Proposal for a Geology/MBA Concurrent Degree

1. Name of the programs or majors
   Geology
   Business Administration

2. Name of the degrees
   Bachelor of Science in Geology
   Master of Business Administration

3. Name of the department(s) which administer(s) the program
   Department of Geological & Atmospheric Sciences, College of Liberal Arts and Sciences
   Department of Business Administration, Ivy College of Business

4. Rationale for the concurrent degree program
   The American Geosciences Institute (AGI) estimates a shortage of 135,000 geoscientists by the year 2022. This estimate comes from the number of current geoscientists reaching retirement age and the growing demand for geoscientists across many fields to understand and address solutions for both climate change and the safe development of energy and natural resources. The Bureau of Labor Statistics predicts a 10% growth in geoscience jobs between 2014 and 2024 compared to 7% across all occupations (Bureau of Labor Statistics, 2015). Approximately 6,000 people earn a BS degree in a geoscience field each year (National Science Board, 2016); hence to meet future demands for geoscientists, we need a more intentional focus on attracting, supporting, and training new geology students.

   A concurrent MBA degree has the potential to attract high-caliber students to the geology program. Geology majors interested in management careers in the geosciences profession will benefit from earning the MBA while still at Iowa State instead of later interrupting their careers to pursue the advanced business degree. The MBA will help prepare geology students for long-term career success in industry (e.g., oil and gas), both as a uniquely qualified employee or as an independent consultant.

5. Admission procedures and requirements
   The Geology/MBA concurrent degree is a rigorous 5-year program, and admission is selective. Candidates are expected to exhibit superior intellectual ability, strong leadership attributes, and must be highly motivated and career-focused. Significant internship/coop experience is expected.

   Geology students interested in the concurrent degree program must apply to the MBA no later than July 1 the summer prior to their senior year. MBA admission is only considered for fall semester entry.

   The following application materials are required:
   - Application for an ISU Undergraduate Student Wishing to Pursue a Concurrent Graduate Degree
   - Official transcripts
   - GMAT (preferred) or GRE scores
   - Letters of recommendation (2)
   - Essays (2)
6. Requirements of the program

Degree requirements for the BS in geology and the MBA are unchanged in the proposed Geology/MBA concurrent degree. The BS in geology and the MBA require a minimum of 120 credit hours and 48 credit hours respectively. A maximum of twelve approved credit hours may be applied toward both the BS and MBA degrees.

7. Expected enrollment

2-3 students per year.

8. If not already addressed, answer the following:

a. How will the undergraduate degree plan and graduate program of study be developed?
   Geology students will work with the both their undergraduate advisor and the MBA academic advisor to develop a program of study for the Geology/MBA.

b. When will the student have a major professor?
   Upon entry to the Geology/MBA concurrent degree (i.e., fall semester of senior year)

c. Will graduate assistantships be provided?
   Students will be eligible for a graduate assistantship; however assistantships are highly competitive and not guaranteed. The Ivy College of Business offers merit-based scholarships to exceptional concurrent MBA students in the various STEM majors.

d. Will a thesis be required?
   The Master of Business Administration is a coursework-only degree.

e. Who will be responsible for the administration of the program?
   Cinzia Cervato, Morrill Professor of Geological & Atmospheric Sciences, 224 Science I, cinzia@iastate.edu, 294-7583
   Russ Lacznia, Associate Dean for Graduate Programs and Research, 2200 Gerdin, lacznia@iastate.edu, 294-9692

f. How much time is required to complete the program? Show a sample semester-by-semester plan.
   The Geology/MBA concurrent degree program is designed to be completed in a minimum of five academic years or ten semesters. In the first three years, geology students take their prescribed course requirements. The final two years are comprised of the remaining geology major coursework and the MBA program requirements.

g. Will students be allowed to double count credits? If so, how many?
   Twelve credits.

9. Attach memos showing approval by appropriate department and college committees, faculty, and administrators.

10. Proposal Contact

Cinzia Cervato, Morrill Professor of Geological & Atmospheric Sciences, 224 Science I, cinzia@iastate.edu, 294-7583

Russ Lacznia, Associate Dean for Graduate Programs and Research, 2200 Gerdin, lacznia@iastate.edu, 294-9692
# BS in Geology/MBA Sample Study Plan (2018 Catalog)

<table>
<thead>
<tr>
<th>Degrees</th>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Semester 3</th>
<th>Semester 4</th>
<th>Semester 5</th>
<th>Semester 6</th>
<th>Semester 7</th>
<th>Semester 8</th>
<th>Semester 9</th>
<th>Semester 10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GEOL 100 &amp; L The Earth 4 cr.</td>
<td>GEOL 102 &amp; L Earth History 4 cr.</td>
<td>GEOL 315 &amp; L Mineralogy 4 cr.</td>
<td>GEOL 365 Petrology 3 cr.</td>
<td>GEOL 368 Sediment. Geol. 4 cr.</td>
<td>GEOL 356 Struct. Geol. 4 cr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CHEM 177 &amp; L Chemistry I 5 cr.</td>
<td>CHEM 178 &amp; L Chemistry II 4 cr.</td>
<td>GEOL 316 Optical Min. 2 cr.</td>
<td>Elective Course 3 -4 cr.</td>
<td>ENGL 309 or ENGL 314 3 cr.</td>
<td>Geology Choice 3 cr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MATH 165 Calculus I 4 cr.</td>
<td>MATH 166 Calculus II 4 cr.</td>
<td>PHYS 111 Gen. Physics 5 cr.</td>
<td>PHYS 112 Gen. Physics 5 cr.</td>
<td>Foreign Lang./Elective 3 cr.</td>
<td>Foreign Lang./Elective 3 cr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>GEOL 112 Earth Wind &amp; Fire LC 1 cr.</td>
<td>GEOL 113 Earth Wind &amp; Fire LC 1 cr.</td>
<td>Sci./Eng./Math Choice 3 cr.</td>
<td>Sci./Eng./Math Choice 3 cr.</td>
<td>Social Science Choice 3 cr.</td>
<td>GEOL 302 Field Studies 6 cr. (summer)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LIB 160 Info. Literacy 1 cr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MBA 48 credits (minimum)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BUSAD 502 Quant. Analy. 3 cr.</td>
<td>FIN 501 Finance 3 cr.</td>
<td>MGMT 503 Bus &amp; Society Choice 3 cr. (Elective)</td>
<td>MBA Elective 3 cr.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ACCT 501 Accounting 3 cr.</td>
<td>MKT 501 Marketing 3 cr.</td>
<td>MGMT 504 Strategy 3 cr.</td>
<td>MBA Elective 3 cr.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ECON 532 Economics 3 cr. (Soc. Sci. Choice)</td>
<td>SCM 501 SCM 3 cr.</td>
<td>MBA Elective 3 cr.</td>
<td>MBA Elective 3 cr.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MGMT 502 Org. Behavior 3 cr.</td>
<td>MIS 501 MIS 3 cr.</td>
<td>MBA Elective 3 cr.</td>
<td>MBA Elective 3 cr.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BUSAD 592 Prof Skills I R cr.</td>
<td>BUSAD 594 Prof Skills II R cr.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Notes:
Twelve acceptable credits may be applied to both the BS in Geology and the MBA. The twelve “shared” elective credits ECON 532 (Social Science Choice, MGMT 503 Elective Course and two Geology Choice courses (6 credits) approved for the Geology/MBA concurrent degree program including, but not limited to, GEOL 324, GEOL 444, GEOL 452, GEOL 457, GEOL 488, and GEOL 490 (depending upon topic).

ECON 101 is recommended as a Social Sciences choice course as a prerequisite to ECON 532 in the MBA program.

Twelve credits of MBA electives must be 500 level courses from the Ivy College of Business.
Date: December 14, 2018
To: Graduate College Curriculum Committee and Graduate Council
From: Mark Hargrove, Chair, LAS Curriculum Committee
Re: Proposed Concurrent BS Geology/MBA and Concurrent BS Meteorology/MBA

The LAS Curriculum Committee reviewed and approved the proposed Concurrent BS Geology/MBA and the proposed Concurrent BS Meteorology/MBA. Please note the following:

- The proposed course plans use ECON 532 toward fulfillment of the LAS Social Sciences General Education requirement for the Bachelor of Science. The use of this course has been approved by the Department of Economics Curriculum Committee and the LAS Curriculum Committee for use by these two specific programs. This specific approval was necessary because LAS policy states that courses numbered 500 and above cannot be applied to the general education group requirements.

- The proposed course plans rely on double-counting 12 credits. While the LAS Curriculum Committee is comfortable with the course make-up of the programs, we do understand that the credit overlap is non-compliant with the Graduate College rule and that it is the Graduate College’s purview to waive the requirement.