Response to questions raised by CoRGE on the
“Proposal for a Professional Master of Geoscience, MGeo”

1. Why not offer this program as a certificate program?

Within the geoscience community a masters degree is commonly considered to be the level of education appropriate for working Earth Scientists to rise beyond only technical support of projects, and assume greater responsibility in design and oversight of work. In contrast, certificate programs in the applied geosciences are commonly aimed at providing specific technical skills required for specific types of work. It is within this disciplinary backdrop that the GG department designed the MGeo as a masters program.

2. How is it different from the Plan B M.S. now offered? (only 3 students in last decade) Is this going to be dropped?

5. Why not change existing Plan B to Professional degree.

7. Targeted students, existing UG and professionals already in the field? Don't see large enrollment now in Plan B, which seems equivalent with the exception of the field-based project? Or? What is the Plan B program anyway? I's this really geared more towards working professionals?

All of our students enter the M.S. program in plan A and the vast majority conduct high quality research that is published in peer-reviewed journals. Very few students—for a variety of reasons—did not complete a research thesis at the level expected for plan A, and therefore were awarded a M.S. plan B in recognition of their scholastic accomplishments. The success of our M.S. plan A is the reason there are few plan B Masters completed. Thus plan B serves an important role but one that is clearly distinct from the MGeo.

MGeo will be a premier professional degree program that is competitive with a growing number of professional geoscience-related programs across the nation. The MGeo will be marketed as such, and students will apply directly to the MGeo program (unlike for plan B). In addition, there are 3 important logistical reasons for distinguishing the MGeo from the plan B:

(i) The MGeo coursework uniformly emphasizes applied science courses within GG and in other related divisions (e.g., Civil Engineering, CTAHR) and fewer courses emphasizing basic research. The MGeo also encourages students to take courses in the Shidler College of Business (after consulting the college, we will list the business courses at the 600+ level courses offered to their MBA students). Plan B does not.

(ii) The MGeo requires a work-study project with a company or agency, a written report of their work, and an oral presentation to the company representatives and to the faculty advisors. Related to the work-study project, the MGeo students will have an advisor in GG as well as a mentor at the sponsoring agency or company. Most plan B reports, in contrast, have been literature-based research projects and do not require a formal presentation of their work.

(iii) All MGeo students will pay tuition. Unlike M.S. students (plan A or B), MGeo students will not be eligible for research assistantships (RAs), teaching assistantships (TAs), or tuition waivers. GG’s current strengths are in extramurally funded research, and essentially all of our current M.S. students are supported with grants. It would be detrimental to the research program if students...
entered the M.S. plan A program (being fully funded extramurally) but then after completing their course work switched to the professional degree track, and hence did not produce the research originally expected of them and by our funding agencies. It is therefore imperative that the MGeo be marketed entirely separately from the M.S. degree program.

3. Does ask for 1 FTE .51 FTE positions each year.

Table 2 shows the estimated cost in each year of Faculty FTE of the program, the numbers are NOT cumulative. For example, in year 4 (2016-17), the cost is projected to be 1.07 FTE, meaning GG anticipates funding approximately one more faculty FTE than it does today.

4. Increase of students projected is 4 to 12 over next 10 years?

Yes. While numbers are small compared to other programs at UHM, the MGeo will serve a field that is more specialized and smaller than many other fields (e.g., engineering, business).

6. Already similar programs offered in CTAHR

Yes there is a small degree of overlap in the general objectives and fields of the MGeo with CTAHR’s M.S. degree in Natural Resources and Environmental Management (NREM) as explained on p. 15 of the proposal. The MGeo will be the sole professional degree in geoscience at UHM. The MGeo also requires preparation in math, physics, and scientific programming not required by the NREM M.S.

8. What businesses and organizations on board already to partner and accept students? Don’t see list though they mention a Board member list. Can’t find it.

We currently have no formal commitments from businesses or organizations for student work programs/interns. Securing work-projects will be done by students (especially if they are already employed by relevant companies/agencies), faculty advisors, and the MGeo advisory committee (composed of leaders in geoscience industry).

9. What about coverage of the curriculum? Business management, law, government professions? College of Education teachers? Other comparable programs in other universities cover some basics through interdisciplinary in Business management, math, communication, technology, computer science areas. I don’t see this here?

I do not understand what is being asked here. Like all students, MGeo students will need to have taken the pre-requisites (e.g., math, physics) to all courses within as well as outside of GG. The MGeo students will have the opportunity and will be encouraged to take courses outside of GG relevant to their professional needs and objectives.

10. COE M.A. professional credits are potentially valid but must be 600 level courses designated on website and meet approval with State standards. What COE courses are these? Usually students who get experience teaching must be in credential programs for internships. Is there some other arrangement not identified here?
19. "Teaching experience can be gained in the College of Education" (pi 1ES) (No, not unless you are enrolled in teacher preparation program.)

Thank you for pointing out that COE restricts some of their courses to students in their credential program. We are currently in contact with the COE to identify courses that our students would be eligible to take.

11. Don't see the affiliate faculty listed in from other colleges. All still seem to be in Soest geography department. (CEE, CTAHR, Shidler).

There are none.

12. 740 course, what about writing, communication, skills, presentation skills? How often is this course offered? Once a year? Other courses listed are already fulfilled by GED Undergrad requirements in oral and writing requirements. What about writing tied to the technical focus of the degree? Don't see this accommodation in the course description.

GG 740 MGeo Seminar will be offered at least once a year. This course will emphasize oral communication and presentation. Writing will be emphasized in other courses, such as those in GG designated as “writing intensive” (at the 300 level and above), graduate level courses on technical writing, or in other departments such as ENG308, Technical Writing, and TPSS 657 Grant Writing for Graduate Students. Courses—including those designated writing intensive at the 300-400 level—that have already been taking by a student for their B.S. will not count toward any MGeo credits. Analogous to our current M.S. students, we anticipate MGeo students will learn the most about writing when writing their final project report (GG750 MGeo Professional Project).

13. What about 750 course? Managed by Advisor, MGEc committee member, and field member. 6 credits a year?

GG750 MGeo Professional Project will be supervised by the GG faculty advisor and by the mentor at the sponsoring company/agency. “A total of 6 credit hours must be taken in GG750 (MGeo Professional Project) for this project” (no more or no fewer than 6 credits).

14. 18 credits (undergrad) + 12 credits (upper level) + 12 credits (only 4 graduate 600 level offered) (9 credits of 740 (lcredit) +750 (8-credits)) - 29 credits (1 left = 3 credit extracurricular course? List of possible extracurricular are all Geography courses? Needs to be 600 level?)

The curriculum is flexible. MGeo students can fulfill their (minimum) total of 30 credit hrs from all GG courses offered (300 level and above). The only requirements are that 12 hrs are at the level of 600-798 (not counting 6 hrs in GG750), 6 hrs (no more, no fewer) are in GG750, and GG740 is taken at least once a year. Examples:
Example A: 12 hrs (600-798), 6 hrs (750), 1 hr (740), 11 hrs (300-400)
Example B: 12 hrs (600-798), 6 hrs (750), 2 hrs (740), 10 hrs (CEE & Shidler College of Business)
Example C: 12 hrs (600-798), 6 hrs (750), 2 hrs (740), 4 hrs (300-400), 6 hrs (Shidler College of Business)
15. Does his program meet other professional science masters degrees offered at other universities? (No, most are 2 year and much more multi-disciplinary overlapping with other disciplines).

The programs listed below require the equivalent of at least 30 credit hrs, and some require more. Some require courses outside of the discipline, others do not. The MGeo allows for as much as 30% of courses to be taken outside GG.

• Rice University Professional Science Masters in Subsurface Geophysics: 40 credit hrs (30 yrs required by M.S.), 70% within department, 30% outside
• University of Houston, Professional Science in Petroleum Geoscience: 1-2 yrs, 36 credits (same as M.S.), 9 courses within discipline, 4 elective courses (possibly outside of discipline)
• University of Pennsylvania LPS, Masters of Science in Applied Geoscience: 2-4 yrs: 12 courses total: 11 courses within discipline, 1 course in “Project Management”
• Western Virginia University, Geology and Geography M.S. Option II Professional Studies: 33 credits all within discipline
• Colorado School of Mines:
  - Prof. Master-Geochemistry: 30 credits, 24 within discipline, 6 electives
  - Prof. Master-Petroleum Res. Systems: 36 credits in discipline
  - Prof. Master- Mineral Exploration: 30 credits in discipline
• University of Washington, Masters in Applied Geoscience: 45 credits (on quarter system), 39 within discipline, 6 in “professional practice and technical communication”
• Boise State, Master of Earth Science: 31 credits, 11-12 core, 17-18 “Elective coursework in geosciences and related fields”
• University of South Florida, Prof. Science Master’s in Geology: 30 credits, 3 required to be outside of discipline
• University of Arizona, Professional Science Masters in Economic Geology, 30 credits, 1 business course minimum

16. Important to note comments returned in email correspondence from professionals in the field.

Yes indeed, the vast majority of the email responses in Appendix 2 are from working professionals.

17. "GG faculty-to teach some existing graduate courses more frequently" (p2) ...few additional offerings of existing classes will-be required" pIES

The only two additional course offerings will be GG740 MGeo Seminar, and GG750 MGeo Professional Project

18. Added'lecturers, added work by GG faculty = self-sustaining

Yes, the added enrollment in courses can be absorbed by current faculty and added part-time lecturers.