Summary Report of visit to TAMU College of Geosciences 6- 8 February 2008 to review the Environmental undergraduate degree programs

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My comments are grouped into the following categories: administrative structure, curricula and student perceptions.

Administrative Structure

Currently, the Environmental programs at TAMU Geosciences depend mostly on two sources of altruism: a) the faculty who teach/advise/worry about the programs and, b) the Department Chairs who allow their faculty to teach/advise/worry about the programs.

The recent appointment of an "Interim" Director has greatly improved communication/organization of the program, but has not solved the faculty question(s) of: Why should I do this? What are the rewards for being involved in the programs? Will my home Department recognize my contribution when considering tenure, promotion, raises? There are also Department Chair concerns such as, What are they doing in that program? Why are they spending time advising in GEOS/ENST when there are advising needs in the Department? I need them to teach in the Department – I cannot allow them to teach in the programs. The programs compete with my Department for majors and student credit hours decrease when students change from a Departmental major to a GEOS/ENST major and stop taking as many courses in the Department, etc, etc.

Current "volunteer" staffing of the program does not provide a stable, sustainable or viable long-term base for the programs. Beyond retaining the present organization (**MODEL 1** – a model I find unacceptable for long-term viability of the program), I suggest three other possible administrative models. For any of the models the recent Council of Environmental Deans and Directors report entitled *"Interdisciplinary hiring, tenure and promotion: Guidance for individuals and institution"* should be consulted (see http://www.ncseonline.org/CEDD/cms.cfm?id=2042)

No matter what model is used the program requires a permanent director, a staff person, a student advisor and space. I understand Dean Kjerfve and Dr. Millington (and Executive committee) have ongoing discussions on these issues.

MODEL 2. **The no money changes hands model**. If faculty wanted to be involved in the environmental programs they could have a **core** appointment in either "Environment" or in their Department. Salary, tenure, promotion, graduate teaching and indirect cost recovery would be in the Department. Student credit hours generated by core Environmental faculty would be retained in the Department. Thus the Program funding would need to come entirely from the Deans Office.

For those with a **core appointment in the Environmental programs,** a written letter of appointment (from the Dean) would stipulate that undergraduate teaching and advising would be in the environmental programs. The core environmental faculty would be the voting faculty of the Environmental program. The letter of appointment should further define that yearly evaluations (salary, retention) by the Environmental Programs director and the Department chairperson would be equally weighted. If the assessments are contrary, the Dean (or a committee appointed by the Dean) would arbitrate. For tenure and promotion a vote of the Environmental Programs core faculty of equal and higher rank (or however defined at TAMU) would be submitted to the Departmental faculty prior to the Departmental vote on the candidate. The Environmental Program vote and the Departmental vote would be passed along as the file moves through the system. If these votes are contrary, and since both votes go to the Dean anyway, the Dean would judge each assessment accordingly and make a recommendation. Should the person leave the University, the program and the department would jointly decide how, and what kind of person, to hire as a replacement The needs of the Program must be the primary consideration when replacing a core environmental appointment.

If a person was appointed **core faculty in the Department**, they could be termed "Associate Environmental faculty" and be active in the Programs as they and the Program Director saw fit. They would not have a vote on matters of curricula, T & P etc. They could request a letter from the Program Director at evaluation time to recount their contribution to the program, but no such letter is mandated.

In either case (Core faculty or Associated faculty), extant faculty should be given the opportunity to become faculty of the Environmental programs. A new position should be defined as either Core or Associated BEFORE the position is advertised and the candidates need to be informed of the duality. The appointment letter should clearly spell out responsibilities (see above mentioned reference).

MODEL 3. The some money changes hands model. This appointment to the Environmental Faculty is similar to Model 2 (Core Environmental Faculty), except that 1/2 of the salary (and associated funds –fringe, travel, supplies, - if there are any?) is in the Environmental Program and 1/2 is in the Department. This means the "Program" has a financial base and therefore would receive 1/2 of dollars generated from student credit hours of said faculty and perhaps from indirect cost recovery. 100% of indirect costs could stay in the Department if the Department was providing research/office space. This model provides a financial incentive to the faculty member to be an active good member of the Environmental faculty/programs - they know ½ of their salary is in Environment and cannot ignore the responsibility to it. This should be a zero-sum-game for the Departments in that the Department no longer pays 1/2 the salary.

T & P would also be different from Model 1 in that the Core Environmental faculty and the Departmental faculty would vote independently and have equal weight. The votes would be passed directly to the Dean. If votes are contrary, the procedure is as in Model

1. Yearly and salary recommendations are as in Model 1 with the Director and Chairperson jointly assessing.

MODEL 4. The expensive model. Create a new Department of Environmental Geosciences/Studies with 10+ dedicated faculty. This absolutely insures long-term viability of the undergraduate teaching mission since there would be people hired (or would leave their present Department) to specifically do that. However, it begs an important issue of space for these people, particularly if they are also to conducted fundable research (which we would expect them to do, will need research labs/facilities etc). It also exacerbates the issues of academic turf. This model is in effect at large universities with separate Departments/Colleges/Schools of the Environment. If TAMU were to go to a University wide Environmental degree program – this might be a feasible model. However, since I do not perceive such would happen in the near future, I will not pursue this model further.

Curricula

The current GEOS curriculum with its core and tracks is a reasonable curriculum except that there are too many (5) core courses required. Most environmental curricula around the US require a maximum of four (4) core courses. Unless there are plans to entirely revamp the curriculum, which I see as unnecessary until the administrative structure is resolved, I would suggest the core be modified to consist of GEOS 105 and 2 or 3 courses from ATMO 201(202), GEOG/GEOL (202/101; 201/303), OCNG 251(252). With MATH, STAT, CHEM and GEOG 420 and GEOS 405 requirements this is an adequate and sufficient base for the student. This is also relevant to the student complaint that there was great redundancy in the core courses (see next section on student perceptions).

The tracks are best decided by the TAMU faculty. The tracks are reasonable and based on the expertise in the College. Trying to spread the faculty over more tracks may only water them down – you cannot cover everything environmental. The tracks can change over time – I would leave them as is for now.

The ENST curriculum also has the core curriculum overload problem. This should also be reduced. I understand the origin of the curriculum (Geography), but think it could use broadening into Ethics, Anthropology, Economics, Government, International Studies, Environmental Health and perhaps even Business Management (while some of these courses are listed as possible "other courses" – some should be recommended). Because these course are not in Geosciences there would be a loss of student credit hours, but you do your students a disservice by so heavily biasing this major (ENST) to College of Geosciences courses.

The lack of an Ecology course in either degree program (GEOS or ENST) is a glaring omission (caveat - I had no class titles only course numbers. I hope I did not miss an Ecology course). Based on a survey, and a workshop, 40-60 US Environmental Deans and Directors, put Ecology as the top priority course for an undergraduate curriculum in

the environment. There should be faculty in Geosciences competent to teach such a course and thus not loose student credit hours to another college.

Student Perceptions

I met with 14 students (they came and went) for 1½ hours over lunch. In general they were pleased with the program and were emphatic that it has greatly improved since Andrew Millington became Interim Director. They cited regular email communication from him, his willingness to meet with them and discuss their problems and an increased efficiency in advising. They also had a series of complaints; I list them below.

Advising. While advising has improved recently, there were several advising complaints. They include:

My advisor only recommends that I take courses in his/her home Department.

My advisor does not know the curriculum.

My advisor was not technologically capable of finding my record on the computer system.

My advisor was assigned. I changed tracks. I need to change advisors, but I can't.

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Course Access.

The courses I need are not given when I need to take them

Can only take approved courses. e.g. Fluvial Geomorphology is not approved for the water track. Student was not allowed to take it. (Students need to be made aware of the ability to substitute courses - many did not know they could do that.)

There are pre-requisites for courses suggested that I do not have. I cannot take all the pre-requisites to take an ECON course.

We need a list of technical electives

Math is too hard (I lectured back that they needed it to be a competent GEOS major; I was not popular).

Core curriculum.

"There is incredible redundancy in the core curriculum." (This is a direct quote and was unanimously agreed upon by the 10 students in the room at the time).

I was bored by the second core course.

Sense of community. All the students felt that GEOS/ENST majors had little sense of community. They often were in very different courses thus they do not go through the curriculum as a cohort. There was no place to meet together, study together, party (?) together. While students in one of the College's Departments were in a unit, they were not. They urged that there be formal space and events for them, for example a lounge area, a forum on jobs, a forum on graduate school admission, a forum on the degree and curriculum, a seminar by Professor X on a topic of interest to them.

Internships/Scholarships/REU's -They requested internships be developed for the majors. They also wanted to be kept informed of scholarship opportunities at TAMU/Texas and REU opportunities both at TAMU and elsewhere.

My perceptions. I heard nothing new except some particulars, students have complained to me about many of the same things. Having permanent office space and staff would be a great step forward in alleviating many their complaints. Formal "train the advisor" sessions could remove many of the advising problems. Conducting forums for the students to come discuss issues and forums that present opportunities for scholarships etc, would also help a lot. If you can focus their energy into some sort of environmental club, that too has proven to be an effective way to engage and communicate with them. The students I met were serious and concerned – they were good students with a clear interest in their career development. I would use some of this group as a "student advisory" committee.

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