

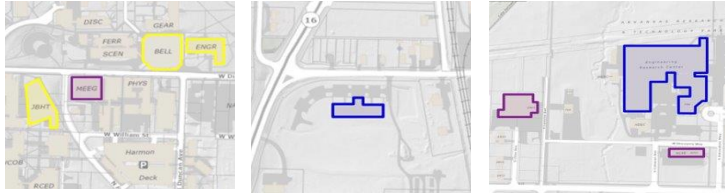
Developing a Monitoring Tool and Management Policy for University Research, Office, and Conference Room Space

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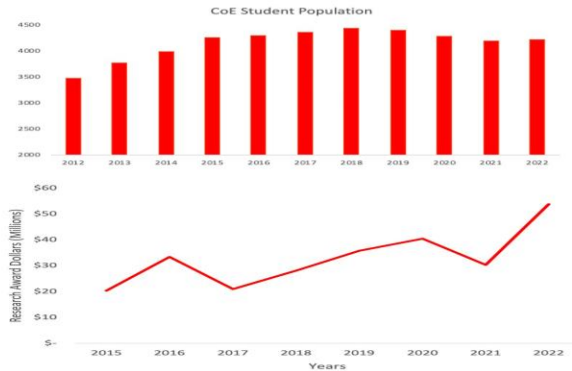
Industry Partners: Heather Nachtmann, PhD, Former Associate Dean for Research & Professor of Industrial Engineering; Kyle Cook, Facilities Manager

College of Engineering Space

The UofA College of Engineering (CoE) manages 337K square feet across eight buildings to meet research, office, and student needs. These buildings are located both on and off campus and include buildings dedicated to one department, research, or an academic combination.



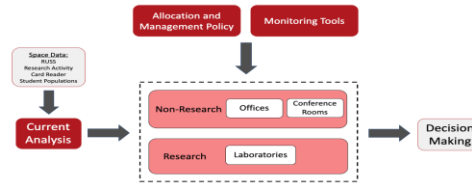
The CoE is concerned with space utilization due to recent college growth and a potential space shortage. To understand the growth, we analyzed student populations and noticed that these populations had a rapid increase in 2012 but has since flattened. We then analyzed the research enterprise and found that research award dollars for faculty have increased 253% over the last nine years, driving the need for more research space.



We determined that although student populations have risen in the past and could still be affecting the college, the main area of growth is in research activity and awards. Through our initial analysis and stakeholder interviews, we determined that many of the space problems stem from a lack of a formal space policy for the college, and the lack of insights from existing data.

Addressing Space Concerns

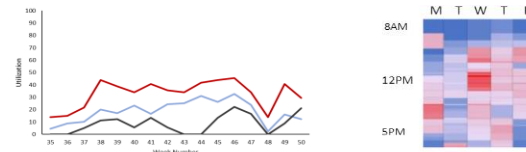
We divided our project based on each space type, due to the significant differences in operations, management, and ownership. These space types are conference rooms, offices, and research space.



To address the space management problem, we conducted current analysis on the space managed by the CoE, wrote a space policy recommendation, and created a space data dashboard for decision makers. Upon preliminary research in current existing space utilization policies in higher education, we discovered a policy from Montana State University (MSU), and we used this as a guide in creating our own space policy. "Space management policy," *Montana State University: Mountains and Minds*, 05-Mar-2021. [Online]. Available: <https://www.montana.edu/policy/space-management/>.

Conference Rooms

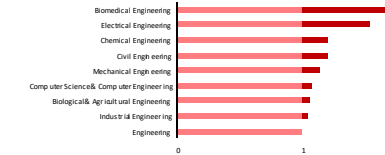
The industrial engineering department uses the R25 scheduling software for conference rooms, which provides data exports we used to measure utilization. This software is currently only used by the Industrial Engineering department, and our space policy will require all departments to use R25 to measure the utilization of all CoE conference rooms in the future.



INEG conference rooms do not meet target utilization rates 98% of the time, given by MSU policy. This utilization data will be displayed in our space data dashboard that is given to our stakeholders. Our policy recommendation is to standardize the use of one scheduling platform and use priority and distributive scheduling practices to incrementally improve utilization.

Office Space

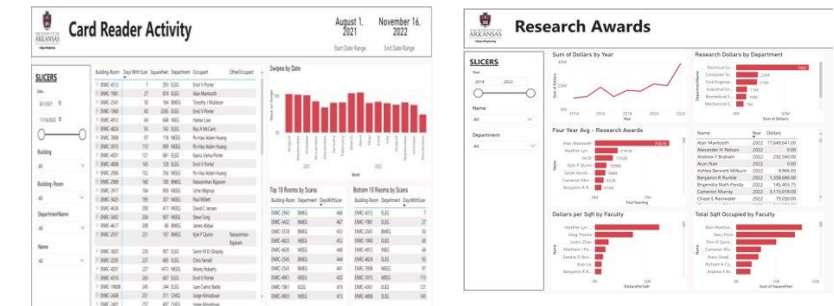
Other higher education institutions have a 1 office per faculty policy. The CoE currently averages 1.22 with most overages coming from faculty with separate academic and research offices.



Our policy recommendation of 1 office per faculty would create 38 available offices for either individual use or conversion to a shared space for a secondary office.

Research Space

As stated previously, research funding has had a large amount of growth over the past nine years. Currently, there are no standards or review methods to measure the productivity of 125K square feet of research labs. To remedy this, our proposed policy addresses the initial allocation, methods to measure research output and outline a consistent space review process.



Our space data dashboard tool was created to help evaluate research output by faculty laboratory card-swipes, research awards, publications and graduate students. Our policy recommendation is that this tool should be used annually alongside faculty reviews to evaluate an individual's space allocation.