

University of Arizona

College of Engineering Discovery Report

January 2, 2019



THE UNIVERSITY
OF ARIZONA

Introduction

As the University of Arizona conducts its strategic planning process and we continue our search for a new Dean, the College of Engineering has the opportunity to become more aligned on its value as a College to the University and the State. We have the opportunity to come together and converge around the contributions of everyone in the college, and the needs of our stakeholders.

This report presents the results of our data gathering and analysis phases, and now we are prepared to act on the data to create our value proposition as a College. We are grateful for your participation thus far, and we continue to need your input as we move through this process.

Please be sure to read this before our meeting so that we can have a productive day together on January 7th!

Survey Summary

Two surveys were administered to all College faculty and staff. The questions were designed to understand what the College of Engineering needs to accomplish by 2023 to be considered one of the top engineering colleges in the world. Forty eight people responded to the first survey and 60 people responded to the second survey (slightly more staff than faculty in each survey).

The top themes that emerged from this survey are listed below:

1. The College should increase collaboration across College (between departments), across the University, and with the community (today RCM is seen as discouraging collaboration)
2. The College should increase the diversity of our faculty, students, and staff
3. The College should agree on key research areas of focus to highlight (“foci”)
4. The College should improve the quality of students (particularly graduate students), faculty, and staff
5. The College should create more of a culture of “collegiality”
6. The College should improve its infrastructure (physical space, classrooms, etc.)
7. More opportunities for engagement should be uncovered

We then conducted focus groups, posted online questions, and conducted interviews (with leaders external to the College) to further explore the themes listed above. The data from each of those methodologies (focus groups, online surveys, and interviews) produced different results, outlined in the sections that follow.



Participation in Data Collection

INTERVIEWS

6

Other UA Deans

4

Other UA Leaders

FOCUS GROUPS

FACULTY

5 Groups // 26 Participants

DEPARTMENT CHAIRS

1 Group // 12 Participants

STAFF

1 Group // 25 Participants

SURVEYS

2 SURVEYS

108 Responses

Two surveys were administered to all College faculty and staff. The questions offered everyone the opportunity to answer what might be different in 2023 in the areas of 1) faculty, 2) research, 3) physical structure, 4) students, 5) community engagement, and 6) engineering education. The second survey specifically asked about what might look different in terms of staff.



Key Focus Groups Themes

What do we do really, really well as a College?

A critical piece of building a College identity (value proposition) is understanding where we are strong already, and thinking about how we build on those strengths. The focus groups described the following (note that the responses are listed in order of how often these topics were mentioned):

- Sense of unity and collaboration (or no impediments to working with others in other departments)
- Freshman experience/bringing in freshman as a cohort
- Decentralized environment (RCM, implementing RCM)
- Capstone
- Hub of great faculty, with high standards, who partner well together
- Quality and amount of research

Who are our primary beneficiaries?

This is an important question to consider, because as we consider our value, we need to consider the question for whom we are focused on providing value for. The focus groups confirmed that the primary beneficiaries of the College are:

- Students (and their families, particularly undergraduate), “produce good citizens”
- Community/society (employers in Tucson and the state, the State, humanity, and even international through research)
- Faculty (great faculty, productive, impact new knowledge, student outcomes)
- Staff (dedicated and well prepared staff impact the results of faculty and student)

Which themes from the survey are most important?

In the focus groups, we asked everyone to consider the themes that emerged most often from the surveys. The themes (from the list that was produced from the surveys AND themes identified as “missing”) most commented on (in order of most to least frequently commented on):

1. Grow a culture of collegiality in the College:

- “We need to act as a team (amongst departments) for the good of the College.”
- “We need to respect the value of everyone (currently career track is seen as lesser than tenure track).”



2. Improve the infrastructure of the College:

- “There is no joint space for students to congregate together. What space we do have is not presentable (shredded couches).”
- “Our labs and research equipment need to be improved and modernized.”

3. Increase the quality of students (particularly graduate students), faculty and staff:

- “We need to improve the quality of graduate students and their programs – our quality has declined in the past years.”
- “We have great undergraduates, but do not support our graduate students enough.”

4. Increase collaborations across the College, the community, and University:

- “The College needs to see itself as a whole (vs. individual parts).”
- “We are currently fragmented in the way we present ourselves to the University and industry. It is difficult for others to find their way in.”

5. Improve our diversity as a College (this came up more in surveys than in focus groups):

- We need to see “significantly improved diversity – more women and people of color.”
- “I would like to see more female faculty. I think this would help increase recruitment and retention of female students.”
- “It would be great to have greater diversity among the faculty, women, and underrepresented minorities.”

Other issues that emerged from these focus groups (Faculty and Staff):

- Some concern that strategy will not succeed – “Is there any real commitment to a plan – this feels irrelevant to most faculty.”
- “Education is not on this list.” “Generally we are terrible at education.”
- “We need a brand – some way to differentiate ourselves.” “We need to have an identity.”
- “We need adequate staff and adequately trained staff.”



Connection to the UA Strategic Plan

We asked in the focus groups “How should the College position itself to support the UA pillars?” In order of how often the pillars came up, we heard:

- **We can build on the Wildcat Journey**
 - More consistent effort to improve the first year experience for students
 - Strength in dealing with students
 - Need to develop more collaborative learning experiences
- **We can build on the “Grand Challenges”**
 - Emphasize start-up culture
 - Issues unique to our area – water, border, energy (solar)
- **We can align with UA Global**
 - Micro-campus
 - Develop best practices for online and micro-campus

Interviews With Other UA Leaders

Note that we did not present the themes to these groups, rather we asked: **“What is the College of Engineering’s value to the University (or community)?”** Themes most named (in order of when it was offered in the interviews):

1. All great research Universities need to have a strong College of Engineering

This was almost always mentioned first by interviewees.

- “Engineering has a tradition of research.” “All Universities need to have a strong College of Engineering.”
- “Currently Engineering is ‘underperforming’ and we need them to be strong.”
- “Engineering needs to more applied and less theoretical.”
- “Having a strong Engineering College places the University of Arizona in a better place with the state.” “You cannot have a strong research mission without a strong engineering graduate program.”

2. The College of Engineering was one of the original Colleges at the University (mines).

- “Core of the University”
- “Number one value the College of Engineering provides to the State of Arizona is undergraduate education.”



3. A key resource/collaborator

- “Engineering is growing and doing well with international partnerships – continue to do this. Especially building partnerships with other faculty at other universities.”
- “We have many collaborations with Engineering.”
- “Engineering needs to be more present at the University level, especially with collaboration opportunities.”

4. Missing a College identity (strength is seen in the individual departments)

- “Our relationship is with a department or particular program – not the College.”
- “Engineering has lost their center – what is their identity?”
- “We see the pieces and parts of Engineering, but do not understand what it stands for.”
- “We do not leverage some of the great things at the College of Engineering to increase enrollment. We could do more to showcase the College. Instead of comparing ourselves to ASU, we should think more about we differentiate.”
- “RCM is creating ‘have’ and ‘have not’ departments in Engineering – this creates competition and no college identity.”

We also asked “What are three things the College of Engineering could do in the next three years to heighten its alignment and contribution to the University’s mission?” **Key advice that emerged:**

- Be heavily involved in the new UA strategy:
 - Be more involved in the new 501(c)(3) (Applied Research Corp)
 - Play a prominent role in the College of Network Sciences (“bring together all faculty in the College who work with sensors”)
 - “Solve real life problems”
- “Diversity”:
 - “The College [of Engineering] as a whole is mostly white and male – they need to become more diverse (faculty) and also graduate students. Especially Hispanic students.
 - “We are a large public institution on the border – in the future we need to have more Hispanic first gen students (and therefore need to do more outreach).”
- “The College needs to articulate in the field of Engineering “what does the UA offer an undergraduate?” “What is the philosophy or approach of an engineering education in AZ? What is unique or our differentiator?”



- “Work on attracting better graduate students. “Especially at the masters level, because those graduates then go on to become the workforce.”
- “Teach more ‘basics’ – less applied.” “Hire more faculty who will focus on ‘doing.’”
- Improve infrastructure and space

And finally we asked “Where do you see future collaborative opportunities between Engineering and other units the UA?” Key advice that emerged:

- “Optical sciences”
- “Look at social sciences, environmental sciences, law, and CAPLA opportunities to collaborate with Engineering. This drives innovative thinking and funding.”
- “Water and the environment could become a focus – partner with Colleges that focus on those things.” “Built environment.”
- All STEM colleges

Sharpening Our Focus on January 7, 2019

What do you think our impact as College should be in the future? Our value?

Thinking carefully about what we all want from our College, what the University wants, and the State wants, we need to come together and begin to discuss our value so that we all speak from “one voice.”

In higher education (and Arizona is no exception) resource allocations have diminished over the years and/or there has been increased scrutiny over allocations. Getting critical resource decisions right – allocating time, talent, and dollars to the activities that have the greatest impact is more important than ever.

The impact our College aspires to have, as well as our assumptions and beliefs about how that impact can be generated will be the primary topics of our meeting on January 7. We invite everyone to come together and consider how we can best sharpen our focus as a College!

