



University Senate

Introduced by: University Planning & Policy Council

Date: April 24, 2006

PROPOSAL TO SUSPEND ADMISSION TO THE GEOLOGICAL SCIENCES BACHELOR OF SCIENCE DEGREE PROGRAM

IT IS HEREBY PROPOSED THAT THE FOLLOWING BE ADOPTED:

- I. That the attached proposal be approved by the University Senate.
- II. That the implementation be effective immediately.
- II. That this bill be referred to the President for approval.

M E M O R A N D U M

Date: January 31, 2006

To: Greg Stevens, Assistant Dean, CAS

From: Vincent P. Idone, Chair, DEAS

Subject: Proposal to Suspend Admission to Geological Sciences BS Degree program

Provided here is a document specifying the background on and the specifics of our proposal for the suspension of admission to the Geological Sciences Bachelor of Science degree program. We have made this decision only after considerable internal deliberation and debate. To use a phrase from Compact Planning, we are fully aligned now in the department on this issue. Also, we feel that we make a simple and compelling case for this, and we ask that both the administration and faculty governance act on this with all alacrity.

Request to Suspend Admission to the Geological Sciences BS Degree Program

Background: The present Department of Earth and Atmospheric Sciences (DEAS) consists of the Geological Sciences program and the Atmospheric Science program. DEAS came into existence in 1995 via the merger of the then separate departments of Atmospheric Science and Geological Sciences. The impetus for the merger originated at the administrative level and was argued for primarily to achieve “economies of scale.” At the time, the Geological Sciences faculty numbered seven, which was already down significantly from a high point of nine faculty members in the late eighties. Regardless of the specific historical circumstances, and despite individual faculty of indisputable excellence throughout the period referenced, it is a fact that the Geological Sciences program continued to suffer erosion of its faculty. The situation was made particularly acute with the departure in December 2004 of Professor Greg Harper, whose line was not replaced. Presently, the Geological Sciences faculty consists of but four members. Yet, this program still offers BS, MS and doctoral degrees while also providing a majority contribution to the new Environmental Science BS program (presently undergraduate only). Simply put, something has to give.

During the spring and summer of 2005, several meetings were held to discuss the situation. At a full faculty meeting, a formal vote was taken on whether to recommend suspension of admission to the GEO BS degree. The vote was 13-0-1 in favor of this action. This decision recognizes (from our perspective) the inherent lack of overall administrative interest in reinvesting in the “classic” geological sciences. Apparently, this area is already well subscribed within not only the SUNY system, but also across many other competing regional academic institutions. This past December 21st, another meeting was held to again confirm the department’s collective intent to proceed with recommendation for the suspension of this major. The vote was unanimous to do so, with one additional stipulation. This is that we convert the present “Earth Science” concentration of the Environmental Science BS explicitly to a “Geology” concentration, thereby leaving a “residual” geology undergraduate degree available on this campus for students so inclined, but only within the broader context of the environmental science BS degree. This is reasonable, as some geology courses will remain due to their inherent relevance in environmental science.

We are sensitive to the potential negative financial ramifications of enrollment declines for the University. However, over the last ten years, the number of GEO BS graduates has averaged less than 10 per year, with the number over the last three years averaging but six. This is a small number of students. The present official count of declared, actively enrolled GEO BS majors (across three years, and as best we can determine in PeopleSoft) is 15, with 12 of them having junior or senior status. In contrast, since initiating the Environmental Science BS degree just a few years ago, the count of majors in that degree program has ballooned to about 60. Hence, any potential enrollment decline from suspending admission to the Geological Sciences BS will certainly be minimal. Further, of the remaining four geological sciences faculty, three have interests and research emphases that are decidedly environmentally oriented. It is the

overwhelming perspective of the department faculty and staff that DEAS should direct much of its future effort toward the growth and enhancement of the environmental science BS degree.

Suspension Proposal: We propose the suspension of admission to the Geological Sciences BS be approved **as soon as possible, so that this will be reflected in the upcoming Bulletin Copy for the '06-'07 academic year.** The courses specifically involved, which will be taught only once or twice more to process out the present small cohort of Geological Science BS majors, are:

GEO 222, Igneous and Metamorphic Geology;

GEO 330, Structural Geology (and related components, 331 and 332);

GEO 400, Field Mapping.

Almost the complete set of actively enrolled students (see below), through careful advisement and proper advanced notice, can complete the degree requirements inherent to these courses by the end of the fall '07 semester, as 12 of the 15 students are of junior or senior status. The remaining contingent, allowing for one or two declarations this semester, could be handled appropriately with course substitutions, if even necessary.

George	Cassandra	Junior	EARTHATMOS GEO-BS
Saladino	Joseph Michael	Senior	EARTHATMOS GEO-BS
Walcek	Alina	Junior	EARTHATMOS GEO-BS
Covey	Benjamin	Junior	EARTHATMOS GEO-BS
Flippin	Travis	Senior	EARTHATMOS GEO-BS
Martin	Shawn	Senior	EARTHATMOS GEO-BS
Rieck	Karen Dianne	Senior	EARTHATMOS GEO-BS
Anandam	Vinay		EARTHATMOS GEO-BS
Becker	Jennifer Marie		EARTHATMOS GEO-BS
Burns	Gered Michael	Junior	EARTHATMOS GEO-BS
Girard	Marlo	Senior	EARTHATMOS GEO-BS
Leone	James Robert	Senior	EARTHATMOS GEO-BS
Peppe	Lindsay	Junior	EARTHATMOS GEO-BS
Sheehan	Mark	Sophomore	EARTHATMOS GEO-BS
Wojtak	Kenneth	Junior	EARTHATMOS GEO-BS

With the faculty resources freed up, we are actively planning to revise and improve the overall Environmental Science BS degree program. As noted previously, we propose to transform the present “Earth Science” concentration to a “Geology” concentration. Thus, a type of undergraduate “Geology” degree will be available to students on this campus, but *only within the context of a concentration exercised within the Environmental Science BS degree*. The other three concentrations will remain Atmospheric Science, Biology and Geography.

In addition, we will propose as part of this curriculum revision that all present GEO courses be designated as ENV courses. There no longer will be a GEO undergraduate course designation, and several other courses will be renamed and modified. Other curriculum revisions will include:

GEO 100N, Planet Earth, becomes **ENV 105N, Introduction to Environmental Science** (also to be a Gen Ed natural science course);

GEO 106, Physical Geology Laboratory will be eliminated;

GEO 260, Earth Surface Processes and Hazards will be eliminated;

ENV 490, Major Topics in Environmental Science will be created as a capstone course for the major;

ATM 301, Surface Hydrology and Hydrometeorology will be created, servicing all majors other than the ATM BS;

ATM 422, Meteorological Instrumentation and Measurement will become **ATM 327, Meteorological and Environmental Measurement**, servicing any department major;

A complete set of course action forms detailing the full slate of curriculum changes entailed is expected to be submitted shortly to the Dean’s Office for consideration by faculty governance.

So, for example, in the revised curriculum, the Geology concentration of the Environmental BS would look like this:

Environmental Science B.S. Program

Proposed Required Core Curriculum (37 credits):

ENV 105N Introduction to Environmental Science (3) OR GOG 101N Introduction to the Physical Environment (3)
ENV/GOG 201 Environmental Analysis (3)

ENV 250 Energy and Resources (3)
ATM 301 Surface Hydrology and Hydrometeorology (3)
ATM 327 Meteorological and Environmental Measurement (3)
ENV 490 Major Topics in Environmental Science (4)
MAT 111 or 112 or 118 Calculus I (4)
MAT 113 or 119 Calculus II (4)
BIO 110 General Biology I (4)
CHM 120N or 130 General Chemistry I (3)
PHY 105N General Physics I (3)

Proposed Geology Concentration (29 credits)

Required for Geology Concentration (18 credits):

ENV 210 Earth Materials (4)
ENV 230 Stratigraphy and Sedimentology (4)
ENV 350 Environmental Geochemistry (4) [satisfies upper level oral discourse]
ENV 435 Geohydrology (3)
ENV 470 Tectonics (3)

Electives (11 credits, including one course from additional electives below):

ATM 307 Atmospheric Chemistry (3)
CHM 220 Organic Chemistry I (3)
CHM 221 Organic Chemistry II (3)
ENV 395Z Writing Intensive (1 unit) [satisfies upper level writing intensive]
ENV 450 Climate Change (4)
ENV 466 Marine/Estuary Systems (3)
ENV 496 Environmental Internships (3-6 units)
ENV 497 Independent Study (1-3 units)
ENV 498 Undergraduate Honors Research (3)
MAT 108 Statistics (3)
MAT 214 Calculus of Several Variables (4)
MAT 220 Linear Algebra (4)
Environmental Sciences or Geology Field Camp at another institution (1-3)*

Additional electives (choose maximum of one):

R POS 396 Energy Policy, Domestic and International (3)
R PUB 465 Hudson River Watershed: Environment, Society, and Policy (3)
H SPH 201 Introduction to Public Health (3)

Typical Course Plan for Geology Concentration

<i>Year</i>	<i>Fall</i>			<i>Spring</i>		
	<i>Course #</i>	<i>Course Name</i>	<i>Credits</i>	<i>Course #</i>	<i>Course Name</i>	<i>Credits</i>
1	ENV 100N or GOG 101N	Introduction to Environ. Science	3			
	MAT 111	Calc I	4	MAT 113	Calc II	4
	CHM120	Chemistry I	3			
2	BIO 110	General Biology I	4	ENV/GO G 201	Environ. Analysis	3
	ENV 210	Earth Materials	3	ENV 250	Energy and Resources	3
	PHY 105	Physics I	3			
	ENV 230/231	Stratigraphy & Sedimentology	5			
3	ATM 301	Surface Hydrology	3	ATM 327	Meteor. & Environ. Measurement	3
				ENV 350	Environ. Geochemistry	4
		Elective	3		Elective	3
4	ENV 490	Major Topics in Environ. Science	4	ENV 435	Geohydrology	3
	ENV 470	Tectonics	3			
		Elective	2		Elective	3
		Total	40		Total	26

Summary: We are convinced and agreed that now is the time to implement this change to our program. It simply is required in reflection of the hard reality of what has happened on this campus over the last decade or so. We also acknowledge that this has addressed the situation only for the undergraduate Geological Sciences degree program. However, the graduate program issues are even more complicated and will need the attention of the administration in the near future. We are in agreement that the present revision is a logical first step in tackling this overall programmatic issue.