RETENTION

Retention of students and employees is an important measure of success. High retention rates lead to stability, increased financial health of an institution, social benefits, increased quality of life for students and public social benefits. Retention activities at Mines help ensure all Orediggers have an opportunity to remain engaged with the institution in ways that are authentic to their lived experiences and to support ongoing growth and professional development.

The federal definition of student retention (persistence rate) is measured by counting the number of students in a starting fall cohort, then counting that same cohort the following fall of the next year to see how many are still enrolled. To ensure high student retention rates, Mines employs a wide range of programs, initiatives and activities such as MEP, WISEM, Crisis Assessment, Response and Education (CARE), CASA, NeST and the Oredigger Network, part of the new Mines Mentoring Program.

Employee retention is an institution's ability to keep talented workers and reduce turnover. Retaining quality and highly productive employees is more efficient than recruiting, training and orienting a replacement employee. The payoff for focusing on employee retention is increases in performance, productivity, employee morale and quality of work. A reduction in both turnover and employee-related problems are worth the time and financial investment. To promote employee retention, Mines created programs such as the Mines Community Alliances (MCAs), Student Life’s Pro Devo, EMPOWER, WISEM professional development opportunities and employee mentoring through the Oredigger Network.

20news.okstate.edu/articles/business/2017/improve-retention-improve-lives-why-student-retention-is-important-to-society.html
Identify critical transition points and provide support through mentorship and professional development programs

Student retention

Data from National Center for Education Statistics (NCES) show full-time, first-time retention rate for post-secondary institutions (both two- and four-year) in fall 2010 was 71.9 percent. This steadily increased to 75.5 percent in fall 2018. Mines’ overall retention rates rose from 89 percent in fall 2010 to 92 percent in fall 2019. For the past 10 years, female students have notably higher retention rates than male students from their freshman to sophomore years (figure 7). We see a similar trend with Mines’ female students with higher persistence rates than male students when they move from sophomore to junior, then junior to senior years.

![Freshman to sophomore retention rate by gender](image)

*Figure 7: Data represent incoming Freshmen (defined as their starting cohort) in a fall semester persisting to their Sophomore year (defined as their second year). For example, in fall 2010, 89 percent of male Freshmen persisted to their Sophomore year, whereas 91 percent of female Freshman persisted to their Sophomore year.*

Freshman to sophomore retention between underrepresented and white students is comparable between fall 2012 and fall 2019. There was misalignment between underrepresented and white students during their sophomore to junior and junior to senior years during the early part of the decade (figure 8). From fall 2010 to fall 2013, underrepresented students had more variability in their retention rates compared to white students, regardless of the increase in their total population (which rose from 141 to 180). Starting in fall 2013, retention between these populations became more comparable and remained aligned through fall 2018. These data are not nationally available for comparison.

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21 National Center for Education Statistics Graduation and Retention Rates: nces.ed.gov/ipeds/TrendGenerator/app/answer/7/32
In 2018 and 2019, the Trefny Innovative Instruction Center administered a campus-wide survey to assess undergraduate students’ experiences at Mines. The results of the 2019 survey show areas where Mines might alleviate student stress, which can be a factor influencing retention (figure 9). These sources of stress could be things advisors, mentors and faculty keep an eye on as potential transition reasons for students leaving Mines.

According to Student Life, undergraduate students leave (permanently or temporarily) for several reasons: school fit (size, focus, degree, location, etc.), personal (wellness, health, death of someone close, etc.), performance (academics, falling behind, GPA, rigor, etc.), opportunity (job, service, mission, scholarship, etc.), and/or misc. (family relocation, school culture, oddities, etc.). Many of these reasons overlap (e.g. students struggling personally are often also struggling with academics). Not everyone who leaves goes through a formal withdrawal process to contribute to these data, nor does the process capture graduate students or students suspended for disciplinary or academic matters.
To what extent are each of the following factors a source of stress for you?

![Bar Chart]

Figure 9: Trefny Innovative Instruction Center’s annual student survey: To what extent are each of the following factors a source of stress? Students indicated that time management was the highest source of stress, rating it a three out of four. Other categories included, but not shown in this figure, were: personal relationships, housing situation, competition among my peers, family obligations, availability of faculty, having enough food, separation from family, language/communication barriers and immigration laws or regulations.

Many groups across campus work to support undergraduate retention efforts, including Student Life, the University Honors and Scholars Programs (UHSP), WISEM, MEP and CASA. Student Life works proactively to address student retention in partnership with faculty and Academic Affairs. They are proud to assist students with a variety of challenges ranging from academic support to personal wellness. Their efforts reflect best practices nationally (e.g. academic coaching, early intervention and proactive advisement) and distinctive Mines efforts (e.g. faculty in CASA and outreach/support through community commitment to CARE). UHSP leads five integrative programs that have made great strides in interdisciplinary learning to broaden representation and promote retention among students across all disciplinary majors. These programs are Teach@Mines, McBride Honors, Thorson First-Year Honors, Grand Challenges Scholars and Undergraduate Research Scholars.

WISEM conducted an assessment to determine the retention rates of underrepresented versus majority-identifying students and observed positive outcomes. Excluding international students, responses showed female-identifying students going into year four retain at 97 percent (822 students total), underrepresented female students retain at 95 percent (162 students) and white female students retain at 97 percent (660 students). Female students going into year six retain at 77 percent (26 students total), URG female students retain at 71 percent (7 students) and white female students retain at 79 percent (19 students). MEP staff and resources provide a support mechanisms for students, including professional societies. These professional student organizations include Out in Science, Technology, Engineering & Mathematics (oSTEM), National Society of Black Engineers (NSBE), Society of Asian Scientists & Engineers (SASE), SHPE and American Indian Science & Engineering Society (AISES).

Additional efforts to increase retention have been implemented to include the Oredigger Network, WISEM’s Vanguard Community of Scholars, the Center for Professional Development Education and EveryOredigger. These efforts contribute support to students and reduce potential points of attrition.
Graduation rates

According to NCES, 62 percent of students who sought a bachelor’s degree at a four-year institution in 2012 graduated from that same institution within six years; overall, female students’ six-year graduation rates (85 percent) outpaced male students’ rates (59 percent)\(^\text{22}\). Mines’ six-year graduation rates were well above the national trend and have steadily increased from fall 2010 (76.8 percent) to fall 2014 (84.2 percent). Similar to the national trends, Mines female students’ graduation rates in that same time frame (82.7 percent rose to 87.7 percent) are consistently higher than their male counterparts (74.7 percent rose to 82.9 percent)\(^\text{23}\).

Employee retention

Employee turnover data include academic faculty\(^\text{24}\), administrative faculty\(^\text{25}\) and classified staff\(^\text{26}\). Static data for each of these populations are included to provide context for turnover data. From 2015 to 2019, for these three groups, between 12 percent and 13 percent were racially/ethnically underrepresented employees and 80 percent were white. Academic faculty are 7 percent underrepresented and 78 percent white. Administrative faculty comprised between 8 percent to 11 percent underrepresented and 85 percent to 88 percent white. Classified staff remained relatively steady from 2015 to 2019, with 20 percent identifying as underrepresented and 75 percent identifying as white.

Turnover by race/ethnicity

From 2015 to 2019, there was no turnover of traditionally underrepresented academic faculty, with the exception of one person in 2018. On average, 10 percent of underrepresented administrative faculty leave the institution each year compared to 9 percent of white administrative faculty. One departure of an academic or administrative underrepresented faculty member is a significant loss to campus and has a ripple effect across many departments, units and students. Classified staff turnover data showed more nuanced trends. In 2015, Mines lost 30 percent of underrepresented staff compared to only 7 percent of white staff. Over the past three years, there was a decline in the number of underrepresented staff who left (29 percent in 2017 to 20 percent in 2019), while the overall number of underrepresented staff remained steady. The total percent of underrepresented staff turnover was higher than their white counterparts, who had average turnover rates of 14 percent.

Turnover by gender

Between 2015 and 2019, female academic faculty left at an average rate of 2 percent. Male academic faculty left at an average of 2.7 percent. Both female and male administrative faculty had a 9 percent average turnover rate. Classified staff had no gender data available due to missing values.

\(^{24}\) Academic faculty includes tenure_tenure-track faculty and teaching faculty.
\(^{25}\) Administrative faculty includes administrative, athletics and library faculty.
\(^{26}\) Classified staff includes classified monthly, classified hourly with benefits and classified hourly without benefits.
**Evaluate the current advising structure for students and consider new models to support retention**

Mines researched advising best-practices and developed a four-year, professional undergraduate advising center. Effective fall 2020, all undergraduate students are professionally advised through CASA from orientation until graduation and maintain mentoring support from faculty across campus. By transferring professional advising to CASA, students receive consistent and high-quality holistic advising and academic support services. These include tutoring, connection with faculty and academic coaching for topics such as time management and study skills. CASA staff are well-attuned to factors that increase students’ risk of leaving Mines and proactively support students who are either at risk or are struggling with their academics.

**Develop programming for professional development and mentorship to support career path and advancement planning for employees**

Professional development (PD) enables employees to develop new skills and advance their career. Mines offers a wide range of professional development and mentorship opportunities, from support for instructors, the Fryrear chairs program, WISEM events and MCAs, as well as the newly launched Mines Mentoring Program.

As one example for instructors, UHSP provides unique professional development opportunities for faculty to collaborate and teach in interdisciplinary teams, develop curriculum to contextualize learning across all majors and take risks outside of their discipline-specific departments. In UHSP, faculty learn new high-impact practices central to Honors pedagogy that they take back to their home departments and use to innovate their other courses. The Thorson and McBride faculty often refer to this as being one of the strongest PD experiences they had at Mines.

The Mines Mentoring Program, launched in August 2020, supports broader career development and mentorship. It is a campus-wide effort that connects Mines alumni with students and employees, enriches the preparation of aspiring entrepreneurs and welcomes new faculty to the institution. One key component, the Oredigger Network, generously supported by Phillips 66, connects the whole community with mentoring opportunities. Anyone affiliated with Mines can join the Oredigger Network as either a mentee or mentor to increase feelings of connectedness and belonging to Mines, while practicing skill building and professionalism. These PD activities improve career and academic success. As of December 2020, there were more than 400 people who initially signed up as a mentor and nearly 500 signed up as a mentee. There were more than 333 connections between 181 mentors and 216 mentees. Some individuals signed up to participate as both roles.

"The Oredigger Network has been an incredible experience, giving me access to an executive with the knowledge and experience to coach me toward the next level. I feel so supported and valued as an employee.”

Shannon Sinclair
Mines Privacy Compliance Director
In 2017, Mines worked with Sibson Consulting to assess the operational and administrative environment. The resulting recommendations fell under seven operational areas and serve as a launching point for current efforts. Two Human Resources recommendations emerged:

- **Ensure robust professional and career development for employees**, including effective management training.
- **Develop a robust performance management approach and program** to fairly evaluate all employees.

In early 2018, Governor Polis signed into legislation, the Colorado Equal Pay for Equal Work Act\(^2\), part of which imposes transparency obligations related to promotion and advancement. To comply with legislation, Mines Human Resources partnered with MGT Consulting to ensure the institution’s classification system is accurate, equitable and market competitive. To create a clear path for professional advancement, there are a number of project outcomes, one of which is to standardize a foundational framework. This includes creating job descriptions with standardized job titles, employing methods for evaluating jobs to ascertain their relative worth, defining career lattices for employees to understand progression and providing compensation structure with clearly defined pay grades and salary ranges.

Other HR initiatives to address retention across the institution are:

- **Restructure performance management** to allow for commonality and consistency across the institution.
- **Disseminate an engagement survey** to provide insight into institutional health, including culture, employee satisfaction on pay, benefits and leadership.

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**Foster initiatives to identify and develop a diverse leadership team**

Mines is exploring alternatives for a leadership institute, which will be a critical component to supporting leadership development. No institutional progress has been made with respect to succession planning but remains a priority going forward. The following data provide an overview of the demographic breakdown of Mines’ leadership, which includes the executive team and deans:

- Women comprised 25 percent of the leadership team (men 75 percent) in 2019.
- There was an increase in the number of women in leadership, which rose from 18 percent in 2014 and reached its peak in 2018 with 31 percent and is now 25 percent.
- The number of women in leadership did not change between 2018 and 2019. The number of men in leadership positions increased in that time frame alongside the total number of positions.
- Leadership is mostly comprised of white-identifying individuals, with a few exceptions.
- Most in executive leadership do not have an academic rank. From 2014 to 2019, between four and five individuals were tenured professors.

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\(^2\)leg.colorado.gov/bills/sb19-085
Establish and maintain Mines employee resource groups sponsored by Mines’ leadership

Four Mines Community Alliances were created in summer 2019 under the advisement of the External Advisory Board (see page 27 in the strategic plan for participating organizations and volunteers). MCAs are employee-run groups sponsored by a representative from Mines leadership. They aim to serve as catalysts to enhance MINES@150 objectives and support professional development of its members. They are similar to Employee Resource Groups found in corporations. MCAs align with Mines’ strategic initiative to build a high-performing organization and create an inclusive workplace. The groups primarily focus on engagement, professional development, networking, raising cultural awareness, community involvement and outreach and recruitment efforts. MCAs encourage all employees to join a group(s) regardless of their different social identities.

There are four active MCAs. Membership composition is as follows, including the first employees who became chairs and co-chairs (terms ending in spring 2021):

- **Latinx** (46 members): Chair Ariana Vasquez; Executive Sponsor Stefanie Tompkins.
- **Women** (87 members): Co-chairs Sebnem Duzgun and Annette Pilkinson; Executive Sponsor Rick Holz.
- **Black** (31 members): Chair Sham Tzegai; Executive Sponsor Anne Walker.
- **LGBTQ+** (39 members): Co-chairs Heather Hamilton and Martin Heck; Executive Sponsor Dan Fox.

MCAs offer employees an opportunity to develop leadership skills and increase their network as they partner with executive sponsors.

Moving forward, MCA leaders will work to understand their impact on employee engagement and retention through surveys and data reports and consult with corollary industry employee resource groups on programming and events with impact.

For more information regarding Mines Community Alliances, visit [mines.edu/human-resources/mines-community-alliances](http://mines.edu/human-resources/mines-community-alliances)

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**Retention: Ongoing and future activities**

- Launch a “Data Cookbook,” a collaborative tool by Institutional Research and Strategic Analytics that will improve data skills and literacy to define metrics such as tracking undergraduate students’ average time to degree completion
- Understand employees’ reasons for leaving by conducting exit interviews prior to departure using evidence-based best practices
- Increase pay transparency so employees know where they fall within their given pay band
- Perform a thorough and comprehensive pay audit of Mines workforce to identify and remedy pay disparities
- Once LGBTQ+ data are officially tracked, determine if any potential challenges to retention exist for both employee and student populations and be prepared to respond
- Develop a robust strategy for succession planning