etc.)</li> </ul>	<p style="text-align: center;">Each semester, starting with Q4 2016</p>	<ul style="list-style-type: none"> <li>▪ Communications Director (C. Bella)</li> <li>▪ Director of Development</li> <li>▪ Director of Admissions</li> <li>▪ Internship Coordinator</li> </ul>

## External Relations: Measure 2, Strategy 2

Stakeholders. Visible and ongoing interaction with constituencies, and assessment of graduates by alumni and employers.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Create a database of all known alumni. Get an initial list from the Alumni Association, and add graduating students to the list each semester.</li> </ul>	<p>Q1 2016</p> <p>Ongoing thereafter</p>	<ul style="list-style-type: none"> <li>▪ Director of Development</li> <li>▪ Alumni Chapters</li> <li>▪ Department Chairs</li> <li>▪ UNLV Foundation</li> <li>▪ Alumni Association</li> </ul>
<ul style="list-style-type: none"> <li>▪ Conduct exit interviews for all graduating students. Obtain LinkedIn and other contact information for the database, information about post-graduation employment plans, feedback from the student's experience, etc.</li> </ul>	<p>Every semester, starting with Spring 2016</p>	<ul style="list-style-type: none"> <li>▪ Department Chairs</li> </ul>
<ul style="list-style-type: none"> <li>▪ Conduct alumni interviews. Interview alumni within three to five years of graduation to see how their career has progressed since graduation, and get an assessment from them on how well the College prepared them for their career.</li> <li>▪ Identify strengths and weaknesses of the program for continuous feedback.</li> <li>▪ Keep the alumni invested in the college and wanting to stay involved before they are too far into their career and too far away from the college</li> </ul>	<p>Annual survey of alumni, starting with the first large group in Q2 2016</p> <p>This is partially done, but needs to be systematic</p>	<ul style="list-style-type: none"> <li>▪ Director of Development</li> <li>▪ Department Chairs</li> <li>▪ Advisory Board</li> <li>▪ Alumni</li> </ul>

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Conduct interviews of local employers and industry. Learn what their current and future needs are and how the College can assist. Get feedback on the quality of the graduates from the College: were they prepared, professional, etc.</li> <li>▪ Are there classes, certifications, or continuing education needs that the college could provide?</li> </ul>	<p>Annual survey of a sampling of employers, starting with Q2 2016</p>	<ul style="list-style-type: none"> <li>▪ Director of Development</li> <li>▪ Department Chairs</li> <li>▪ Advisory Boards</li> <li>▪ Intern Coordinator (M. Mason)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Create a portfolio of outstanding engineers. Begin highlighting the successes of the College's alumni.</li> <li>▪ Create almost a perpetual yearbook of achievements, and make this something that is drawn from when looking for nominations for Outstanding Alumni of the Year awards, guest speakers, Senior Design resources, mentors, potential donors, etc.</li> </ul>	<p>Started the process; complete by Q3 2016</p>	<ul style="list-style-type: none"> <li>▪ Director of Development</li> <li>▪ Alumni Chapters</li> <li>▪ Director of Communications</li> <li>▪ Department Chairs</li> </ul>
<ul style="list-style-type: none"> <li>▪ Implement the Mendenhall Innovation Program. This program is designed to engage College of Engineering programs for research, academics, innovation as well as student and entrepreneurial outcomes throughout the region and the state.</li> </ul>	<p>Q3 2016 Ongoing thereafter</p>	<ul style="list-style-type: none"> <li>▪ Program Director for the Mendenhall Innovation Program</li> </ul>

### External Relations: Measure 2, Strategy 3

Stakeholders. Events and a mentoring program that supports a visible and ongoing interaction with constituencies and the College of Engineering

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>Hold an event – COE Annual Golf Tournament – where we celebrate achievements of students and faculties, network with local industries, network with alumni, and talk about the future and growth of the College.</li> </ul>	Q2 2017	<ul style="list-style-type: none"> <li>COE Advisory Board</li> </ul>
<ul style="list-style-type: none"> <li>Hold an event – #RebelHack – a sponsored and themed hackathon that challenges students to build something in an interdisciplinary team.</li> </ul>	Q3 2017	<ul style="list-style-type: none"> <li>Dean's Office</li> <li>CS Department</li> <li>Association of Computing Machinery</li> </ul>
<ul style="list-style-type: none"> <li>Hold an event – Dean's Town Hall Meeting – that engages round-table conversations with political leaders and local stakeholders. This meeting discusses the College's strengths, how the College can serve the community, and how other stakeholders can help.</li> </ul>	Q3 2016	<ul style="list-style-type: none"> <li>Dean's Office</li> </ul>
<ul style="list-style-type: none"> <li>Hold an event – Industry Reverse Pitch + Clinic Program – to engage local industries and companies for a half-day pitch event at the beginning of semesters in order to create "project flow" for students who are in the Senior Design program.</li> </ul>	Q3 2016	<ul style="list-style-type: none"> <li>Department Chairs</li> <li>Senior Design Instructors</li> </ul>
<ul style="list-style-type: none"> <li>Master calendar of events for the entire year, with information on how people can participate, attend, and support the college in conducting research.</li> </ul>	Q3 2016 Ongoing thereafter	<ul style="list-style-type: none"> <li>Dean's Office</li> <li>Director of Special Events (M. Marks)</li> <li>Director of Communications</li> </ul>

Action Step / Result	By When	Responsibility
		<ul style="list-style-type: none"> <li>▪ (C. Bella)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Mentorship program that involves one-on-one interaction with professionals and students</li> </ul>	<p>Currently being done</p> <p>Complete by Q4 2016</p>	<ul style="list-style-type: none"> <li>▪ COE Advisory Board</li> <li>▪ Alumni</li> </ul>



### External Relations: Measure 3, Strategy 4

Donors. Implement focused branding and networking strategies to support fundraising outcomes that benefit students, faculty, and the university.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Engage alumni chapters in efforts to increase alumni, student, and parent participation and communication by means of:                             <ul style="list-style-type: none"> <li>○ Updating records</li> <li>○ Supporting special events</li> <li>○ Creating a survey to parents</li> </ul> </li> </ul>	<p>Currently being done. Complete by Q4 2017</p>	<ul style="list-style-type: none"> <li>▪ Director of Development (J. Aylor)</li> <li>▪ Director of Communications (C. Bella)</li> <li>▪ Alumni Chapters</li> <li>▪ Department Chairs</li> <li>▪ UNLV Foundation</li> <li>▪ UNLV Alumni Association</li> </ul>
<ul style="list-style-type: none"> <li>▪ Engage COE departments in efforts to increase connections to alumni and friends by updating records, directed communications, and supporting social networking efforts.</li> </ul>	<p>Q2 2016</p>	<ul style="list-style-type: none"> <li>▪ Director of Development</li> <li>▪ Alumni Chapter</li> <li>▪ Department Chairs</li> </ul>
<ul style="list-style-type: none"> <li>▪ Engage the College administration, faculty, and students in efforts to build connections to the professional community, industry, and friends of the College.</li> </ul>	<p>Q4 2017</p>	<ul style="list-style-type: none"> <li>▪ Director of Development</li> <li>▪ Department Chairs</li> <li>▪ Advisory Boards</li> </ul>

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>Engage College advisory boards, key alumni, and friends in efforts to increase connections to the community for fundraising outcomes.</li> </ul>	Q2 2018	<ul style="list-style-type: none"> <li>Director of Development</li> <li>Alumni Chapters</li> <li>Director of Special Events</li> <li>Director of Communications</li> </ul>
<ul style="list-style-type: none"> <li>Develop ongoing and sustainable recognition programs for alumni achievement, career achievement, service to the College, and donor recognition.</li> </ul>	Q4 2020	<ul style="list-style-type: none"> <li>Director of Development</li> </ul>
<ul style="list-style-type: none"> <li>Increase the participation rate of College alumni donors with a goal of 6% participation within five years.</li> </ul>	Q4 2020	<ul style="list-style-type: none"> <li>Director of Development</li> </ul>
<ul style="list-style-type: none"> <li>Recognize and promote increased College endowment and annual giving programs in response to fundraising efforts.</li> </ul>	Currently being done	<ul style="list-style-type: none"> <li>Director of Development</li> <li>Alumni Chapters</li> <li>Department Chairs</li> <li>Advisory Boards</li> </ul>
<ul style="list-style-type: none"> <li>Begin a sustained capital campaign for a new building to support academic growth.</li> </ul>	Ongoing	<ul style="list-style-type: none"> <li>Director of Development</li> <li>Alumni Chapters</li> <li>Department Chairs</li> <li>Advisory Boards</li> </ul>

## External Relations: Measure 4, Strategy 5

Develop students into entrepreneurs, employing a hands-on, immersive experience.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ COE integration: Introduce entrepreneurship courses and adjunct lectures as early as the freshman year with the Global Entrepreneurial Experience (GEE)</li> </ul>	Q1 2016	<ul style="list-style-type: none"> <li>▪ First Year Experience Instructors</li> <li>▪ Janet Runge</li> <li>▪ Hans Rawhauser,</li> <li>▪ Dom Marrocco</li> </ul>
<ul style="list-style-type: none"> <li>▪ COE integration: Senior Design integration and entrepreneurship introduced to Freshmen and Sophomores.</li> </ul>	Q2 2016	<ul style="list-style-type: none"> <li>▪ Senior Design Instructors</li> <li>▪ Director, Center for Entrepreneurship (CFE)</li> <li>▪ Zach Miles</li> </ul>
<ul style="list-style-type: none"> <li>▪ COE integration: Promote interdisciplinary collaboration, for example, Computer Science with other departments.</li> </ul>	Q1 2016	<ul style="list-style-type: none"> <li>▪ Dean's Office</li> <li>▪ Department Chairs</li> </ul>
<ul style="list-style-type: none"> <li>▪ Intercollege integration: Medical School and Allied Health Sciences with the College of Engineering</li> </ul>	Q1 2016	<ul style="list-style-type: none"> <li>▪ Dean Atkinson (Medical School)</li> <li>▪ Allied Health Sciences</li> <li>▪ Nevada Institute of Personalized Medicine (NIPM)</li> <li>▪ Dean Venkat (COE)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Intercollege integration: College of Engineering and College of Science, particularly in biomedical engineering, in anticipation of the new building</li> </ul>	Q1 2016	<ul style="list-style-type: none"> <li>▪ Dean Porter (COS)</li> <li>▪ Zach Miles</li> <li>▪ Dean Venkat (COE)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Intercollege integration: Hotel College and College of Engineering</li> </ul>	Q2 2016	<ul style="list-style-type: none"> <li>▪ Dean Shoemaker</li> <li>▪ Hospitality Innovation (HI) Lab at the International Gaming Institute (IGI)</li> </ul>

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Community integration: DTP Ventures with the College of Engineering; City of Henderson with the College of Engineering</li> </ul>	2017	<ul style="list-style-type: none"> <li>▪ Entrepreneurial Committee of COE</li> <li>▪ Zach Miles</li> </ul>
<ul style="list-style-type: none"> <li>▪ Community integration: SWITCH with College of Engineering; the State of Nevada and Clark County with the College of Engineering</li> </ul>	2017	<ul style="list-style-type: none"> <li>▪ Already begun with the SWITCH Innovation Center</li> </ul>

## External Relations: Measure 5, Strategy 6

Employers. Availability of high-quality interns from the College of Engineering.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Hire a permanent Internship Coordinator.</li> </ul>	Q4 2016	<ul style="list-style-type: none"> <li>▪ Dean's Office</li> </ul>
<ul style="list-style-type: none"> <li>▪ Collect the statistics on current interns and internship opportunities.</li> </ul>	Q1 2016	<ul style="list-style-type: none"> <li>▪ Internship Coordinator</li> </ul>
<ul style="list-style-type: none"> <li>▪ Publicize the availability of student interns to companies by means of brochures and websites having testimonials, benefits, success stories, and capabilities.</li> <li>▪ Host information sessions and matchmaking events.</li> </ul>	Q2 2016	<ul style="list-style-type: none"> <li>▪ Internship Coordinator</li> </ul>
<ul style="list-style-type: none"> <li>▪ Generate literature about internship opportunities.</li> <li>▪ Disseminate the value of career-related internships, and promote visits to the internship website: (<a href="http://www.unlv.edu/engineering/opportunities">http://www.unlv.edu/engineering/opportunities</a>)</li> </ul>	Q1 2016	<ul style="list-style-type: none"> <li>▪ Internship Coordinator</li> </ul>
<ul style="list-style-type: none"> <li>▪ Analyze the demographics of hiring companies in terms of industry, size, location, pay scale, work environment, career prospects, churning rate, etc.</li> </ul>	Q3 2016	<ul style="list-style-type: none"> <li>▪ Internship Coordinator</li> </ul>
<ul style="list-style-type: none"> <li>▪ Gather information from companies on required skills and qualifications for interns, and encourage students to build those skills.</li> </ul>	Q1 2016	<ul style="list-style-type: none"> <li>▪ Internship Coordinator</li> </ul>

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Encourage employers to offer clinical courses for building practical job skills with company-provided material, tools, and lecturers.</li> </ul>	<p>Q2 2016</p>	<ul style="list-style-type: none"> <li>▪ Dean's Office</li> <li>▪ Department Chairs</li> </ul>

## External Relations: Measure 5, Strategy 7

Opportunities for faculty consultancies with the business community.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Increase opportunities for faculty to speak at professional meetings and companies.</li> <li>▪ Offer appropriate rewards to participating faculty.</li> </ul>	Q1 2016	<ul style="list-style-type: none"> <li>▪ Dean's Office</li> </ul>
<ul style="list-style-type: none"> <li>▪ Publicize the faculty's capabilities to companies.</li> <li>▪ Build a list of faculty who would offer consulting or public lecture, and find a match.</li> </ul>	Q2 2016	<ul style="list-style-type: none"> <li>▪ Internship Coordinator</li> <li>▪ Director of Special Events</li> <li>▪ Director of Communications</li> </ul>
<ul style="list-style-type: none"> <li>▪ Create a brochure and website with testimonials, benefits, success stories, and capabilities of faculty consultancies with the business community.</li> </ul>	Q2 2016 Currently being done	<ul style="list-style-type: none"> <li>▪ Internship Coordinator</li> <li>▪ Director of Special Events</li> <li>▪ Director of Communications</li> </ul>
<ul style="list-style-type: none"> <li>▪ Host information sessions, matchmaking events, and TED-style conferences for the general public.</li> </ul>	Q2 2016	<ul style="list-style-type: none"> <li>▪ Internship Coordinator</li> <li>▪ Director of Special Events</li> <li>▪ Director of Communications</li> </ul>

## **Internal Relations Task Force**

The Internal Relations Task Force was represented by including faculty from engineering and business, professional employees and students. Based on the many conversations undertaken by this task force – including conversations with representatives from other task force, the following Distinctive Capability Statement, Measures, and Strategies were developed.

## **External Relations: Distinctive Capability Statement**

**The entire College of Engineering delivers  
efficient operational support to its stakeholders.**

## **Internal Operations: Measures**

1. Planning. 100% benchmarked infrastructural resources within one year; encumber funding for Maintenance and Growth for infrastructure within three years.
  - a. Measurement categories are:
    - i. Space utilization and flexible space designation
    - ii. Machine Room condition, including equipment and software
    - iii. Teaching Laboratory condition, including equipment and software
    - iv. Infrastructure support for computer networks in the College of Engineering
  - b. Operational specifics are:
    - i. Create a committee for benchmarking infrastructural resources
    - ii. Create a planning committee and develop a plan to fund Maintenance and Growth
    - iii. Implement the above plans



2. Electronic document flow within COE. Convert transferable paper-based forms to electronic forms by the end of 2017.
  - a. Measurement categories are:
    - i. Development of electronic forms
    - ii. Securing resources for electronic document flow
  - b. Operational specifics are:
    - i. Identify forms transferable to electronic format
    - ii. Develop editable forms with electronic signature capability, and develop a protocol for the document flow
    - iii. Allocate resources for accessing, authenticating, transferring, and backing up electronic forms
    - iv. Evaluate the cross-campus compatibility of electronic signatures
3. Professional development of the COE staff. By the end of 2017, 100% of COE staff have participated in at least one professional development activity a year.
  - a. Measurement category is that by the end of 2017, 100% of COE staff have participated in at least one professional development activity a year.
  - b. Operational specifics are:
    - i. Evaluate the current status of proficiency and training levels
    - ii. Allocate resources and implement a prioritized plan of training and award recognition with an evaluation procedure for both full-time and part-time employees.
4. Information dissemination within COE. At the end of 2016, the entire College of Engineering is proficiently informed on College matters.
  - a. Measurement categories are:
    - i. Electronically gather and document information necessary for efficient operation of COE
    - ii. Deliver / disseminate the information with the College proficiently

- b. Operational specifics are:
  - i. Identify information sources and rubrics
  - ii. Develop a mechanism and resources for electronically documenting the information necessary for the efficient operation of COE
  - iii. Assign responsibilities for maintaining the mechanism for delivering / disseminating information within the College proficiently

### **Internal Operations: Strategies**

Each strategy relates to a measure: Strategy 1 for Measure 1, Strategy 2 for Measure 2, etc.

**Measure 1: Planning. 100% benchmarked infrastructural resources within one year; encumber funding for Maintenance and Growth for infrastructure within three years.**

Strategy 1: Benchmark current infrastructure, and develop a prioritized plan for infrastructure growth and maintenance.

**Measure 2: Electronic document flow within COE. Convert transferable paper-based forms to electronic forms by the end of 2017.**

Strategy 2: Research the current protocols for document flow within COE, and identify documents transferable to electronic operation; implement the transfer and storage requirements.

**Measure 3: Professional development of the COE staff. By the end of 2017, 100% of COE staff have participated in at least one professional development activity a year.**

Strategy 3: Establish a Professional Development plan for COE staff – both full-time and part-time – based on opportunity for growth, annual evaluations, and performance feedback from stakeholders.

**Measure 4: Information dissemination within COE. At the end of 2016, the entire College of Engineering is proficiently informed on College matters.**

Strategy 4: Establish an Information Dissemination Plan for the College, and identify required resources.

## Internal Relations: Measure 1, Strategy 1

Infrastructure Planning. Benchmark current infrastructure, and develop a prioritized plan for infrastructure growth and maintenance.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Create a committee for benchmarking infrastructure resources.</li> </ul>	December 2016	<ul style="list-style-type: none"> <li>▪ Chairs</li> <li>▪ Dean</li> </ul>
<ul style="list-style-type: none"> <li>▪ Improve and clarify communication in the use of differential fees to successfully implement funding of Machine Room &amp; network maintenance and improvement</li> </ul>	Q2 2016	<ul style="list-style-type: none"> <li>▪ Chairs</li> <li>▪ Dean</li> <li>▪ Administrative Assistants</li> </ul>
<ul style="list-style-type: none"> <li>▪ Create a committee to develop a plan to fund Maintenance and Growth.</li> </ul>	Q1 2017	<ul style="list-style-type: none"> <li>▪ Faculty</li> <li>▪ Chairs</li> <li>▪ Dean</li> </ul>
<ul style="list-style-type: none"> <li>▪ Benchmark current equipment and conditions for the COE teaching laboratories</li> </ul>	Q1 2017	<ul style="list-style-type: none"> <li>▪ COE lab managers</li> <li>▪ Faculty</li> </ul>
<ul style="list-style-type: none"> <li>▪ Determine conditions for the Machine Room and its equipment</li> </ul>	Q1 2017	<ul style="list-style-type: none"> <li>▪ IRC Committee</li> </ul>
<ul style="list-style-type: none"> <li>▪ Determine space utilization and space designation</li> </ul>	Q1 2017	<ul style="list-style-type: none"> <li>▪ IRC Committee</li> <li>▪ Dean</li> </ul>
<ul style="list-style-type: none"> <li>▪ Develop a mechanism to fund and prioritize resources for implementing plans for infrastructure resources and funding Maintenance and Growth</li> </ul>	Q4 2018	<ul style="list-style-type: none"> <li>▪ Infrastructure Resource Committee (IRC)</li> <li>▪ Maintenance &amp; Growth Funding (M&amp;GF) Committee</li> <li>▪ Dean</li> </ul>

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Develop a mechanism and a priority plan to fund the Machine Room as well as network maintenance and improvement</li> </ul>	Q4 2018	<ul style="list-style-type: none"> <li>▪ Chairs</li> <li>▪ Dean</li> </ul>
<ul style="list-style-type: none"> <li>▪ Develop a mechanism to fund COE IT department to purchase equipment (computers and IT equipment) and to allocate the computers and other equipment. Create two committees to manage this:</li> <li>▪ Computer Network Infrastructure committee</li> <li>▪ General Lab and Shop Infrastructure committee</li> </ul>	Q4 2018	<ul style="list-style-type: none"> <li>▪ Dean</li> </ul>
<ul style="list-style-type: none"> <li>▪ Allocate office space of Part-Time Instructors (PTIs) that allow them to have office hours.</li> </ul>		<ul style="list-style-type: none"> <li>▪</li> </ul>

## Internal Relations: Measure 2, Strategy 2

**Electronic Document Flow. Research the current protocols for document flow within COE, and identify documents transferable to electronic operation; implement the transfer and storage requirements.**

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Identify the forms transferable to electronic format and protocol</li> </ul>	Q1 2017	<ul style="list-style-type: none"> <li>▪ Staff</li> <li>▪ Chairs</li> <li>▪ Dean</li> </ul>
<ul style="list-style-type: none"> <li>▪ Appoint a COE IT Committee</li> </ul>	Q1 2017	<ul style="list-style-type: none"> <li>▪ Chairs</li> <li>▪ Dean</li> </ul>
<ul style="list-style-type: none"> <li>▪ Develop editable electronic forms with electronic signatures</li> </ul>	Q4 2017	<ul style="list-style-type: none"> <li>▪ COE IT Committee</li> </ul>
<ul style="list-style-type: none"> <li>▪ Allocate resources for accessing, authenticating, transferring, and backing up electronic forms</li> </ul>	Q4 2017	<ul style="list-style-type: none"> <li>▪ Dean</li> <li>▪ COE IT Committee</li> </ul>

### Internal Relations: Measure 3, Strategy 3

Professional Development of Staff. Establish a Professional Development plan for COE staff – both full-time and part-time – based on opportunity for growth, annual evaluations, and performance feedback from stakeholders.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Create a committee to develop procedures and protocols for professional development requests and funding</li> </ul>	Q2 2017	<ul style="list-style-type: none"> <li>▪ Chairs</li> <li>▪ Dean</li> </ul>
<ul style="list-style-type: none"> <li>▪ Determine the current status of proficiency and training level of COE staff</li> </ul>	Q4 2017	<ul style="list-style-type: none"> <li>▪ Chairs</li> <li>▪ Committee</li> </ul>
<ul style="list-style-type: none"> <li>▪ Establish a budget to support the professional development growth of employees, and establish a priority plan</li> </ul>	Q4 2018	<ul style="list-style-type: none"> <li>▪ Chairs</li> <li>▪ Committee</li> </ul>
<ul style="list-style-type: none"> <li>▪ Establish feedback procedures from the stakeholders about the COE staff. For example, survey students on customer satisfaction in getting good services from counseling.</li> </ul>	Q4 2018	<ul style="list-style-type: none"> <li>▪ Chairs</li> <li>▪ Committee</li> </ul>

## Internal Relations: Measure 4, Strategy 4

Information Dissemination. Establish an Information Dissemination Plan for the College, and identify required resources.

Action Step / Result	By When	Responsibility
<ul style="list-style-type: none"> <li>▪ Benchmark COE participation in University committees and current members serving COE.</li> </ul>	Q4 2016	<ul style="list-style-type: none"> <li>▪ COE Executive Committee members                             <ul style="list-style-type: none"> <li>○ Deans</li> <li>○ Associate Dean</li> <li>○ Dept. Chairs</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>▪ Create real-time electronic communication for committee members and COE employees; create a dashboard for the Deans so that members can send information to the Deans quickly and easily.</li> </ul>	Q2 2017	<ul style="list-style-type: none"> <li>▪ COE IT Department</li> <li>▪ COE Executive Committee</li> </ul>
<ul style="list-style-type: none"> <li>▪ Create real-time electronic communication for the COE Executive Committee, including a dashboard.</li> </ul>	Q2 2017	<ul style="list-style-type: none"> <li>▪ COE IT Department</li> <li>▪ COE Executive Committee</li> </ul>



## **Appendix A. Task Force Members of the Strategic Planning Committee**

### **Task Force on Mission, Shared Values, and Shared Purpose**

- **Laxmi Gewali, Ph.D., Professor and Department Chair, Computer Science**
- **Georg Mauer, Ph.D., Associate Dean for Undergraduate Programs and Professor, Department of Mechanical Engineering**
- **Brendan O'Toole, Ph.D., Professor and Department Chair, Mechanical Engineering**
- **Mohamed Trabia, Ph.D., Associate Dean for Research, Graduate Studies, and Computing and Professor, Department of Mechanical Engineering**
- **Rama Venkat, Dean, Howard R. Hughes College of Engineering and Professor, Department of Electrical and Computer Engineering (Chair)**

## People Task Force

- Moses Karakouzian, Ph.D., P.E., Department of Civil and Environmental Engineering and Construction (Co-Chair)
- Julie Longo, M.S.E., Technical Writer, Dean's Office, College of Engineering (Chair)
- Dominic Marrocco, Entrepreneur in Residence and Honorary Fellow of the Howard R. Hughes College of Engineering
- David McElwain, Coordinator, Career & Technology Education, Clark County School District, Southern Nevada
- Erica Marti, Ph.D. student, Department of Civil and Environmental Engineering and Construction
- Kazem Taghva, Ph.D., Professor, Department of Computer Science

## Scholarship Task Force

- Alexander Barzilov, Ph.D., Associate Professor, Department of Mechanical Engineering
- Janet Dufek, Professor of Kinesiology & Nutrition Science of the School of Allied Health Science
- Kwang Kim, Ph.D., Southwest Gas Professor of Energy and Matter, Department of Mechanical Engineering (Chair)
- Barbara Luke, D.G.E., P.E., Professor, Department of Civil and Environmental Engineering and Construction and Director of the Applied Geophysics Center
- Alexander Paz-Cruz, Ph.D., P.E., Associate Professor, Department of Civil and Environmental Engineering and Construction
- Pramen Shrestha, Ph.D., P.E., Associate Professor, Department of Civil and Environmental Engineering and Construction
- Mei Yang, Ph.D., Associate Professor, Department of Electrical and Computer Engineering (Co-Chair)
- Justin Zhan, Ph.D., Associate Professor, Department of Computer Science

## Education Task Force

- Joe Aldridge, M.F.A, Head of Entertainment Engineering, Department of Theatre, College Fine Arts
- Jody Belsick, UNLV Alumna ('97 B.S. Civil Engineering and '10 EMBA), Founder and President of Walker Engineering, LLC
- Brandon Blackstone, Lab Director, Department of Electrical and Computer Engineering
- Christopher Grenz, Senior IT Director & Enterprise Architect, JT3, LLC; and Member of the Advisory Board of the Howard R. Hughes College of Engineering
- Joanna Jezierska, Ph.D., Director of the Multicultural Program for Engineering, Sciences, Allied Health Sciences, Community Health Sciences, and Nursing
- Jennifer Kennedy, Director of Academic Advising and Scholarship Coordinator, Howard R. Hughes College of Engineering (Chair)
- Mike Maier, Senior IT Executive / Program Director, Fusion & Transformation of People+Process+Technology, and Member of the Advisory Board of the Howard R. Hughes College of Engineering
- Michael Pravica, Ph.D. Associate Professor of Physics
- Henry Selvaraj, Ph.D., Professor, Department of Electrical and Computer Engineering (Co-Chair)

## External Relations Task Force

- Jack Aylor, Director of Development, College of Engineering (Co-Chair),
- Don Hayes, Ph.D., Professor and Department Chair, Department of Civil and Environmental Engineering & Construction
- Yingtao Jiang, Ph.D., Professor and Chair, Department of Electrical and Computer Engineering
- Pushkin Kachroo, Ph.D., Lincy Professor, Department of Electrical and Computer Engineering.
- Yoohwan Kim, Ph.D., Associate Professor, Department of Computer Science
- Doa Meade, Engineering Services Manager for the Las Vegas Valley Water District and Member of the College of Engineering Advisory Board
- Gene Wong, Managing Director of Mountainwest Technology Accelerator; Member of the College of Engineering Advisory Board; and Chair of the STEM Recruitment Committee for the College of Engineering (Chair)
- Jinger Zeng, Co-Founder & CEO of Dronesmith Technologies (formerly Skyworks Aerial Systems) and COE alumna with a B.S. in Mechanical Engineering as well as graduate credits towards an M.S. in Mechanical Engineering
- Hui Zhao, Ph.D., Assistant Professor, Department of Mechanical Engineering

## Internal Relations Task Force

- Jaci Batista, Ph.D., Professor, Department of Civil and Environmental Engineering and Construction (Chair)
- Joan Conway, Administrative Assistant III, Department of Mechanical Engineering
- Maura Erickson, Administrative Assistant IV, College of Engineering Dean's Office
- Andrew Hardin, Ph.D., Associate Professor, Lee School of Business, and Director for Entrepreneurship
- Major Glenmore Heilman (US Army), Office in Charge, Army ROTC at UNLV
- Kari Locke, Systems Administrator, College of Engineering
- Jeff Markle, Lab Director, Department of Mechanical Engineering
- Emma Regentova, Ph.D., Associate Professor, Department of Electrical and Computer Engineering (Co-Chair)
- Carmen Willis, Business Manager, College of Engineering Dean's Office

## Appendix A. What is Next

### For Dr. Venkat and Chairs/ Co-Chairs of the Task Forces

- Check this report for accuracy. Each Task Force had a slightly different way of expressing their Measures, Strategies, and Action Items. Make sure that all this has been accurately transferred to this document.
- Keep in mind that the most important thing is our Vision: what do we want to be known as in 10 years? Five years? One year? Being clear about our vision will help sort through all the Action Items, determining which ones should be addressed first, and so on.
- Compare the Mission statement with each Task Force's Distinctive Capabilities Statement: are there common threads?
- Try to keep in mind – and write down – who exactly are the stakeholders of the College of Engineering? This is key to obtaining alignment in the future. Remember that we do not need 100% agreement – many may not totally agree, but they can align.
- Read through the Common Threads material in Appendix B to get a sense of what is most important to accomplish and what our strengths are perceived to be.
- Read through the Themes in Appendix C.
- Read through the Elephants in the Room in Appendix D.
- Go through the Action Items of each Task Force and determine:
  - Which ones are already being accomplished?
  - Which ones need to be addressed within the next year or two?
  - Which ones need to be accomplished within five years? Ten years?

It is strongly recommended that this document be refined at least two or three more times before being refined into a brochure or shorter document that will be presented to all stakeholders.

## **Appendix B. Common Threads**

### **Cooperation / Collaboration**

This thread cut through all the task forces in a variety of ways:

- Collaboration among faculty of departments / schools / intercollege
- Collaboration of COE with businesses and other community leaders who could provide internships, jobs, and faculty consultancies
- Greater communication within the COE for a more efficient infrastructure

### **A Climate of Innovation**

This includes:

- High-impact research
- Scholarship activities
- Addressing key national needs
- Regional economic diversification
- Greater research expenditures
- More publications
- More participation/presentations at academic conferences and symposia
- More monographs with scholarly presses
- Invention disclosures and patents as well as licensing deals
- Entrepreneurship in terms of encouraging start-up businesses
- Faculty consulting with businesses
- Greater communication with stakeholders on key research events at COE



## **Professional Development**

- Training for COE staff (including part-time staff), faculty, and students
- Development of orientation handbooks for faculty, staff, and students
- Online training
- Satisfaction surveys
- Tenure-track faculty attending NSF CAREER workshops
- Collaborate with College of Education, Academic Success Center, and Office of Diversity Initiatives on various professional training workshops

## **A Sense of Belonging**

Mostly, this was expressed in terms of space, the new building, social functions, a speaker series, and perhaps an annual conference for COE stakeholders.

## **Faculty**

The emphasis was on hiring qualified top-tier faculty, with an eye towards increasing women faculty. This would involve:

- Examining current promotion and tenures standards and practices
- Incentives
- Seed investment funding
- Appropriate teaching loads versus research
- Cluster hiring
- Determining how to improve instructor engagement

Other threads included:

- Creating a Grant Committee
- Encouraging external awards and recognition of our faculty
- Encourage interdisciplinary collaboration among faculty as well as interdisciplinary events for our students

## **Undergraduates**

This topic had the most action items and recommendations, by far:

- Improved recruitment, retention, and graduation rates
- Determine how to attract and retain high-quality students
- Application fee waivers and transfer articulation agreements
- Improved tutoring and mentoring programs as well as supplemental instruction
- Hiring a permanent internship coordinator and developing strong internship programs
- Offer credit for AP courses taken in high school
- Offer credit for internships
- Focus on critical thinking and problem-solving skills
- Conduct exit interviews with all graduating students
- Many thoughts, suggestions, and ideas about improving the Senior Design experience and the First-Year Seminar Experience for freshmen
- and many, many more ideas

## **Graduate Students**

- Improved recruitment and retention, including incentives and application fee waivers as well as graduate scholarships
- Hire a Graduate Coordinator and offer mentoring / guidance
- Identify 'all but dissertation' Ph.D. students and provide assistance to complete
- Establish a database for Ph.D. opportunities
- Offer workshops on fellowships, research slams, and how to lead discussions and how to guide labs
- Conduct exit interviews with all graduating students

## **Infrastructure**

### **Administrative Support**

Emphasis was on creating an effective infrastructure, including:

- Training and professional development of all staff, including part-time employees
- Improved communication
- Electronic forms and protocol
- Feedback procedures from stakeholders on how well the staff performs

### **Facilities and Equipment**

Emphasis was on creating two committees, one for benchmarking infrastructure resources and the other for funding the Machine Room and network maintenance. Other key thoughts were:

- Space utilization and designation
- A mechanism to fund the IT department at COE for equipment and networking resources

## **COE Advisory Boards**

The emphasis was on how to encourage advisory boards to be more active and engaged. One key thread was the development of an electronic dashboard to keep advisory boards, Chairs, and the Deans up to date on events, issues, survey results, etc. Other key thoughts were:

- A revised schedule of meetings
- A meeting on Best Practices
- An annual retreat during the summer
- Working with faculty to update curriculum
- Coordinate with alumni chapters for fundraising events

## **The Community**

The COE Community mostly were assumed to be businesses, alumni, parents, and similar stakeholders. Issues included:

- Generating more internships for students and collecting statistics
- Creating part-time and full-time jobs for students and graduates
- Creating more endowments and scholarships
- Community members providing mentoring for both undergraduate and graduate students
- Greater participation of alumni in networking and fundraising events as well as recognition programs
- Implement the Mendenhall Innovation Program
- Establish a Dean's Town Hall meeting with political leaders and local stakeholders
- Greater integration between COE and such community stakeholders as DTP Ventures, the City of Henderson, and SWITCH

## **College of Engineering**

- Establish an Office of Branding and Networking
- Create a full marketing plan with branding and messaging, growth targets, and metrics
- Gain top-tier and national distinction
- Establish a college-wide database of alumni, employers, and local relationships
- Develop a strategy and database for public relations
- Create an electronic dashboard and develop analytics and feedback for the Dean's Office, Chairs, Advisory Boards, etc.

- Host annual events, such as a golf tournament or COE conference, to celebrate COE achievements as well as network with the community and alumni
- A sustained Capital Campaign for a new building

## Appendix C. Themes

These are the themes that have run through all the work of the various Task Forces.

- People want a sense of belonging and inclusion
- An emphasis on an entrepreneurial focus for faculty and students
- A research focus for faculty and students
- Cooperation and collaboration among staff, faculty, inter-departmental, inter-college, with external stakeholders (businesses, sponsors), etc.
- Interdisciplinary programs, particularly for Ph.D. programs, B.S. / M.S. programs, and Senior Design projects of undergraduates
- Training for faculty, students, administrative staff, classified staff, P/T staff, and PTIs
- Appropriate teaching loads versus research for faculty
- Improve the professionalism of COE faculty and staff as well as develop professional skills in students
- Achieve the Top-Tier Initiatives of UNLV in order to gain a national reputation for engineering excellence
- Provide a hands-on immersive experience for students in both research and entrepreneurship
- COE needs some kind of feedback structure and analytics, preferably in an electronic format (dashboard), for the Dean's Office, Chairs, Advisory Boards, and other stakeholders
- Improve and refine the Senior Design experience for undergraduates
- Improve the infrastructure and process for internship programs

## Appendix D. The Elephants in the Room

The following are issues that were said – or unsaid – throughout the process.

- Lack of communication both at UNLV and with such stakeholders as Clark County School District; this is deeply ingrained in both cultures. How do we transform this?
- Lack of inclusion for part-time employees and part-time instructors, who make up one-third of the total employee base at UNLV.
- Not enough attention paid to transfer students and their needs, who make up one-third of the undergraduate student base at UNLV.
- Budgets are not transparent.
- We need to become more risk-taking, more creative, and more business minded.
- Instead of an emphasis on STEM (Science, Technology, Engineering, & Mathematics), promote STEAM, which the inclusion of Art.
- Very little attention is paid to parents and guardians: is this a good or bad thing?

## **Acknowledgements**

The College of Engineering would like to thank all of the faculty, staff, students and community members who lent their considerable time and expertise to this important project.

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