



Date: April 28, 2015

To: Stephen E. Fritz
Provost and Vice Chancellor for Academic Affairs

From: Scott Furlong
Dean of Liberal Arts and Sciences

Re: Report on the Geoscience Program Review [revised]

I have examined the Self-Study Report prepared by the faculty in Geoscience, as well as the Program Review conducted by the Academic Affairs Council. Based on my examination of these materials I recommend continuation of the Geoscience program. Specific comments that I made to the faculty include the following:

1. There continues to be concern regarding the number of majors in the program and the number graduating. The number of majors have remained steady. This is a particular issues as it relates to their upper level curriculum and whether the number of students can sustain the number of unique courses being offered. The AAC noted from the last review a gender imbalance with relatively few female majors, those numbers have not changed much, but there examples of females being successful within the program. Given the size of the program small numerical changes can have large percentage impacts.
2. Faculty in Geoscience are involved in the graduate program in Environmental Science and Policy (ES&P) and are also involved in international travel courses particularly to Costa Rica and Panama, which provides some exciting opportunities for our campus and students. The faculty are very interested in providing “hands-on” experiences for their students and have a successful field trip course that is a highlight. These opportunities, along with some undergraduate research opportunities, are important high impact practices for our students.
3. A number of faculty have been very successful in grant development.
4. The program and its faculty has done a good job in revising their learning outcomes and assessment plan.

360° OF LEARNING

5. The faculty have made several curricular changes in response to their assessments and other information.

Attachment: Memo, John Luczaj, 04/28/15

Cc: John Luczaj, Chair Geoscience
Steven Kimball and Franklin Chen, Co-Chairs AAC
Greg Davis, Associate Provost

UNIVERSITY of WISCONSIN
GREEN BAY

Date: April 28, 2015

To: Scott Furlong
Dean of Liberal Arts and Sciences

From: John Luczaj
Chair, Geoscience

Re: Memos Regarding "Report on the Geoscience Program Review"

I would like to thank you for evaluating the materials related to the recent Geoscience Program Review and for recommending continuation of the Geoscience Program. However, I would also like to respectfully point out that the memos to the Geoscience Chair and the Provost contain some misconceptions and omissions I feel are very important to clarify and are summarized below:

Memo to Geoscience Chair – April 15, 2015

Regarding enrollment trends and resource issues, there are a few things I would like to mention. We believe that we are efficient in the Geoscience Program, although a cursory overview might not yield this same conclusion. More than many other programs, our four Geoscience Faculty are involved in a high percentage of support courses, general education courses, and graduate courses. I believe it is important to demonstrate this in detail in this memo because I believe it will clarify some details included in the memo.

- Based on institutional research conducted by Debbie Furlong, the Geoscience faculty appear to equal or exceed the average SCH per year for full time faculty and lecturers (2007/08 to 2013-14 period).
- On a student to faculty ratio, we are more efficient than our rival UW-Oshkosh on faculty to student ratio. Presently (and in Fall 2014) we have ~16-17 Geoscience majors at the UWGB campus. Based on Fall 2014 data available through Mike Watson (UWO Institutional Research), the Department of Geology at UWO had 49 majors in geology and Earth Science secondary education emphases. The UWO faculty consists of seven tenure-track geologists, two academic staff, and one department technician. At UWGB, we have four tenure-track faculty, but about half of our load supports general education, environmental science, or graduate courses that do not overlap at all with the UWGB Geoscience program. My calculations show that there are ~1.95 faculty annual loads dedicated to the geoscience and environmental science courses that support the Geoscience major, which is about 8.7 student majors per faculty. UWO's geology faculty contributions are difficult to assess precisely, but nearly all of their courses count toward their majors. My estimate would be that loads from about 7 of their 9 faculty count toward the geology major, resulting in a student majors to faculty ratio of about 7. As a result, UWGB's geoscience program is more efficient on a per-student basis than

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our closest competing institution in northeastern Wisconsin (UWO). Some of our upper level offerings are on a once every 4-semester basis, or they are 1- or 2-credit courses.

- Regarding the drop in minors. First, it's important to recognize that there was a 3-year period with an unusually high number of declared minors. Some of these ended up declaring majors or double majoring in Geoscience/Environmental Science. I do think a significant part of our decrease in minors has also been due to advising of Elementary Education majors. I have been informed directly from two different people (one student, one faculty) that some faculty members in Education have discouraged their students from minoring in the sciences. I strongly disagree with this sentiment, especially because of the science literacy problem that many elementary education teachers have nationwide. I believe this, along with the limitations that any "disciplinary" program has in our system, provides extra challenges.

In the Assessment section, it is unclear what was meant by the phrase "faculty in Environmental Geology." Regarding our assessment of additional learning outcomes, we believe that we are exceeding expectations to assess learning outcomes. The campus-wide target that has been attempted over the last 2 years is to assess at least one learning outcome per year. During the 2013-2014 academic year, we assessed two of these outcomes. Our declared assessment plan dated November 24, 2014 states "Outcome #6 will be assessed by Dr. Currier, and Outcome #7 will be assessed by Dr. Fermanich" during the 2014-2015 academic year. We believe we are on track with assessment, and this was echoed by the AAC's March 27, 2015, memo in which they stated that their concerns were addressed since the previous program review conducted under Dr. Steven Dutch.

Regarding Curriculum Development/General Education, there are two issues I'd like to address.

- I am confused about the last bulleted statement that reads, "Adding a First Year Seminar entitled Nature and American History. have mainly been renaming of courses, reoffering courses that had been dropped, and creating a Special Topics course that would have rotating topics." Special Topics (Geoscience 492) has been offered for decades (longer than I've been at UWGB), so I do not understand why this is pointed out as being a new course that was supposedly created during our program review period. Also, I am very confused by the phrase "reoffering courses that had been dropped." I have no idea what this refers to.
- Introduction to Field Methods and Natural Hazards aren't really new courses. Introduction to Field Methods has been taught for decades, albeit previously under the special topics course listing. We just changed it from a 3-credit to a 2-credit offering with a specific name/course number to more accurately show the course we teach to prospective students looking at our program. The other course, Natural Hazards, is broadly similar to Intro to Earth Science, which is why it still retains the Geoscience 102 course number.

Memo to Provost Fritz – April 15, 2015

With regard to the memo to Provost Fritz, I would like to point out a few important points:

- First, I think that there is an important fact omitted from this memo. The enrollment trends in Geoscience have been roughly constant, despite the recent decrease in enrollment in many programs. The statement of “There continues to be concern regarding the number of majors in the program...” caught us off guard. First, while we would be happy to have more majors, this was *not* listed as a concern by Geoscience or the AAC program review documents. To imply otherwise, while omitting the fact that our program has had stable enrollment during this challenging time, is quite unfortunate, and dare I say unfair, given the decline in enrollment that many other programs have seen in the past two years.
- Second, the perceived gender imbalance is not out of line with national averages, as the AAC review noted, and this memo implies that our program is deficient in some way regarding this issue. Many disciplines have gender imbalances (sometimes with few male majors). While we believe we are doing what we can to increase Geoscience majors, regardless of gender, we would be happy to entertain constructive suggestions that would have a real influence on recruiting more female students.
- Finally, I would like to consider the third statement about “upper level curriculum and whether the number of students can sustain the number of unique courses being offered.” The number of unique courses depends on their periodicity. Some of these unique courses are 1-credit field trips, while others are cross-listed with graduate students and the environmental science major (e.g., Soils, Hydrogeology, Stable Isotopes). In total, typically only two 3-credit courses are offered each semester that only enroll Geoscience majors or minors. These generally include “Mineralogy/Petrology, Sedimentology-Stratigraphy, Quaternary Geology, Field Methods, and Special Topics. Most of these are offered only once every four semesters.

Additional Analysis

As described above, the Geoscience major is run by 1.95 faculty equivalent contact-hour loads. The following table shows a list of those courses and their contact hours *in a typical two-year cycle*:

Courses Counting for Geoscience Major	Load	Courses Also Supporting Other Programs	Load
Physical Geology*	12 (every sem.)	Physical Geology	12
Geol. Evolution of Earth	6 (spring)	Geol. Evolution of Earth	6
Geol. Evolution of Earth lab	6 (1 cr; spring)	-	-
Hydrogeology	10 (spring)	Hydrogeology	10
Soil Environment	12 (fall)	Soil Environment	12
Intro Field Methods	4	-	-
Special Topics	6 (2 courses)	-	-
Quaternary Geology	5	-	-
Sedimentology-Strat.	5	-	-
Geoscience Field Trip	4 (1 credit each)	Geoscience Field Trip	4
Intro Mineralogy & Pet.	12 (every fall,	required in minor)	-
<hr/> Totals:		<hr/> 44 hours/2 yrs	

* Physical Geology Lab is taught by a graduate TA and was not counted in faculty load.

It is my estimate that of these courses offered for the Geoscience major, most of these would still need to be offered for other programs such as Environmental Science, ES&P, Engineering Technology, or the minor in Geoscience. **As a result, only about 0.62 faculty contact hour loads (~13 hours per year/21 hours) are dedicated to courses that serve mainly geoscience major students.** The rest of the courses would likely still run because of how they support other majors or the minor. In the case of Intro Mineralogy and Petrology, this course is required in the minor.

In closing, I would like to reiterate that while Geoscience is a small program, it is efficiently run and has an equal or higher student majors to faculty ratio compared to our closest competing institution in northeastern Wisconsin (UW-Oshkosh). If you would like to discuss these issues further, please feel free to schedule a meeting at your convenience.

Respectfully submitted,



John Luczaj
Chair of Geoscience

Cc: Steven Kimball and Franklin Chen, Academic Affairs Council Co-Chairs
Greg Davis, Associate Provost
John Katers, Natural and Applied Sciences
Stephen E. Fritz, Provost and Vice Chancellor for Academic Affairs