

A New ABC Budget Dashboard

Jeff Bell, Tom Rosenow, Jennifer Mays and Jennifer Aceves

Activity Based Costing Model (ABC)

- Our funding for instructional faculty time is allocated by an activity based costing method
- It uses the average costs for different types of instruction (lecture, activity, lab, supervision, and GE, Program, Undergrad, Grad) to determine how much funding each college needs to pay all instructors
- Designed to be an equitable and transparent allocation system
- Is not meant to be proscriptive
 - Units are free to make strategic decisions to spend more in some areas than was allocated for that class of instruction
 - However, it is a zero-sum game, for the budget to balance, units will have to spend less on other instruction

Activity Based Costing Model (ABC)

- Key terms:
 - Full time Equivalent Student (FTES - 15 student credit units for UG, 12 for GRAD)
 - Cost per WTU (full-time faculty salary/15 WTU for temp faculty, 12 WTU for perm faculty)
 - Student Faculty Ratio ($SFR = FTES/[WTU/15]$)
 - Cost per FTES ($FTES/[WTU * Cost\ per\ WTU]$)
 - Cost per FTES is determined by Cost per WTU and SFR
 - Budget Cost per FTES (average of prior years cost per FTES adjusted for changes in budget and faculty costs)
 - Target FTES (four-year FTES growth trend for each college is used in conjunction with any changes in the University FTES target to derive an FTES target for each college)
 - Instructional Budget Allocation ($Budget\ Cost\ per\ FTES * Target\ FTES$)

Activity Based Costing Model (ABC)

- Instructor Budget and Target FTES determine the budget per FTES
- In 19-20 the annual budget for instruction was \$51 million
- The annualized target for FTES was 16,030
- Thus, there was a budget of \$3,198 per annualized FTES, or \$1,599/FTES on a semester basis
- At an average cost of \$2,800/WTU the SFR needed for a balanced budget is 26
 - \$51 million will pay for 18,200 WTU at \$2,800/WTU, 9,100 WTU per semester
 - $SFR = 16,030 \text{ FTES} / [9,107 \text{ WTU} / 15 \text{ WTU}] = 26.4$

ABC Allocation to Colleges

- The ABC budget model allocates ~70% of money based on FTES
- The model allocates more funds to instruction with higher costs per FTES based on what the average costs were in the prior year
 - GE<LD<UD<GRAD (for F19 ~1 GE: 1.21 LD: 1.75 UD: 3 GRAD)
 - Lecture<WI<Activity<Sup<Lab (for F19 ~1 Lect: 1.5 WI: 2 Act: 2.6 Sup: 3 Lab)
 - Varies from ~\$892/FTES for a GE lecture to ~\$7,100/FTES for a GRAD lab
 - Salary adjustment uses average cost per WTU for the college to adjust allocation
 - Business gets 36% more per FTES than BSS to compensate for higher salaries of Business faculty
 - 18 instructional categories by 7 college salary adjustments gives 126 possible Cost per FTES factors (~110 are used as some colleges don't teach in all categories)
- Allocation is based on last year's average cost per FTES and cost per WTU (adjusted for any raises) and uses this year's College target FTES
- There is a new Cognos [ABC dashboard](#), that will show your class costs and ABC budget per FTES amounts.

Other funds

- Remaining 30% of budget allocation is allocated at either the same rate per FTES for all colleges (for staff and administration), by number of majors (\$180 per major), or based on special needs (technical staff salaries, Nursing, etc.)
- CCF, SLF, Lottery, etc. all have their own allocation systems

Cognos ABC Dashboard

Institutional Research (IR) - <http://www.csuchico.edu/ir>

Cognos link is toward the bottom of the home page.

Cognos - <https://bi.csuchico.edu/>

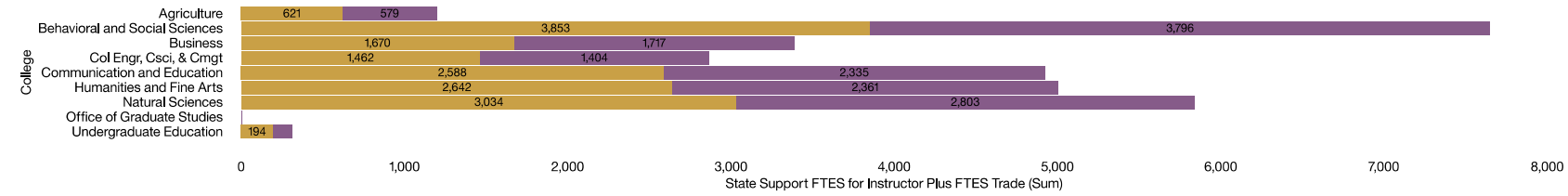
- Team Content → Academic Departments → Department Chairs → ABC Dashboard
- Team Content → Academic Departments → Associate Deans → ABC Dashboard
- The Dashboard can be used to:
 - See if your cost of instruction per student is more or less than the average at Chico
 - See where most of your instruction dollars go
 - Identify types of instruction where you are using more instructional resources per student than is typical at Chico State, and where you are using less
 - Determine the causes of higher or lower expenses per student

College FTES

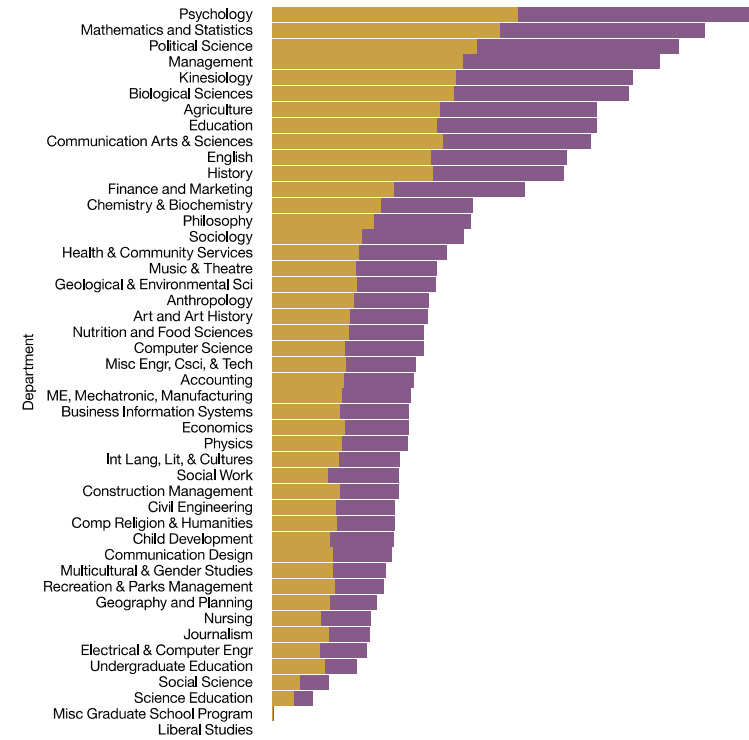
(click a college to filter. click white space in graph to remove filter)

Term

● Fall 2019 ● Spring 2020

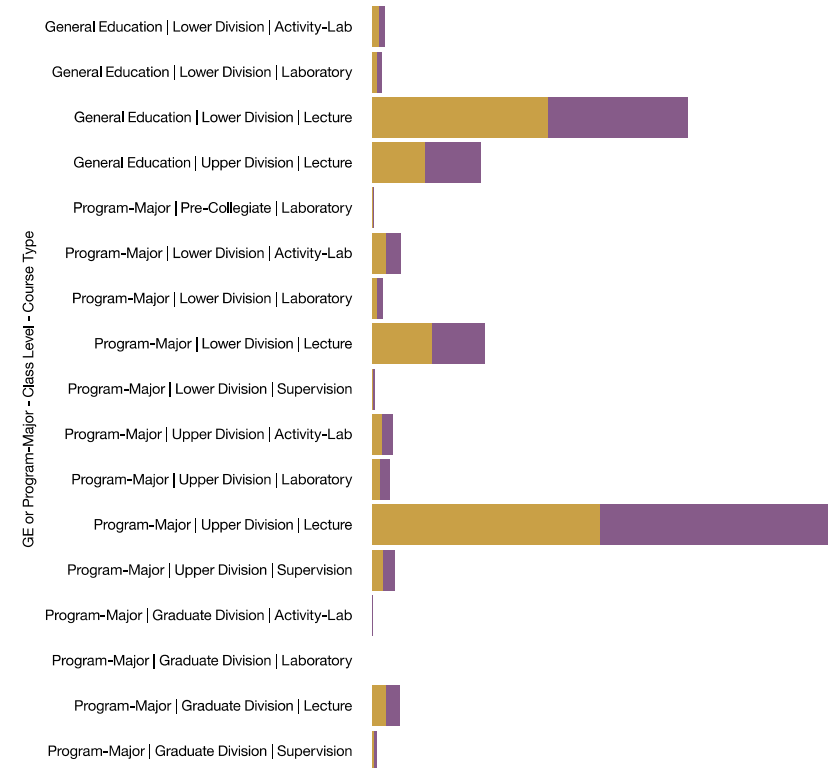


Department FTES (mouse-over to view details)



State Support FTES for Instructor Plus FTES Trade (Sum)

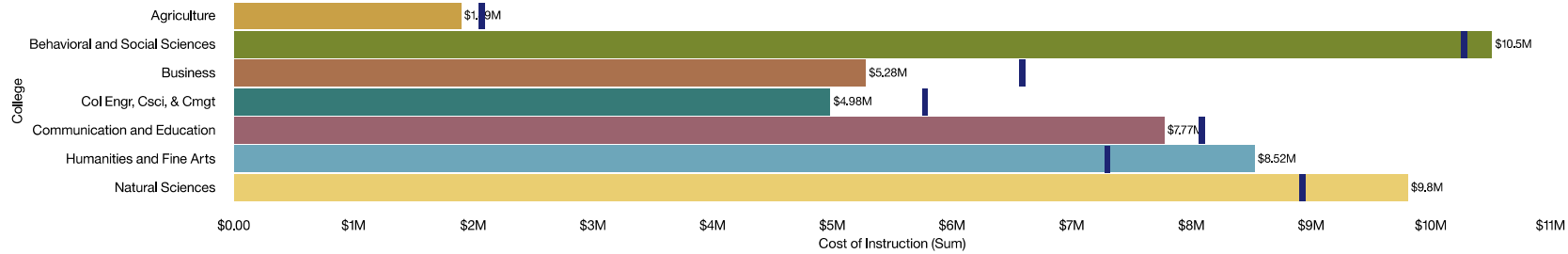
FTES by GE/Class Level/Course Type



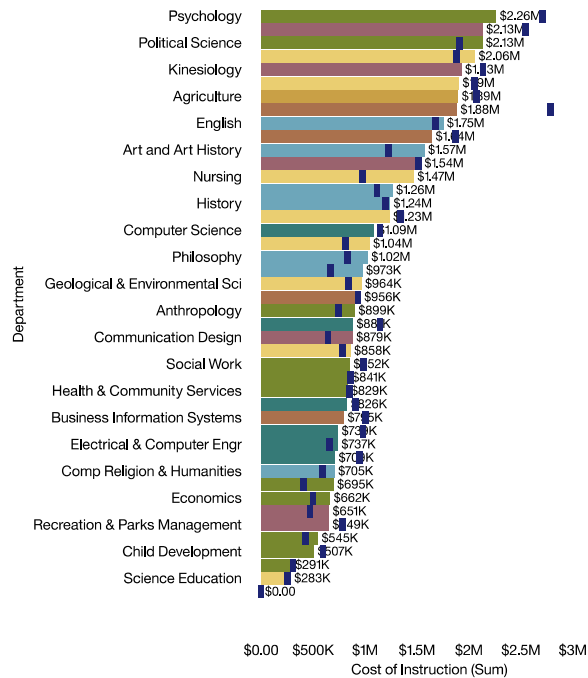
State Support FTES for Instructor Plus FTES Trade (Sum)

College Costs vs ABC Budget Allocation

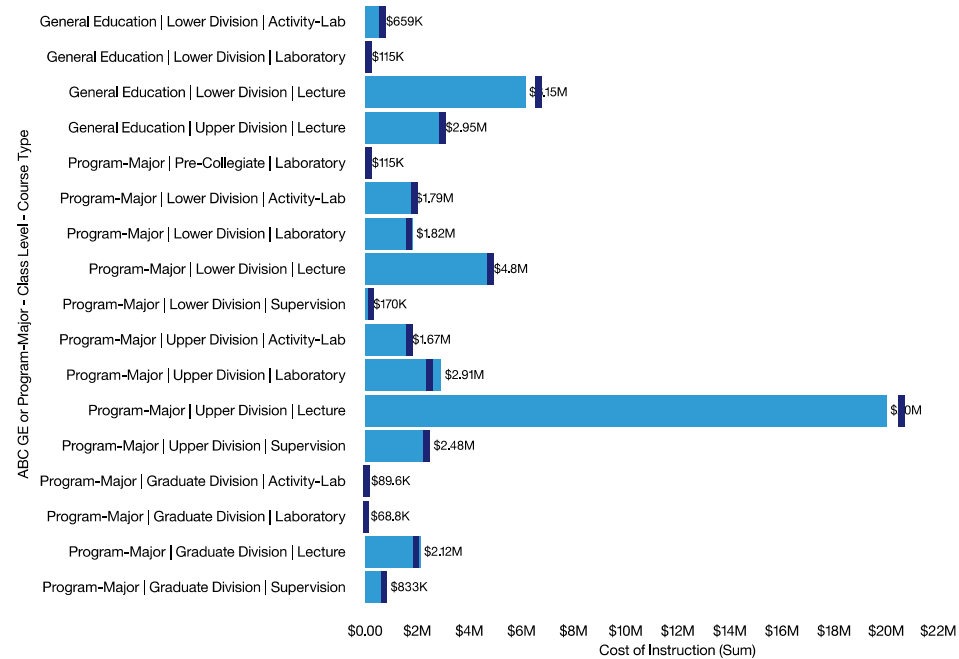
(Dark bar indicates ABC Cost Allocation based upon FTES. Click a college to filter. click white space in graph to remove filter)



Department Costs vs ABC Budget Allocation

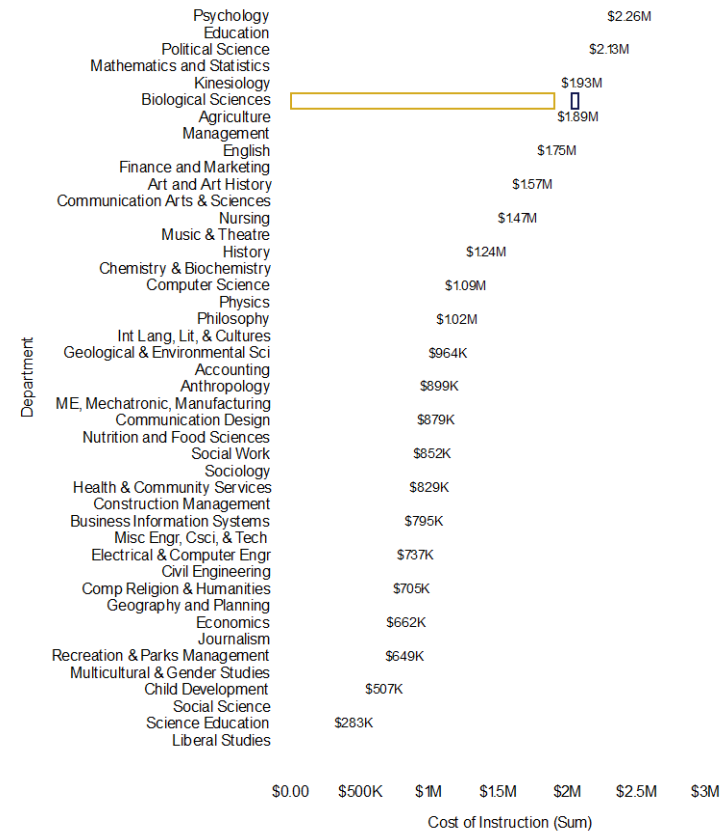


Costs vs ABC Budget Allocation by GE/Level/Type



Biology's costs by type of class

Department Costs vs ABC Budget Allocation

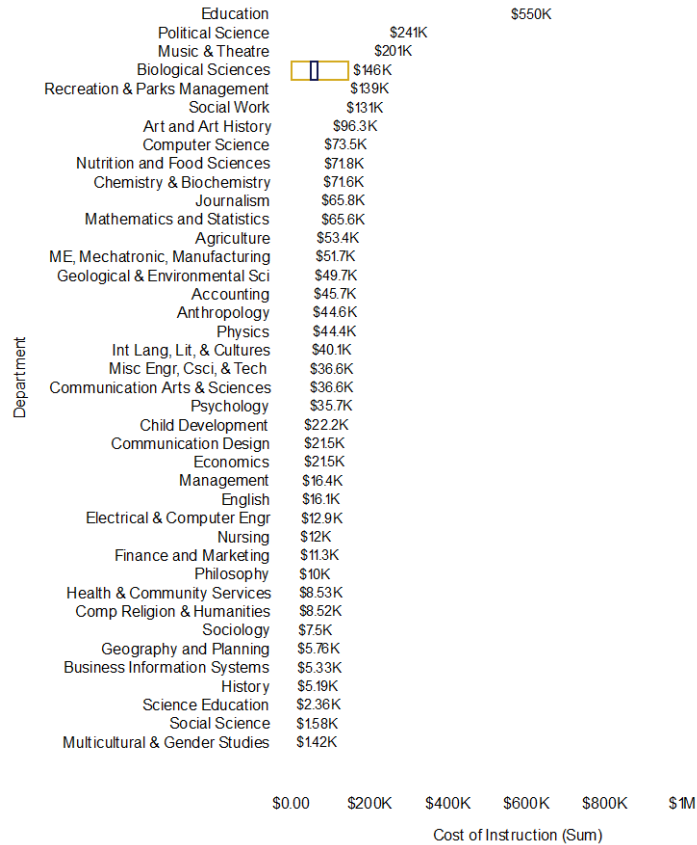


Costs vs ABC Budget Allocation by GE/Level/Type

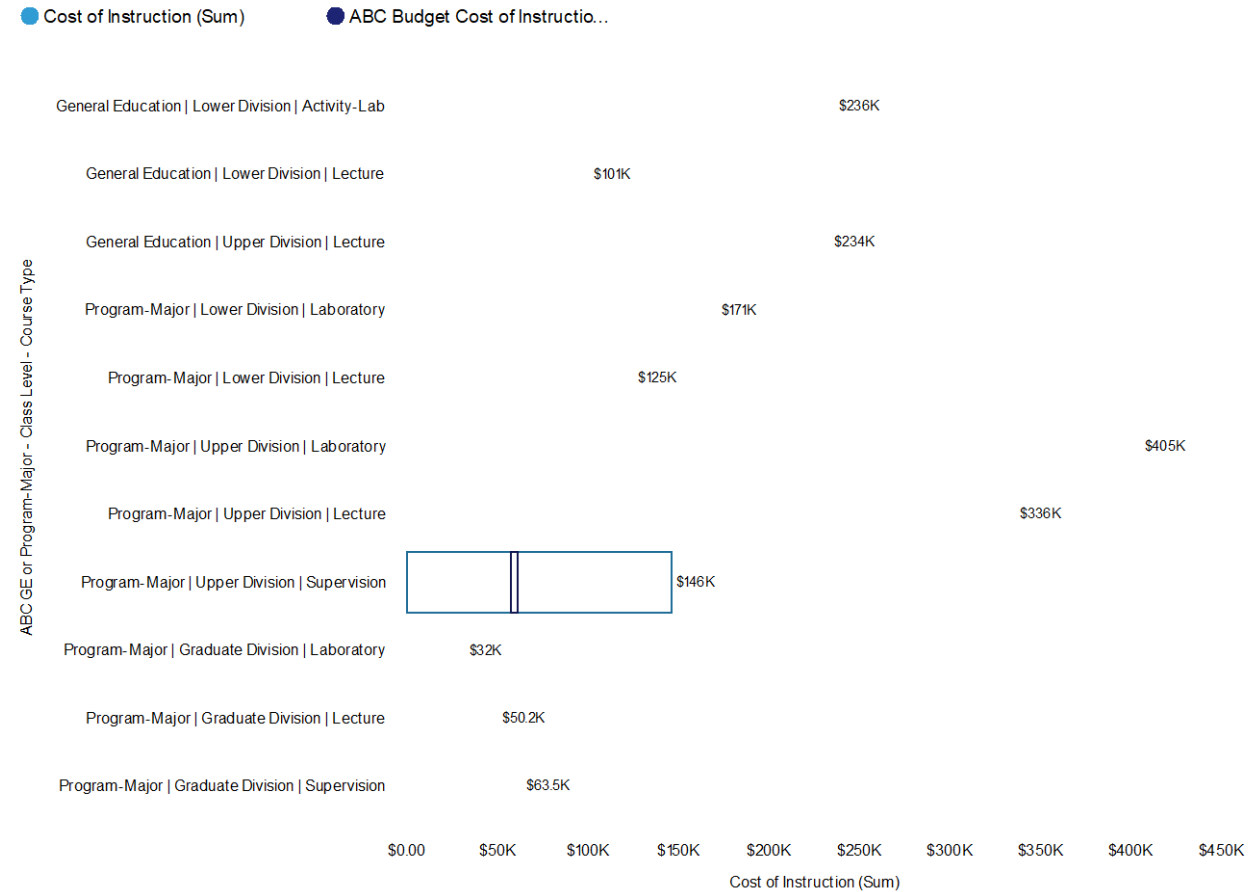


How is everyone else doing with UD supervision?

Department Costs vs ABC Budget Allocation



Costs vs ABC Budget Allocation by GE/Level/Type



SFR

Department SFR (mouse-over to view details)

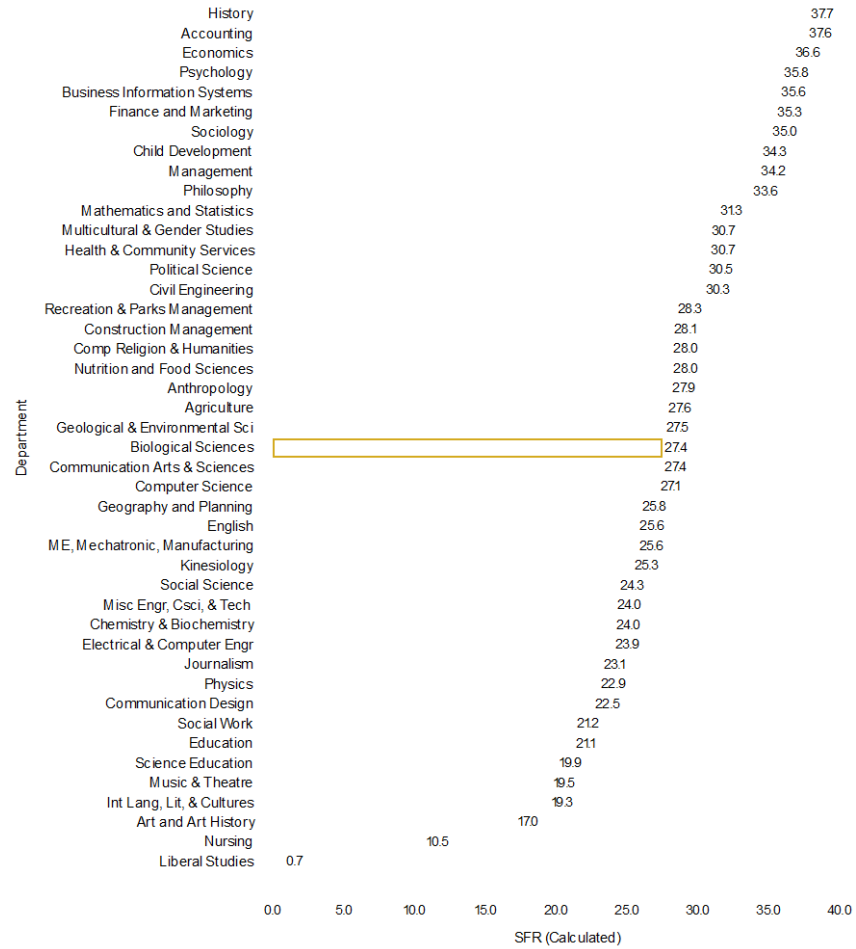


SFR by GE/Class Level/Course Type

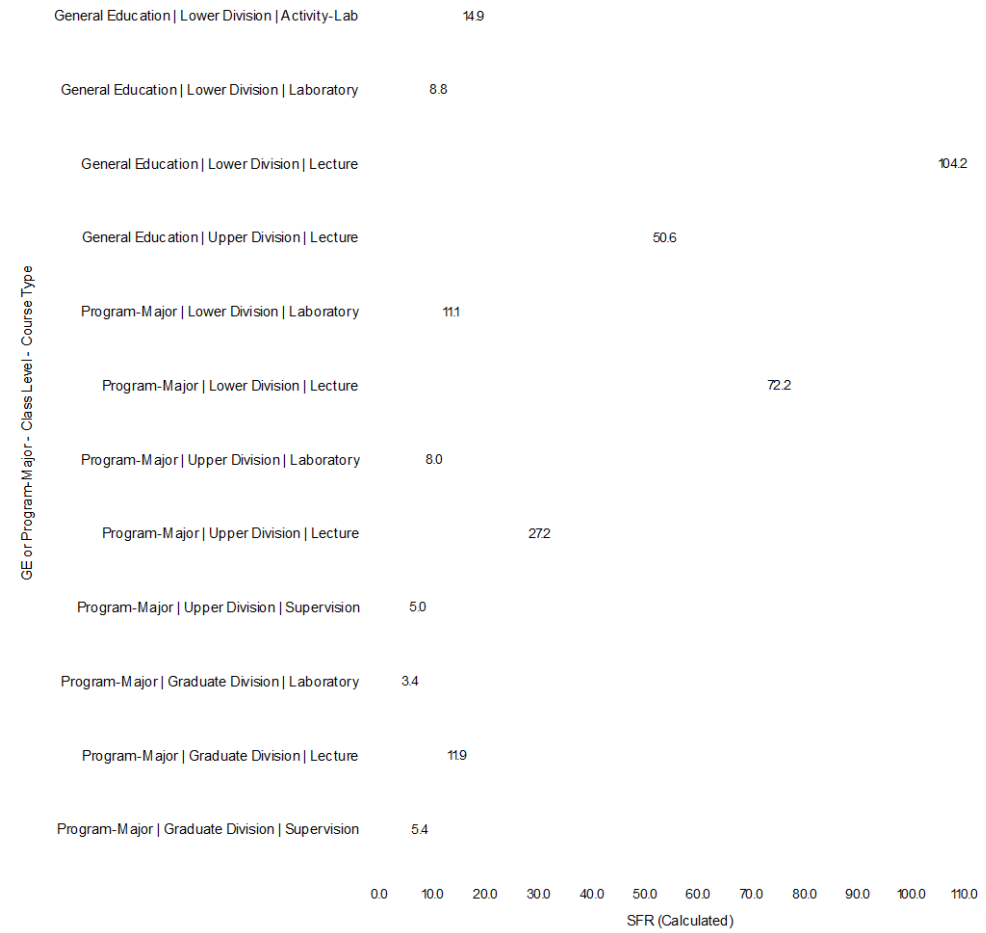


BIOL SFR

Department SFR (mouse-over to view details)

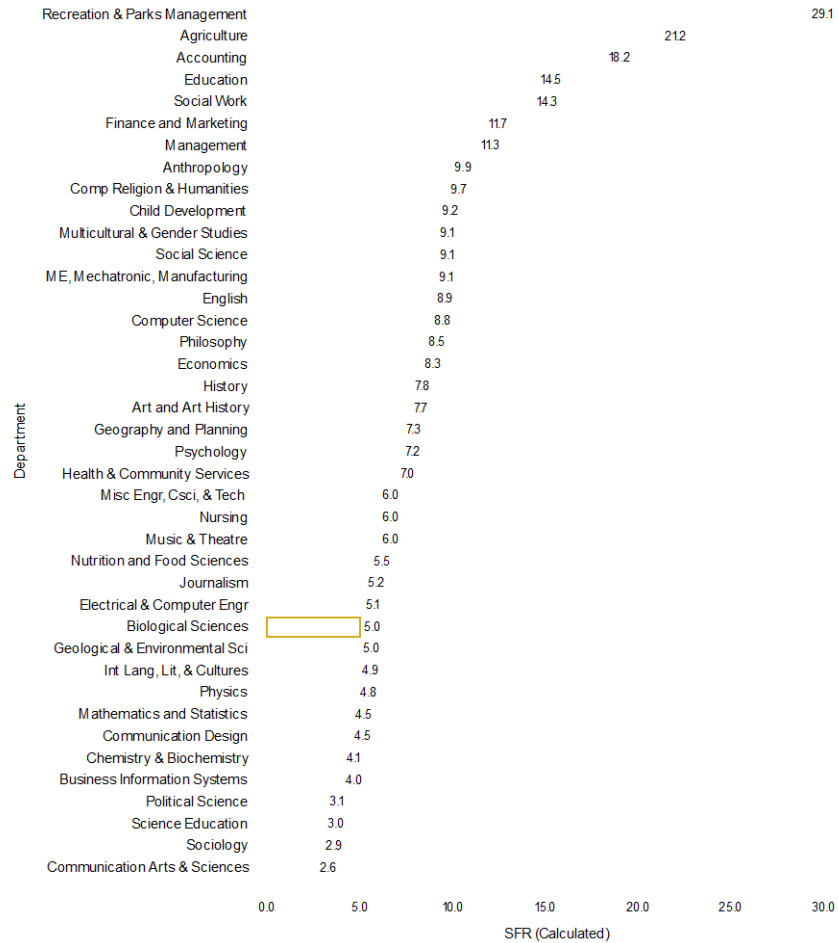


SFR by GE/ Class Level/ Course Type

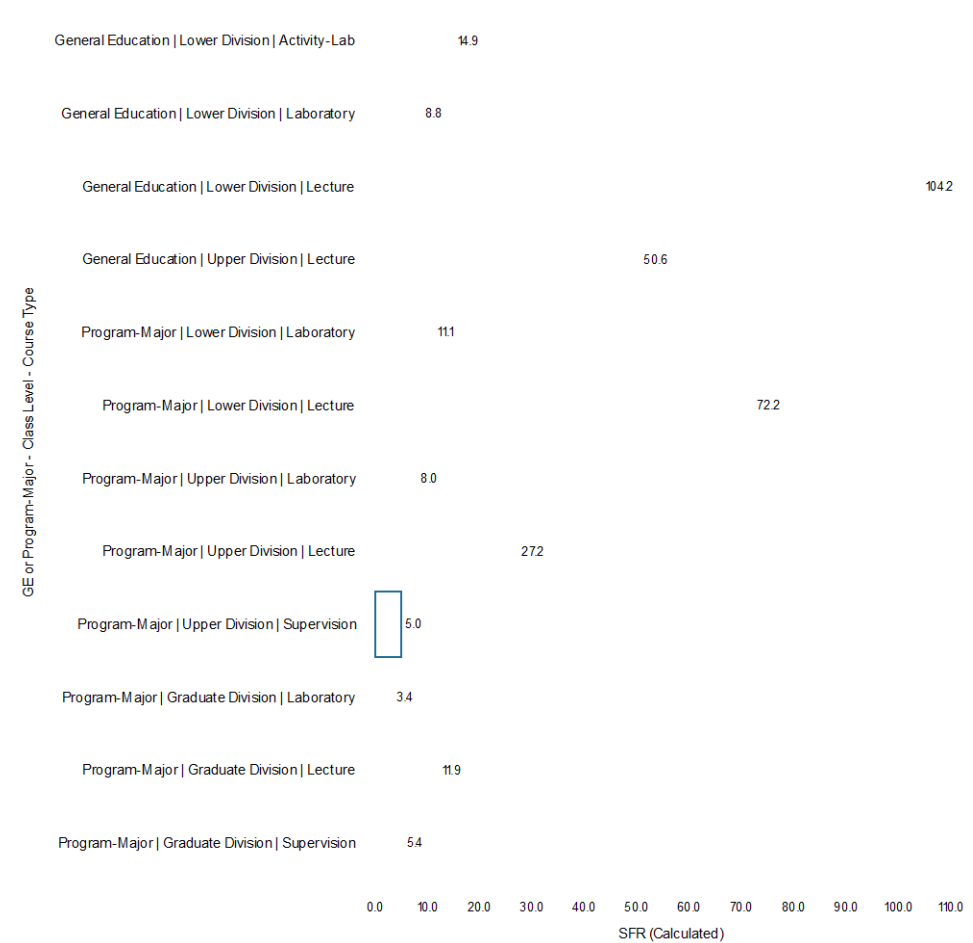


Supervision SFR

Department SFR (mouse-over to view details)



SFR by GE/Class Level/ Course Type



20-21 College Budgets

- Decision was made to not use the ABC Model this year due to large reductions needed – the model produced cuts greater than some colleges could manage
- Instead, we compared fixed instructional salary costs, the instructional allocations produced by running the ABC Model, and the 19-20 base budgets
- Assigned a unilateral first reduction of 4% to each college
- Assigned a proportional second reduction based on each college's remaining flexible dollars
- This gave us the needed overall base college reduction of 4.8% (\$3.5M)
- We plan to go back to using the ABC Model when it is sensible to do so
- Even when not used, comparing a unit's costs to the average costs is useful for seeing where a unit is more expensive or cheaper than the rest of the University

What If and Breakeven Calculations

- What If calculation - Given the instructors cost (cost per WTU) and the type of instruction it is possible to calculate the net gain or loss relative to the ABC budget allocation for any enrollment in a class
 - This can be used before the semester starts to see how the expected enrollment will match up with the budget expectations for different scheduling options
 - Can also be used to see whether proposed courses will add or subtract from the budget
- Breakeven calculation – what is the minimum enrollment where the the ABC allocation exceeds the cost of the class?
- A “[Class Cost WhatIf](#)” excel spreadsheet calculator that does these calculations is available at “[Forms and Guidelines](#)”

Class Cost Calculator

College	All	Choose the College from the pull-down menu as the budget amounts vary slightly between colleges
Breakeven calculator for a single component course (a 3 unt lecture, etc.)		
GE	GE	
GE W class	No	Writing bonus for GE classes only
CLS_LVL	LD	If GRAD then the calculation assumes all enrolled students are graduate students (12 SCU per one FTES)
Component	Lecture	Choose lecture for anything besides an activity, lab or supervision
Units	3	
WTU	3	Instructional WTU (include jumbo WTU if there is any)
Cost Per WTU	\$ 2,018	Cost per WTU for the instructor teaching this component, if team-taught use the two-component table below. This uses the ave Lect B
Instructor Cost	\$ 6,055	This is the amount of money that would be saved if this class was not offered, or the amount needed if the class is offered
ABC Budget/FTES	\$ 848	This is the amount of budget dollars allotted per FTES for this type of class section
Breakeven Enroll	36	This is the enrollment needed for this course to be in the black. Note: there is no breakeven point for supervision units, if the net is neg
Enrolled	40	Put in expected enrollment here
Net	\$ 728.01	This is the net for this enrollment given the budget model

Average ABC Breakeven Enrollments

This table shows the ABC Budget breakeven enrollment needed for some common classes using the 19-20 average instructor cost of \$2,800. Average enrollment needs to be at breakeven

Writing	GE	Class Level	Course Type	ABC Budget/FTES	Breakeven Enrollment	
Y	Y	Lower Division	Lecture	\$ 1,321	34	GE Writing classes need to be full and won't work with full professors
Y	Y	Upper Division	Lecture	\$ 1,321	34	GE Writing classes are barely breakeven for most departments
N	Y	Lower Division	Lecture	\$ 893	50	Lectures have to be large to pay for UD/Grad classes
N	Y	Lower Division	Activity-Lab	\$ 1,748	17	Ave enrollment needed for 1 U act sections with a large (>50) 2 U lecture
N	Y	Lower Division	Laboratory	\$ 2,397	22	Ave enrollment needed for 1 U lab sections with a large (>50) 2 U lecture
N	Y	Upper Division	Lecture	\$ 893	50	Even UD GE needs caps of at least 50
N	N	Lower Division	Lecture	\$ 1,079	41	LD Major's classes can be smaller than GE, but still need to be large
N	N	Lower Division	Activity-Lab	\$ 2,377	13	Ave enrollment needed for 1 U act sections with a large (>38) 2 U lecture
N	N	Lower Division	Laboratory	\$ 3,229	14	Ave enrollment needed for 1 U lab sections with a large (>38) 3 U lecture
N	N	Upper Division	Lecture	\$ 1,563	29	Less than 50% of all Academic plans have this many seniors
N	N	Upper Division	Activity-Lab	\$ 2,924	25	Enrollment needed for a 2 U lecture + 1 U act
N	N	Upper Division	Laboratory	\$ 4,955	23	Enrollment needed for a 3 U lecture + 1 U lab
N	N	Upper Division	Supervision	\$ 4,131	4 units	All low unit supervision courses are negative, and the more students enrolled the worse it gets
N	N	Graduate Division	Lecture	\$ 2,664	14	Less than 50% of all Academic plans have this many Master's
N	N	Graduate Division	Activity-Lab	\$ 6,242	11	Enrollment needed for a 2 U lecture + 1 U act
N	N	Graduate Division	Laboratory	\$ 7,106	12	Enrollment needed for a 3 U lecture + 1 U lab
N	N	Graduate Division	Supervision	\$ 5,494	4 units	
N	N	Pre-Collegiate	Activity-Lab	\$ 1,926	30	

ABC Budget Breakeven for a Lecturer B

This table shows the ABC Budget enrollment needed for some common classes using the 19-20 average Lect B cost of \$2,018. This is the enrollment needed to add a new section if all other sections are full (or the cutoff for cancelling a section even if all other sections are full)

Writing (GE)	Class Level	Course Type	ABC Budget/FTES	Breakeven - Lecturer B	
Y	Y	Lower Division Lecture	\$ 1,321	25	
Y	Y	Upper Division Lecture	\$ 1,321	25	
N	Y	Lower Division Lecture	\$ 893	36	
N	Y	Lower Division Activity-Lab	\$ 1,748	12	Enrollment needed to add a 1 U act section with a large (>50) 2 U
N	Y	Lower Division Laboratory	\$ 2,397	16	Enrollment needed to add a 1 U lab section with a large (>50) 2 U
N	Y	Upper Division Lecture	\$ 893	36	
N	N	Lower Division Lecture	\$ 1,079	30	
N	N	Lower Division Activity-Lab	\$ 2,377	10	Enrollment needed to add a 1 U act section with a large (>41) 2 U
N	N	Lower Division Laboratory	\$ 3,229	10	Enrollment needed to add a 1 U lab section with a large (>41) 3 U
N	N	Upper Division Lecture	\$ 1,563	21	
N	N	Upper Division Activity-Lab	\$ 2,924	7	Enrollment needed to add a 1 U act section with a large (>26) 2 U
N	N	Upper Division Laboratory	\$ 4,955	7	Enrollment needed to add a 1 U lab section with a large (>26) 3 U
N	N	Upper Division Supervision	\$ 4,131	3 units	All low unit supervision courses are negative, and the more students