College of Geosciences at Texas A&M University

Information Letter #3

TO: Faculty and Staff of:
Department of Atmospheric Sciences
Department of Geology & Geophysics
Department of Geography
Department of Oceanography
Geochemical and Environmental Research Group
Integrated Ocean Drilling Program
Texas Sea Grant Office

FROM: Björn Kjerfve, Dean
College of Geosciences

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During the past academic year, discussion emerged within the College of Geosciences regarding the net income (dollar value) generated by teaching undergraduate service courses, undergraduate majors courses, and courses for MS and Ph.D. students (with or without assistantships). For the purpose of this letter, the University General Fund is defined as the revenue derived from state appropriated formula funding, designated tuition, and the University enhancement fee. These revenues are collected and allocated centrally. They make up the lion's share of our teaching salaries, staff salaries, graduate assistant salaries and operating expenses. The more we teach, the larger the University General Fund grows, the larger Geosciences' share of the University General Fund becomes. Many changes have taken place during the past four years and it would be worthwhile to rethink and maximize the net income for the University General Fund.

The fact that we track both SCHs (semester credit hours) and WSCHs (weighted semester credit hours) can be confusing, although the reason is simple. SCHs are the basis for collecting tuition and enhancement fee revenues; WSCHs are the basis for receiving formula funding from the State. There exists substantial misunderstanding about the value of undergraduate versus graduate teaching in terms of revenue generation. The intent of this Information Letter #3 is to ensure we are working from the same data and understanding. As usual, this Information Letter #3 is sent to all of you by email and will be posted at http://geosciences.tamu.edu/communications/.

I have worked closely with Dan Parker, Associate Executive Vice President, to produce accurate comparisons. He has edited this Information Letter #3 for accuracy and has indicated that the comparisons are fair and correct. All rates and values will be in effect for FY07.

Income to the University General Fund

Student-related revenue for the University is generated through (i) Tuition, (ii) Enhancement Fee, and (iii) State of Texas Formula Funding; costs against this fund include graduate assistantships and tuition and basic health insurance payments for graduate assistants.

(i) Tuition Rates

	In State Undergraduate/SCH	Out of State Undergraduate/SCH	In State Graduate/SCH	Out of State Graduate/SCH
Designated	$95.70	95.70	$95.70	$95.70
State Mandated	$50.00	325.00	$50.00	$325.00
Board Authorized	$0.00	0.00	$50.00	$50.00
Total	$145.70	420.70	$195.70	$470.70

(ii) University Enhancement Fee

	In State Undergraduate/SCH	Out of State Undergraduate/SCH	In State Graduate/SCH	Out of State Graduate/SCH
Enhancement Fee	$30.00	$30.00	$30.00	$30.00

(iii) State of Texas Formula Funding

Formula Funding from the State of Texas is presently $55.72/WSCH and is likely to increase in the next Legislative session. The weights vary according to student status and subject matter. Most courses in the College of Geosciences are classified as Science courses with the exception of a number of courses in GEOG that are classified as Liberal Arts courses. The weights currently authorized by the Coordinating Board are as follow:

	Undergraduate Lower Division	Undergraduate Upper Division	Master	Doctoral
Science (01)	1.66	3.00	7.63	19.72
Liberal Arts (02)	1.00	1.86	4.07	10.89

Since the large majority of courses in the College of Geosciences are classified as Science Courses (code 01), for the sake of this write-up and comparison, I will continue to make the calculations for Science Courses only.

The General Fund of the University is a direct function of teaching-generated income. With the above data, it is now possible to calculate the *net income generated* for the University General Fund for different categories of students. I have assumed that undergraduate students enroll in 30 SCHs/year and that graduate students enroll in 24 SCHs/year. For the sake of these calculations, I have adopted the assistantship rates in effect in OCNG for FY 07, recognizing that the rates are somewhat different in ATMO, GEOG, and GEPL. I have broken up the net income generated in separate tables for undergraduate students and graduate students. For FY 07 the State contribution for basic health/basic life insurance for a part-time employee (i.e., a graduate assistant) is $172.21/month. In the below table, I am assuming that a graduate student has a 9-month assistantship – if a student also has a summer assistantship, the below insurance rate is greater by 12/9.

Net Income Generated by Undergraduate Students

	In State Undergraduate Lower Division	In State Undergraduate Upper Division	Out of State Undergraduate Lower Division	Out of State Undergraduate Upper Division
Designated Tuition	$2,871.00	$2,871.00	$9,750.00	$9,750.00
Enhancement	$900.00	$900.00	$900.00	$900.00
Formula Funding*	$2,774.86	$5,014.80	$2,774.86	$5,014.80
Total	$6,545.86	$8,785.80	$13,424.86	$15,664.80

Net Income Generated by Graduate Students

	Master with assistantship	Master w/o assistantship	Doctoral with assistantship	Doctoral w/o assistantship
Designated Tuition	$2,296.80	$2,296.80	$2,296.80	$2,296.80
Enhancement	$720.00	$720.00	$720.00	$720.00
Formula Funding*	$10,203.45	$10,203.45	$26,371.16	$26,371.16
Tuition Payment**	($4,696.80)	$0.00	($4,696.80)	$0.00
Health Insurance***	($1,549.89)	$0.00	($1,549.89)	$0.00
Assistantship****	($14,175.00)	$0.00	($14,175.00)	$0.00
Total	($7,201.44)	$13,220.25	$8,966.27	$29,387.96

* $50 of the tuition/SCH for undergraduates and $100 of the tuition/SCH for graduate students is included in the State Formula Funding

** for graduate assistants, the full $195.70/SCH tuition is paid

*** assuming a 9-month assistantship; however, for a 12-month assistantship the basic health/life insurance cost is ($2,066.52)

**** 9 months/year at the prevailing rate for OCNG at $1,575/month

Discussion

The data paints a sobering picture. These figures clearly indicate that undergraduate students and graduate students contribute significantly to the University General Fund. The concept that a Ph.D. student generates 19.72 times the income as compared to a freshman is obviously not accurate. The biggest "spread" is when considering a Ph.D. student without a GAT or GANT to an in-state freshman student. In this case, the Ph.D. student generates 4.49 times more net income each year. However, this is an extreme comparison as most of our graduate students have some form of assistantship support. A Ph.D. student with an assistantship generates only 1.37 times more net income than a freshman/sophomore or 1.02 times more income than a junior/senior student per year. And as you can see from the above comparisons, a freshman student generates considerably more net income as compared to a Master Student on a GAT or GANT. Thus, in terms of net income generated, a freshman student is almost as "valuable" as compared to a Ph.D. student on a GAT or GANT and far more "valuable" than a MS student on a GAT or GANT.

The numbers are the same for GARs as for GATs and GANTs with the exception that the tuition payment, the insurance payment, and the assistantship salary do not come from the University General Fund but rather from faculty-generated research grants and contracts. From the point of view of net value generated into the University General Fund, a MS student on a GAR generates $13,220.25 and a Ph.D. student on a GAR generates $29,387.96 annually. Thus, the "value" of GAR-supported graduate students is 2.02 and 4.49 times greater, respectively, compared to a freshman student. Thus, supporting graduate research assistants generates significant funds into the University General Fund and yields more return to the College and its departments via the E&G budget.

The comparisons that I have calculated are admittedly one-dimensional, as "value" should not be construed as "net income generated." Value at a major research institution such as Texas A&M University encompasses research, service, societal impact, quality, reputation, and many additional considerations. However, the source of funds for hiring of faculty; paying faculty, staff, and graduate student salaries; paying merit salary raises, and allocating departmental operational funds is solely a function of the net income generated for the University General Fund. A major motivation for the recent decision by Dr. Gates to increase the Texas A&M University enrollment by 2500 undergraduate students and 1000 graduate students over five years is to increase the net income generated for the General University Fund by more than $25 million per year, with almost $18 million per year realized from undergraduates.

As departments continue to debate the best balance of undergraduate service courses, undergraduate majors and majors courses, and graduate students and graduate courses, I hope these numbers will assist in discussions and decision-making.

It is a little bit like a financial investment – the best strategy is probably a reasonable balance between service courses with labs, recruiting and teaching of undergraduate majors in a 4-year program, and attracting and educating the best

graduate students with an emphasis on Doctoral students. Supporting GARs, especially doctoral students, is an excellent way to increase the net income generated, and has of course many additional values.

The exact balance between generating income by teaching service courses, majors courses, and graduate courses is a departmental decision, but the University will closely monitor the net income generated by departments and colleges and will allocate the E&G budgets accordingly. Decisions as how to allocate or reallocate faculty positions and other resources in the College of Geosciences will largely depend on the net income generated by each unit for the University General Fund and will be discussed by the Executive Committee.

In the future, I will report on the net income generated by each unit in the College and use this as a performance metrics in addition to those metrics already reported on the Information Letter #2.