Summary of undergraduate program discussions

• Fifteen years since basic structure of curriculum established

• Last summer: - 1 day retreat (~15 faculty, staff, grad students)
  - review strengths/weaknesses;
  - brainstorm on possible changes

• Fall: - meeting with chair, & curriculum committee
  - all-hands meeting of core-class faculty
  - 4ish working groups met on some resulting action items

• Purpose of presenting this:
  - please contribute if you’re interested & not already engaged.
  - more detailed outline coming in December faculty meeting for ‘approval to develop plans’
Summary of undergraduate program discussions

- Majors as of now:

  Bachelor of Science  #
        Geology option:  84
        Environmental option:  26
        Biology option:  26
        Physics option:  54

  Bachelor of Arts:  22

  Total:  212
Quick review of current requirements in geology option

Current:

Geology option (100 – 106 credits total)

- 36-40 cr: supporting science (math, phys, chem); ESS418 (communications)
- 21x core: (ESS211 physical processes; ESS212 Earth Materials; ESS213 Earth Evolution)
- 31x core: 3 of 4: (ESS311 geodynamics; ESS312 Geochem; ESS313 Geobio; ESS314 Geophys)
- 18-20 elective credits – any 4xx class
- Either: ESS400 (6wk field camp); or ESS401 (3wk field, 3wk GIS)
Strengths and Weaknesses of current degree structure

Key strengths:

• Students get good exposure to modern Earth Science (e.g., geochem, geobio)
• We serve a broad range of students

Key Weaknesses:

• Students are taking low pre-req electives, so missing out on advanced geology training (e.g., petrology, structure, sedimentology).
• Inadequate preparation for field camp, poor writing skills.
• Purpose of different options is unclear to students.
• 212 (Earth Materials, or minearology&petrology) an impossible task in one quarter (say both students and faculty, perennially)
Strengths and Weaknesses of current degree structure

• Goals moving forward:

1. Raise the standards/more focused requirements in Geology Option (well-trained graduates for professional geology, ASBOG, geology-oriented graduate programs).

2. Maintain a flexible general track for those wanting a general BS degree in Earth Sciences, or wanting to build their own specialized array of elective options.
What's being discussed:

- **Revised geology option:**
  - revised 21x series
    - new 212 class with more physical geology, and some minearology
    - coordinate content/learning goals with existing 211,213
  - new 31x Earth Materials core class (required for geology option)
    - expand and extend minearology/petrology.
    - Cailey Condit part of the development.

- Elective options
  - restrict the elective options to advanced geology classes.
  - require the six-week field camp.
  - add fieldwork-relevant prereq. for field camp.

- **But also retain a more flexible generation option:**
  - flexible 31x core options,
  - flexible elective options,
  - either 6wk field camp, or 3&3 option
  - implications for current environmental option
Timeline moving forward:

December faculty meeting
  - sketches of revised core classes & requirements
  - results from u-grad survey.
  - seek approval from whole faculty to develop formal plans.

Winter quarter, 2019
  - developing and finalizing courses and requirements.

Spring quarter, 2019
  - submitting to greater powers for approval/quibbling

- Implementation in 2020/21 academic year..

But wait there’s more!
Miscellaneous on-going conversations:

- GIS-based 3&3 week field camp ultimately being a local capstone experience
- Think about physics option (e.g., space physics & geophysics), biology option (e.g., adding microbiology elective options)
- Developing a geospatial analysis option