TO: Thomas Boyd, Interim Provost
FROM: Mines Faculty Senate
DATE: February 15, 2017
SUBJECT: Senate Concerns Regarding BSE 2.0 Proposal

This document is a summary of the Senate's questions and concerns regarding the proposed Bachelor of Science in Engineering (BSE) program proposal that was brought before the Senate on January 24. It is our hope that this information will prove useful to the BSE Oversight Committee in developing a revised BSE proposal.

Concerns for prospective BSE students

- Is there a demonstrated and well-documented demand for this degree among Mines employers?
- Employers may require a professional engineering (PE) license. A general engineering degree does not lead to professional licensure as there is no PE exam in "Engineering." Students would need to take the PE exam in ME, EE or CE to get licensed, and may have difficulty passing that as they are not sufficiently specialized in these disciplines.
- If Mines is to create a degree for broad practitioners, then there must be a place for the students to go upon graduation. Almost all engineering graduates still need authentic work experience before becoming a project manager or group leader.

Quality concerns

- The Senate agrees that enhancing the reputation of Mines requires that the new program be a top-shelf product rather than a consolation degree. More detail on how this will be achieved would be helpful in light of the fact that rigor is typically associated with sacrificing breadth for depth of knowledge.
- Student demand for the BSE at Mines is currently hypothetical – the BSE Oversight Committee should rigorously assess student demand (and employer needs) by obtaining data from existing similar high-quality programs around the U.S.

Resource concerns

- Given tight budgets and flat student enrollment, how is the creation of a new program justified?
- Who are the core faculty that will be responsible for this program and what are their backgrounds?
- If they are current Mines faculty, what will be the impact of their involvement on their current departments or divisions? Will these departments receive replacements?

Impact on core curriculum

- A thorough analysis of the impact of this new program on the core curriculum (overlap issues, changes to distributed core) is needed, possibly with input from the administration.
- Has the BSE committee considered adding a specific minor in this area that can apply to any engineering discipline at Mines? This may assist students in the search for project management or advisory positions with less risk vs. selecting the untested BSE major.

Errors and omissions in the current proposal

- UGC representatives noted errors in the curriculum development that could have been prevented by building the degree with a full determination and presentation of things from the ground up: courses, bulletin information, flowchart/calendar structure, and finally the degree change on the whole.
- Specification of learning objectives, assessment methods, and outcomes for new courses (and existing courses that will be used with new programmatic goals) should be fully determined.