

COMMITTEE RECOMMENDATION FOR MINING ENGINEERING

STRENGTHS:

- Mining Engineering (ME) program is the nation's northernmost accredited Mining Program.
- Oldest program at UAF and within the UA system.
- NOT duplicated in UA system and central to UAF Mission.
- Program is critical to resource development in AK.
- Department maintains a student-run mine, the Silver Fox mine (SFM) near Fox, AK.
- Mineral Industry Research Laboratory (MIRL), a well-equipped coal laboratory, along with numerous other laboratories.
- Strong industry support, evidenced by Kinross' endowment for graduate students.

WEAKNESSES:

- Faculty attrition- received a "weakness" during 2017 ABET accreditation visit for low number of faculty and lack of breadth.
- It is a challenge to deliver ~50 credits to undergrads and grads with little margin of error in planning timelines of course offerings.
- Budget cuts have led to decreased capacity: GE & ME programs at a critical mass due to retirements, sabbaticals, and attrition.
- Funding for modernizing equipment for lab spaces is needed.
- Sharply declining enrollments, even though support for students is available.
- The mining industry is impacted by socio-political factors that lead to cyclical enrollment patterns.

OPPORTUNITIES:

- Alaska is a resource rich state - the critical nature of the Mining and Geological Engineering Department and the value it brings to the University and the State can be leveraged to increase revenue and stakeholder involvement.
- The mining sector in Alaska is an untapped market; some aspects of mining are expected to grow in the future.
- Alaska mining industry has an annual operating budget of between \$1.5 to 2 billion.
- The industry has not seriously engaged UAF in many of its problems. Therefore, these problems in the mining sector also represent an untapped market and potential revenue streams.
- Alaska Miners Association (in the Appendix) states that "mining and geological engineers" are a priority occupation because of difficulty in recruiting them.
- US Bureau of Labor Statistics, jobs for Mining and Geological Engineers are expected to increase by 6% through 2024.

THREATS:

- Faculty attrition has led to loss of capacity and stability which impact accreditation. A potential loss of accreditation imperils the program.
- Relative low number of students compared to other CEM programs.

- Budget cuts, with more to come.

CENTRALITY TO MISSION:

- The department serves Alaska workforce development needs for resource extraction.
- Addresses Core Themes Educate and Engage.
- The department's mission statement aligns closely with the university's mission: *"The nation's northernmost accredited Mining Engineering Program's mission is to advance and disseminate knowledge for exploration, evaluation, development and efficient production of mineral and energy resources with assurance of the health and safety of persons involved, and protection of the environment, through creative teaching, research, and public service with an emphasis on Alaska, the North, and its diverse peoples."*

INDICATORS OF QUALITY:

- High level of faculty research productivity.
- Department's total research expenditures ~\$6.33M.
- Graduates of the program typically join the resource industry, engineering consulting companies, or state or federal agencies.
- Department organized the prestigious 2015 APCOM International Conference in Fairbanks.
- Strong community and industry relationships.

COST-EFFECTIVENESS:

- Faculty FTEs are 5.89 for Mining and Geological Engineering. With relatively small student numbers, this is a costly program.

	MAJORS	DEGREES
Mining Engineering BS	FY15: 43/ FY19: 30	FY15: 5/ FY19: 6
Mining Engineering MS	FY15: 5/ FY19: 3	FY15: 1/ FY19: 1

COMMITTEE RECOMMENDATION FOR MINING ENGINEERING

Mining Engineering BS:

RECOMMENDATION:	ADDITIONAL COMMENTS:	DATE FOR FOLLOW-UP:
Suspension (3 votes, 5 votes for deletion) with eventual deletion	consider developing a concentration within Civil or Mechanical Engineering with eventual deletion of BS in one year	One year

* added for clarity

Mining Engineering MS:

RECOMMENDATION:	ADDITIONAL COMMENTS:	DATE FOR FOLLOW-UP:
Deletion (8 votes)		