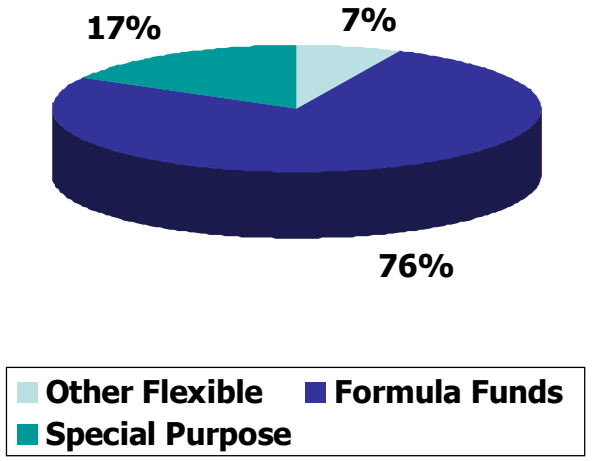
TEXAS A&M UNIVERSITY COMMERCE

Texas A&M - Commerce

Texas Higher Education "Formula Funding 101"

Significance of the Funding Formulas

- Over 76% of TAMUC's FY 2008 appropriation was generated through the funding formulas



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TAMUC Formula Funds 2008

Total TAMUC Formula Funds
$34.2 Million

Estimated Other E&G Income
$8.5 Million

General Revenue
$25.7 Million

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Estimated Other E&G Income

- Legislative Budget Board (LBB) estimates Other E&G Income for each institution
- Estimated Other E&G Income is allocated across formula components
- GR is determined from the difference between formula total less Other E&G Income
- Board Authorized Tuition and Statutory Tuition Increases are distributed across formula components after GR is determined

Estimated Other E&G Income (cont.)

- E&G Income sources that are included in the formula funds:
  - Net statutory tuition
  - Special course fees (correspondence, etc.)
  - Lab fees
  - Student teaching fees
  - Interest on funds held in state treasury

DESIGNATED TUITION IS NOT INCLUDED

Estimated Other E&G Income (cont.)

- Some Other E&G Income sources are “set-aside” for specific purposes and not included as part of the formula funding…these amounts appear as a strategy in each institution’s bill pattern. Examples include:
  - Texas Public Education Grants (TPEG)
    - $1,593,035
  - Organized Activities
    - $73,195
  - Staff Group Insurance Premiums (for those employees paid from Other E&G income sources)
    - $1,522,499

Because they are such an important revenue source, we need to understand the formulas

- Understanding how the formulas work to generate money can help us devise strategies to maximize the income the formula system provides
- There are two major formulas and one smaller one:
  - Instruction and Operations
  - Infrastructure Support
  - Teaching Experience

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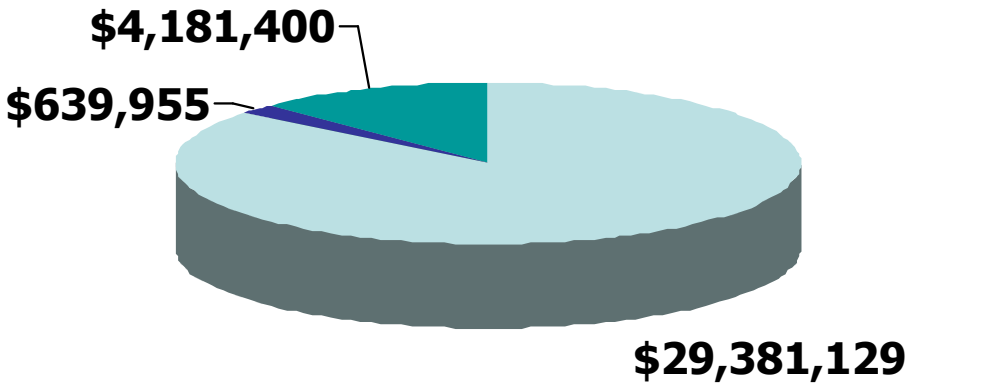
TAMU-C FY 2008 Income by Formula



The Importance of Credit Hours

- All three formulas are driven solely or partly by semester credit hours taught
  - The **Instruction and Operations** formula is driven totally by credit hours
  - The **Teaching Experience** formula is driven by the number of undergraduate credit hours taught by tenured or tenure track faculty
  - The **Infrastructure Support** formula, in addition to credit hours taught, includes academic program mix, staff size, research expenditures, and library collection size.

The financial importance of instruction

- No matter how we feel about it, the fact is that the important ***research*** and ***service*** missions of the university bring with them virtually no direct formula income.

- From the formula's perspective, ***teaching*** is the only thing that counts in generating state funding.

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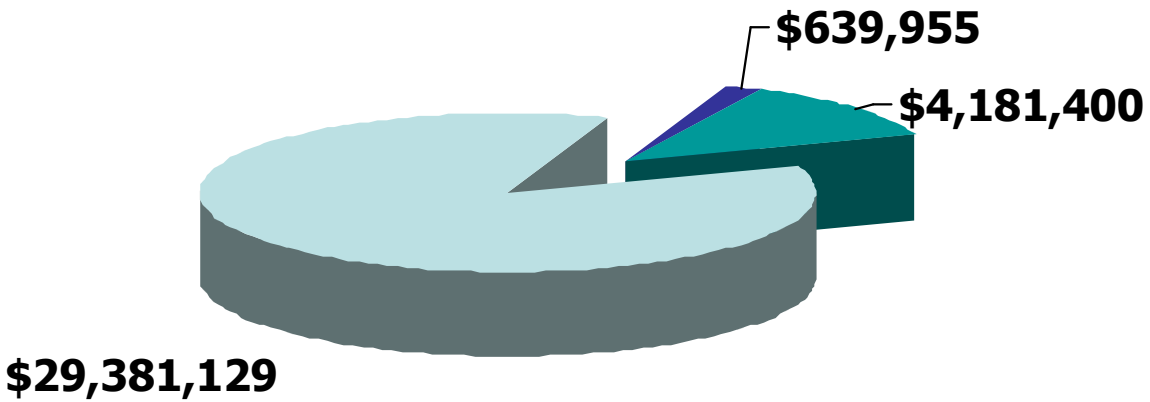
The Instruction and Operations Formula



What functions is it designed to fund?

- Faculty salaries
- Departmental operating expense
- Library
- Instructional administration
- Research enhancement
- Student services
- Institutional support

How does the formula generate funds?

- Two basic concepts:
  - Base Period
  - Weighted Semester Credit Hours

The “Base Period”

- The base period is the 12 month period used to measure the SCH to be included in the appropriations formulas.
- It is the summer and fall of even numbered years and the spring of odd numbered years.
- This “base period” provides the most recent year of semester credit hour data available when the legislature meets in the spring of odd numbered years.
- Base period SCH determines formula appropriations for the next two years.

What are weighted credit hours?

- We are funded by the number of credit hours we teach in the base period, but not all credit hours are funded at the same dollar value.
  - Conceptually, the formula weighting is supposed to reflect the differences in cost related to teaching courses at different levels and different academic fields.
  - Graduate courses, for example, are expected to be taught in smaller class sections than undergraduate classes so graduate credit hours are weighted heavier than undergraduate credit hours.

What are weighted credit hours?

- Courses in different fields are also weighted relative to each other.
  - For example, a credit hour in a lower division History course earns less formula funding than a lower division course in Art or Engineering.
  - All these weightings are displayed in a chart called the “Formula Matrix”.

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The Formula Matrix

Weighting	Lower Div	Upper Div	Masters	Doctoral
Liberal Arts	1.00	1.77	4.01	9.94
Science	1.67	2.93	7.29	20.05
Fine Arts	1.50	2.51	5.65	9.78
Teacher Education	1.33	1.79	2.68	7.70
Agriculture	2.02	2.66	7.13	11.97
Engineering	2.46	3.51	7.39	17.05
Home Economics	1.17	1.83	3.21	7.10
Social Services	1.89	2.09	3.76	12.21
Library Science	1.14	1.21	3.03	7.68
Vocational Training	1.90	2.37	-	-
Physical Training	1.29	1.49	-	-
Health Services	1.70	2.44	4.15	9.92
Business Admin	1.18	1.68	3.70	19.08
Teacher Practice	1.31	1.99	-	-
Technology	1.85	2.42	5.08	-
Nursing	2.73	3.24	5.36	11.79
Developmental Ed	1.00	-	-	-

Weighted Credit Hours

- Weighted credit hours are credit hours taught multiplied by the weighting matrix
- For example:
  - A 3 hour lower division history course with 20 students enrolled would generate 60 weighted SCH (20 students x 3 SCH x 1.00 weight)
  - A 3 hour masters level business course with 20 students enrolled would generate 222 weighted SCH (20 students x 3 SCH x 3.70 weight)
  - A 3 hour doctoral education course with 20 students enrolled would generate 462 weighted SCH (20 students x 3 SCH x 7.70 weight)

Getting from weighted SCH to Instruction and Operations income

- Each biennium, the appropriations act specifies the dollar value of each weighted semester credit hour
  - For FY 08, the value is $59.02 per weighted SCH
- So, looking at our examples again:
  - The lower division history course earned **$3,541** (60 wsch x $59.02)
  - The masters business course earned **$13,102** (222 wsch x $59.02)
  - The doctoral education course earned **$27,267** (462 wsch x $59.02)

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Income from a 3 credit hour class with 20 students enrolled

I/O Income	Lower Div	Upper Div	Masters	Doctoral
Liberal Arts	3,541	6,256	14,224	35,176
Science	5,902	10,388	25,792	71,001
Fine Arts	5,312	8,912	20,008	34,645
Teacher Education	4,722	6,315	9,502	27,267
Agriculture	7,141	9,443	25,261	42,376
Engineering	8,735	12,453	26,146	60,377
Home Economics	4,131	6,492	11,391	25,143
Social Services	6,669	7,378	13,339	43,262
Library Science	4,013	4,308	10,742	27,208
Vocational Training	6,728	8,381	-	-
Physical Training	4,545	5,253	-	-
Health Services	6,020	8,617	14,696	35,117
Business Admin	4,190	5,961	13,102	67,578
Teacher Practice	4,663	7,023	-	-
Technology	6,551	8,558	18,001	-
Nursing	9,679	11,450	19,004	41,727
Developmental Ed	3,541	-	-	-

Teaching Experience Supplement

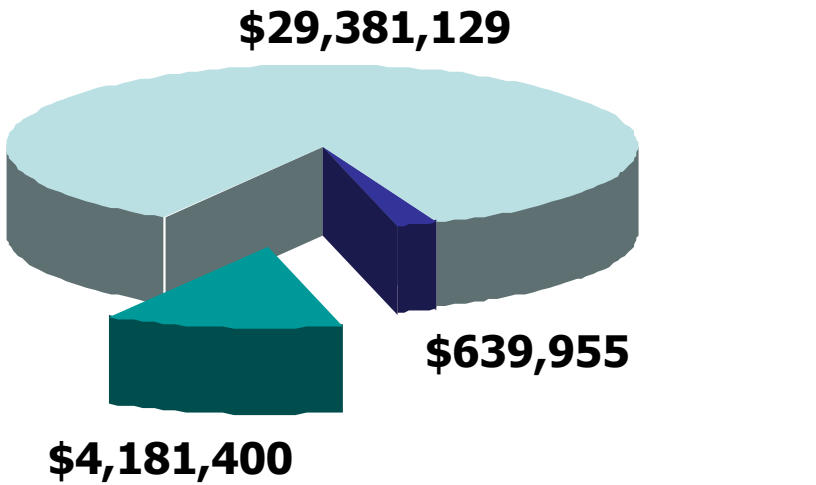
Teaching Experience

- This is a simple add-on to the Instruction and Operations formula.
- Designed to provide bonus or incentive for the institution to assign tenure/tenure track faculty to teach undergraduate students
- For 2008-09 Biennium – extra 10% weight
- The intent is to reward institutions for NOT using TAs and Adjuncts to teach undergraduates.
  - The key thing to remember here is that 0-credit science labs can be taught by TAs without penalty.
  - Only sections that carry credit count.
  - It is the intent of the Legislature that the weight shall increase by 10 percent per biennium, up to 50 percent.

Teaching Experience

- Winning strategies:
  - Remember that the game is weighted undergraduate credit hours taught.
  - Be sure that all the **big** undergraduate classes, especially in highly weighted fields, are taught by tenured or tenure track faculty.
  - As a strategy, this is more important to us financially than losing money trying to teach every small intro class with expensive faculty.
  - At 10% bonus level, there is still not enough extra funding on the table to offset the salary of senior faculty teaching lower division classes of 15 or 20.

Infrastructure Support Formula



Infrastructure Support

- Driven by **predicted square feet** (PSF) derived from the Coordinating Board's space projection model
- ***Not on the space you actually have***
- PSF X Institutional Infrastructure Rate = formula amount

Coordinating Board Space Model

5 Dimensions	Variables
Teaching Space	Programmatic areas and level of SCH
Library Space	FTE faculty, FTE Students, approved programs and # of volumes
Research Space	Research expenditures and FTSE
Office Space	FTE Faculty, FTE non-faculty, and current fund E&G Expenditures
Support Space	9 percent of total predicted square feet for all other factors

Infrastructure Support Formula

	Statewide	TAMUC
Operations & Maintenance (same for all institutions)	$4.05 (44%)	$4.05
– To provide for physical plant, grounds, maintenance, custodial services, etc.		
Utilities (Avg.)	$5.21 (56%)	$5.22
– Includes electricity, natural gas, water, wastewater, thermal energy, debt service costs & utilities personnel costs		
– Rate is adjusted for each institution to reflect local utility rates		
Statewide average Infrastructure Rate/PSF	**$9.26**	**$9.27**

Small School Supplement – provides an additional **$750,000/year** to institutions with a student headcount of less than 5,000

Infrastructure Support

- Winning strategies
  - Remember, the money comes in according to what the model says you **should** have, not what you **do** have.
  - Not a lot of strategies here, but
    - The approach is to control costs where you can and invest in prevention.
    - Be as energy efficient as possible.
    - Keep up with preventive maintenance.

TAMU-Commerce Formula Funding

TAMU-C Formula

TAMU-C Raw Semester Credit Hours

Weighting	Lower Div	Upper Div	Masters	Doctoral
Liberal Arts	30,004	18,789	5,410	848
Science	12,134	9,878	1,465	-
Fine Arts	6,403	4,660	801	-
Teacher Education	3,516	14,875	24,907	3,635
Agriculture	1,662	1,589	298	-
Engineering	1,174	1,124	4,209	-
Home Economics	87	342	204	24
Social Services	504	2,140	2,217	-
Library Science	-	-	381	-
Vocational Training	141	-	-	-
Physical Training	1,954	-	-	-
Health Services	1,704	1,821	9	-
Business Admin	4,661	13,051	11,934	-
Teacher Practice	30	5,268	-	-
Technology	993	2,792	933	-
Nursing	-	-	-	-
Developmental Ed	1,953	-	-	-

The Formula Matrix Weights

Weighting	Lower Div	Upper Div	Masters	Doctoral
Liberal Arts	1.00	1.77	4.01	9.94
Science	1.67	2.93	7.29	20.05
Fine Arts	1.50	2.51	5.65	9.78
Teacher Education	1.33	1.79	2.68	7.70
Agriculture	2.02	2.66	7.13	11.97
Engineering	2.46	3.51	7.39	17.05
Home Economics	1.17	1.83	3.21	7.10
Social Services	1.89	2.09	3.76	12.21
Library Science	1.14	1.21	3.03	7.68
Vocational Training	1.90	2.37	-	-
Physical Training	1.29	1.49	-	-
Health Services	1.70	2.44	4.15	9.92
Business Admin	1.18	1.68	3.70	19.08
Teacher Practice	1.31	1.99	-	-
Technology	1.85	2.42	5.08	-
Nursing	2.73	3.24	5.36	11.79
Developmental Ed	1.00	-	-	-

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TAMU-C Weighted Semester Credit Hours

Weighting	Lower Div	Upper Div	Masters	Doctoral
Liberal Arts	30,004	33,257	21,694	8,429
Science	20,264	28,943	10,680	-
Fine Arts	9,605	11,697	4,526	-
Teacher Education	4,676	26,626	66,751	27,990
Agriculture	3,357	4,227	2,125	-
Engineering	2,888	3,945	31,105	-
Home Economics	102	626	655	170
Social Services	953	4,473	8,336	-
Library Science	-	-	1,154	-
Vocational Training	268	-	-	-
Physical Training	2,521	-	-	-
Health Services	2,897	4,443	37	-
Business Admin	5,500	21,926	44,156	-
Teacher Practice	39	10,483	-	-
Technology	1,837	6,757	4,740	-
Nursing	-	-	-	-
Developmental Ed	1,953	-	-	-

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TAMU-C Instruction & Operations Formula Calculation

	Lower Div	Upper Div	Masters	Doctoral	Total
Liberal Arts	1,770,836	1,962,800	1,280,386	497,487	5,511,509
Science	1,195,968	1,708,189	630,325	-	3,534,482
Fine Arts	566,858	690,333	267,104	-	1,524,295
Teacher Education	275,994	1,571,481	3,939,630	1,651,940	7,439,045
Agriculture	198,144	249,462	125,402	-	573,009
Engineering	170,452	232,848	1,835,788	-	2,239,088
Home Economics	6,008	36,938	38,649	10,057	91,652
Social Services	56,220	263,973	491,986	-	812,179
Library Science	15,811	-	68,134	-	83,946
Vocational Training	148,769	-	-	-	148,769
Physical Training	170,969	-	-	-	170,969
Health Services	324,609	262,240	2,204	-	589,053
Business Admin	2,319	1,294,054	2,606,075	-	3,902,448
Teacher Practice	108,423	618,726	-	-	727,148
Technology	-	398,777	279,734	-	678,510
Nursing	-	-	-	-	-
Developmental Ed	115,266	-	-	-	115,266
Total	5,126,647	9,289,821	11,565,417	2,159,484	28,141,369

Formula Breakdown
Texas A&M University - Commerce

	Actual (base)	%		Net E&G Income		GR		STI & BAT
FY 2008	**Formula Amts.**	**of Total**		**Allocation**		**Allocation**		**Allocation**
Operations Support	28,139,824	85.90%		6,024,536		22,115,288		1,241,305
Teaching Supplement	612,918	1.87%		131,221		481,697		27,037
Infrastructure Support	4,004,743	12.23%		857,387		3,147,356		176,657
TOTAL	**32,757,485**	**100.00%**		**7,013,144**		**25,744,341**		**1,445,000**

Total, Estimated E&G Income	10,201,893
Less:	
TPEG	(1,593,055)
Skiles	-
Organized Activities	(73,195)
Staff GIP	(1,522,499)
NET E&G INCOME	7,013,144
Est. Statutory Tuition Increase (STI)	-
Est. Board Auth Tuition Increase (BAT)	1,445,000
TOTAL	1,445,000

	FY 2008 TOTAL
Operations	29,381,129
Teaching	639,955
Infrastructure	4,181,400
TOTAL	**34,202,484**

AMOUNTS AS THEY APPEAR IN THE APPROPRIATIONS BILL

TAMU-Commerce Formula Funding

Breakeven Analysis

The relationship between formula income, class size, and instructional cost

- FY 2008 average 9 month faculty salary
  - $58,325 for University as a whole
- Average salary per course assuming 8 courses per year (4/4 teaching load)
  - $7,291 ($58,325/8)
- Average salary per course assuming 6 courses per year (3/3 teaching load)
  - $9,721 ($58,325/6)

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Average class size needed to pay average faculty salary cost at 4/4 load using all of the I/O formula income generated

4/4 load ($7,291)	Lower Div	Upper Div	Masters	Doctoral
Liberal Arts	41.2	23.3	10.3	4.1
Science	24.7	14.1	5.6	2.1
Fine Arts	27.5	16.4	7.3	4.2
Teacher Education	31.0	23.0	15.4	5.3
Agriculture	20.4	15.5	5.8	3.4
Engineering	16.7	11.7	5.6	2.4
Home Economics	35.2	22.5	12.8	5.8
Social Services	21.8	19.7	11.0	3.4
Library Science	36.1	34.0	13.6	5.4
Vocational Training	21.7	17.4	-	-
Physical Training	31.9	27.6	-	-
Health Services	24.2	16.9	9.9	4.2
Business Admin	34.9	24.5	11.1	2.2
Teacher Practice	31.4	20.7	-	-
Technology	22.3	17.0	8.1	-
Nursing	15.1	12.7	7.7	3.5
Developmental Ed	41.2	-	-	-

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Average class size needed to pay average faculty salary cost at 4/4 load using all of the I/O formula income generated and Designated & Graduate

4/4 load ($7,291)	Lower Div	Upper Div	Masters	Doctoral
Liberal Arts	16.8	9.5	3.5	1.4
Science	10.0	5.7	1.9	0.7
Fine Arts	11.2	6.7	2.5	1.4
Teacher Education	12.6	9.4	5.2	1.8
Agriculture	8.3	6.3	1.9	1.2
Engineering	6.8	4.8	1.9	0.8
Home Economics	14.3	9.2	4.3	2.0
Social Services	8.9	8.0	3.7	1.1
Library Science	14.7	13.9	4.6	1.8
Vocational Training	8.8	7.1	-	-
Physical Training	13.0	11.2	-	-
Health Services	9.9	6.9	3.3	1.4
Business Admin	14.2	10.0	3.8	0.7
Teacher Practice	12.8	8.4	-	-
Technology	9.1	6.9	2.7	-
Nursing	6.1	5.2	2.6	1.2
Developmental Ed	16.8	-	-	-

The relationship between formula income, class size, and instructional cost – by College

4/4 Teaching Load

- FY 2008 average 9 month faculty salary
  - Business and Technology $73,242
  - Education $53,442
  - Arts and Sciences $55,996

- Average salary per course assuming 8 courses per year (4/4 teaching load)
  - Business and Technology $9,155 ($73,242/8)
  - Education $6,680 ($53,442/8)
  - Arts and Sciences $7,000 ($55,996/8)

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Conclusion

- These are our three main formula income sources
  - We have opportunities to maximize the formula income we generate by working smarter, not harder.
  - Through careful analysis we can discover creative ways to make the formulas work for us more efficiently, in ways that do not “trade quality for income.”

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Finally…

- It is important to grow in weighted semester credit hours at a rate at least as fast as the state as a whole.
- Why? Because the formulas are used as a mechanism to ***distribute*** higher education funding.
- Since formula distribution is a zero-sum game, universities growing slower than average end up with smaller pieces of the funding pie, while fast growing institutions benefit.