

# Student Learning Outcomes Assessment Summary

## **Mining Engineering (Bachelor of Science)**

*College of Engineering and Mines*

**2014-2015, 2015-2016**

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### **1. Assessment information collected**

Per ABET procedures, course outcomes are monitored for various MIN courses. A total of 12 ABET outcomes are assessed every year.

Exit interview of graduating seniors

Program review by faculty

Review of senior mine design project by industry professionals

Advisory Board feedback

Fundamentals of Engineering (national examination) pass rate

### **2. Conclusions drawn from the information summarized above**

Learning outcomes continue to be met at the program level, though faculty identified areas of improvements in their courses. Industry feedback has been very positive. Per graduating student exit surveys, and alumni survey (2016), students are generally happy with the program. The job market softened significantly in 2014 due to a dramatic downturn in metal prices and, therefore, placement is no longer high.

Faculty workload and space challenges continue to constrain the program. Some required courses have not been offered every year. Electives are often not offered. Space challenges have also frustrated students.

### **3. Curricular changes resulting from conclusions drawn above**

Two courses MIN 454 & MIN 482 underwent gradual but significant modification over the last five years. Learning outcomes have improved in the courses.

### **4. Identify the faculty members involved in reaching the conclusions drawn above and agreeing upon the curricular changes resulting**

All faculty of mining engineering.

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## Data

The actual data is not being presented here for its sheer volume. Data is collected and analyzed regularly. Outcomes are being met. The pass rate for mining engineering majors in the Fundamentals of Engineering exam for the last five years is 76.5%, which is greater than both the national pass rate, and the College of Engineering and Mines pass rate. The 2016 alumni survey (very high survey return rate) indicates that alumni in the last five years were very happy with their education. The survey takers had primarily graduated in 2011 or after. These alumni rate their achievement of the various student outcomes at satisfactory level or above (4 out of a scale of 5; no achievement, insignificant achievement, average achievement, satisfactory achievement and significant achievement). Additionally, on average, about 43% of the alumni achieved all 12 outcomes at a level of 'significant achievement'. The annual exit surveys also indicate overall satisfaction with the program. The senior mine design report finished in the top three nationally three times in a row in the last five years, including being a joint winner once. Members of the Alaska Miners Association consistently rate senior mine design projects highly. Job placements, once consistently at 100%, is down reflecting a national trend following lower metal prices, and bankruptcies in coal mining companies. Employers indicate that UAF mining engineering graduates are on par with graduates from other universities.

Annual Data Collection /Review ('Yes' indicates data was collected).

	2015-2016	2014-2015
Student Outcomes (12 ABET Outcomes)	Yes	Yes
MIN Course Assessments	Yes	Yes
Exit Interview of Graduating Seniors	Yes	Yes
Senior Mine Design Eval by External Professionals	Yes	Yes
External Advisory Board Meeting	Yes	Yes
Program review by faculty: Evaluation of program based on available data	Yes	Yes

## Periodic Data Collection

	Date of Most Recent Data
Alumni Survey	2016
Employer Survey	2016
Advisory Board Curricular Review	2016 (in progress)
FE Exam Statistics	2016