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TEXAS A&M UNIVERSITY
Office for Student Success



TEXAS A&M UNIVERSITY
Center for Teaching Excellence

Open Educational Resources and Texas A&M's Student Success Initiative: Evidence of Impact

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Open Texas 2021

Texas A&M as a Land Grant Institution

Passage of the First Morrill Act (1862) reflected a growing demand for agricultural and technical education in the United States.

Higher education was still widely unavailable to many agricultural and industrial workers.

The Morrill Act was intended to provide a broad segment of the population with a practical education that had direct relevance to their daily lives.



Are We Educating A “Broad Segment” of Texas?

ACCESS

What kind of students attend Texas A&M

■ Among the lowest □ About typical ■ Among the highest

IN TEXAS AMONG HIGHLY
SELECTIVE PUBLIC
COLLEGES

Median family income	\$130,900	■	■
Average income percentile	76th	■	□
Share of students from top 0.1%	<1%	■	■
...from top 1%	4.2%	■	■
...from top 5%	23%	■	■
...from top 10%	40%	■	■
...from top 20%	59%	■	■
...from bottom 20%	4%	■	□

(\$166,200*)

(\$131,350*)

NY Times using data from Dr. Ray Chetty, Opportunity Insights, Harvard University
<https://www.nytimes.com/interactive/projects/college-mobility/texas-am-university>

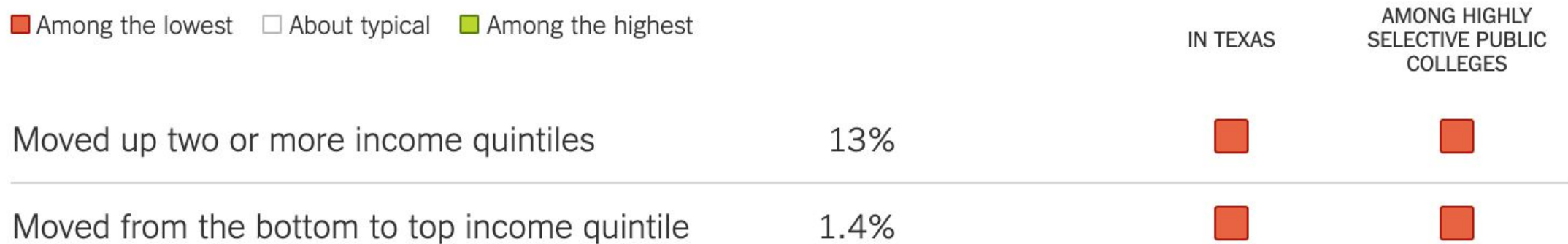
* <https://www.usatoday.com/story/money/2020/11/20/income-it-takes-to-be-considered-rich-in-every-state/114967522/>

Social Mobility of Texas A&M Students

MOBILITY

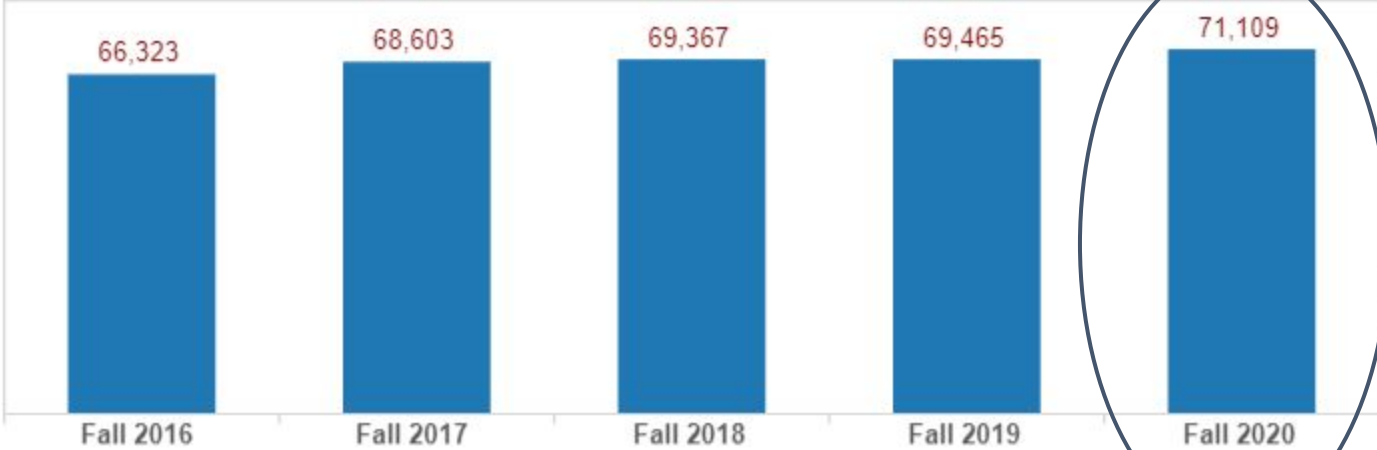
Share of students at Texas A&M who ...

■ Among the lowest □ About typical ■ Among the highest

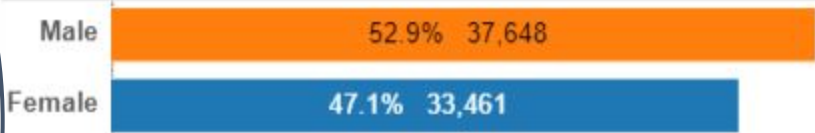


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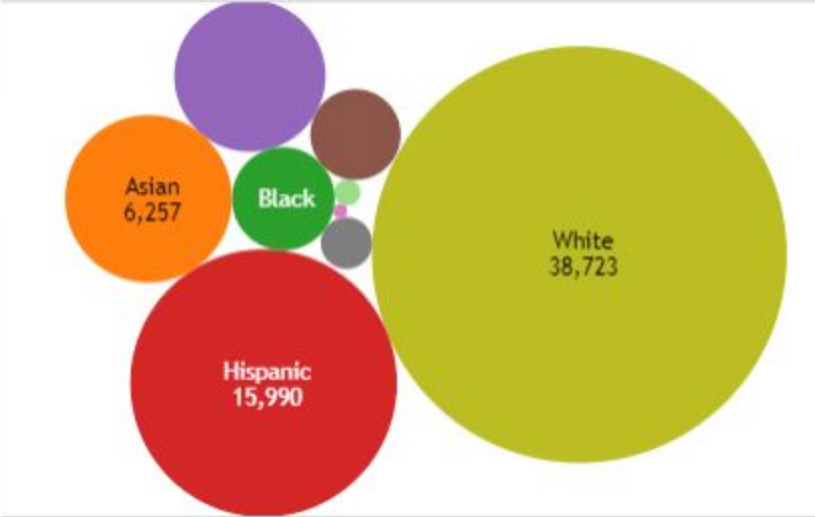
Student Headcount by Term



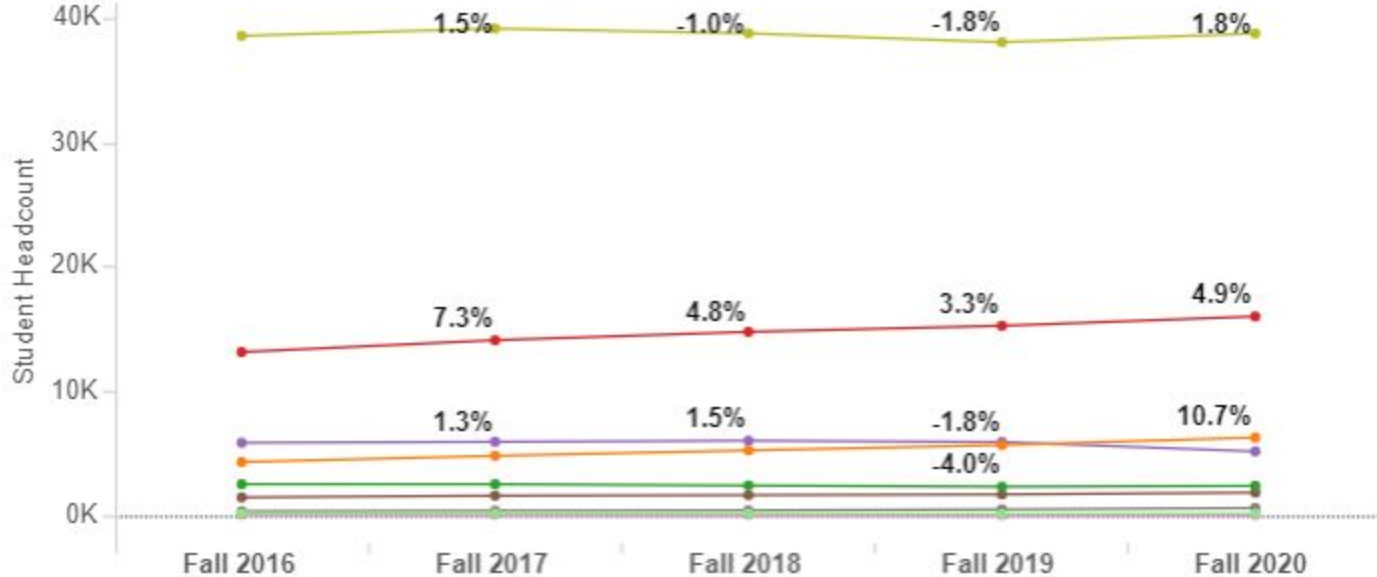
Headcount by Gender for Fall 2020
Ethnicity: All



Ethnicity Breakdown for Fall 2020



Difference From Term to Term by Ethnicity



Ethnicity

- Asian
- Black
- Hispanic
- International
- Multi-racial excluding Black
- Native American
- Native Hawaiian
- Unknown/Not Reported
- White

Cross Table by Ethnicity - First Generation Students (out of 56,205 undergraduates)

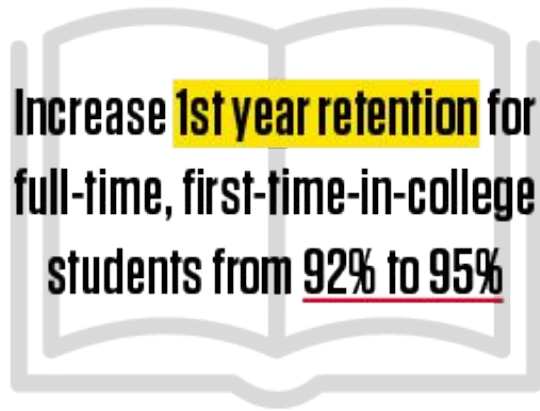
		Asian	Black	Hispanic	International	Multi-racial excluding Black	Native American	Native Hawaiian	Unknown/ Not Reported	White	Yearly Total
Fall 2016	Male	490	340	2,731	* Small Cell Size	102	11	5	5	2,604	6,291
	Female	427	487	2,899	* Small Cell Size	129	13	10	* Small Cell Size	2,993	6,962
	Total	917	827	5,630	* Small Cell Size	231	24	15	8	5,597	13,253
Fall 2017	Male	540	329	2,877	10	118	13	7	* Small Cell Size	2,622	6,520
	Female	458	485	3,065	6	128	13	10	* Small Cell Size	2,970	7,137
	Total	998	814	5,942	16	246	26	17	6	5,592	13,657
Fall 2018	Male	573	319	2,998	25	116	14	5	6	2,539	6,595
	Female	471	454	3,188	13	135	11	9	* Small Cell Size	2,798	7,082
	Total	1,044	773	6,186	38	251	25	14	9	5,337	13,677
Fall 2019	Male	621	304	2,950	39	120	14	5	8	2,388	6,449
	Female	461	391	3,262	25	125	8	7	5	2,577	6,861
	Total	1,082	695	6,212	64	245	22	12	13	4,965	13,310
Fall 2020	Male	640	270	2,947	69	131	16	* Small Cell Size	9	2,302	6,388
	Female	459	370	3,367	55	120	9	5	6	2,484	6,875
	Total	1,099	640	6,314	124	251	25	9	15	4,786	13,263

Cross Table by Ethnicity - Students whose families make less than \$60,000 (out of 56,205 undergraduates)

		Asian	Black	Hispanic	International	Multi-racial excluding Black	Native American	Native Hawaiian	Unknown/ Not Reported	White	Yearly Total
Fall 2016	Male	103	70	399	* Small Cell Size	23	* Small Cell Size		* Small Cell Size	224	822
	Female	97	94	466		21				287	965
	Total	200	164	865	* Small Cell Size	44	* Small Cell Size		* Small Cell Size	511	1,787
Fall 2017	Male	126	38	509		21	* Small Cell Size	* Small Cell Size		293	990
	Female	96	93	595		28		* Small Cell Size		299	1,112
	Total	222	131	1,104		49	* Small Cell Size	* Small Cell Size		592	2,102
Fall 2018	Male	149	57	503	* Small Cell Size	23	* Small Cell Size			268	1,006
	Female	97	80	588	* Small Cell Size	17	* Small Cell Size			243	1,028
	Total	246	137	1,091	5	40	* Small Cell Size			511	2,034
Fall 2019	Male	146	37	438	* Small Cell Size	21	* Small Cell Size			203	848
	Female	109	78	581		15	* Small Cell Size		* Small Cell Size	238	1,023
	Total	255	115	1,019	* Small Cell Size	36	* Small Cell Size		* Small Cell Size	441	1,871
Fall 2020	Male	92	34	379	* Small Cell Size	19	* Small Cell Size			190	717
	Female	104	58	537	* Small Cell Size	13	* Small Cell Size			256	970
	Total	196	92	916	* Small Cell Size	32	* Small Cell Size			446	1,687

We Can Do Better...

Texas A&M's Student Success Initiative



We must help students connect to the university, remove barriers to success, and reduce achievement disparities, ensuring that all who enroll at Texas A&M University have our fullest measure of support.

Enhancing the Design of Gateway Experiences (EDGE) Program

- Focus on required, high enrollment courses
 - Gateways for remaining in a major
 - Bottlenecks for student success
- Faculty-driven course redesign
- Implement advising/early alert system
- (Some) Adapt/author OER



EDGE Grant Program

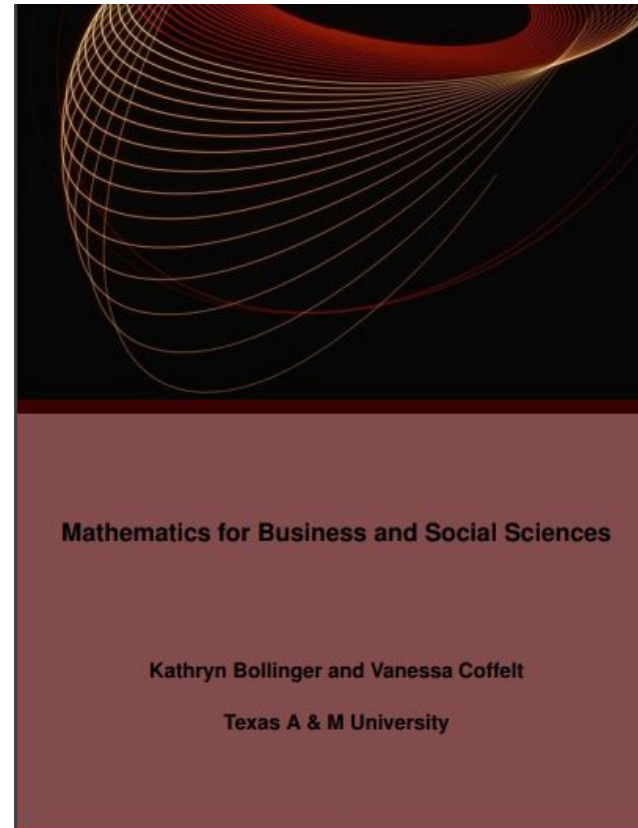
- Three-year commitment
 - Yr 1 – Course redesign with Center for Teaching Excellence. All sections. Non-negotiable. Evidence of redesigned course (learning outcomes, assessments, syllabus, etc. – *must include common assessment*).
 - Yr 2 – Implement redesigned course across all sections. Monitor results. Reflect on grade outcomes for various groups and plan for improvement.
 - Yr 3 – Implement improved re-designed course across all sections.
- Began with \$33k/per year for Biology & Chemistry. Had to include both courses.
- Discontinued above formula when working with Mathematics

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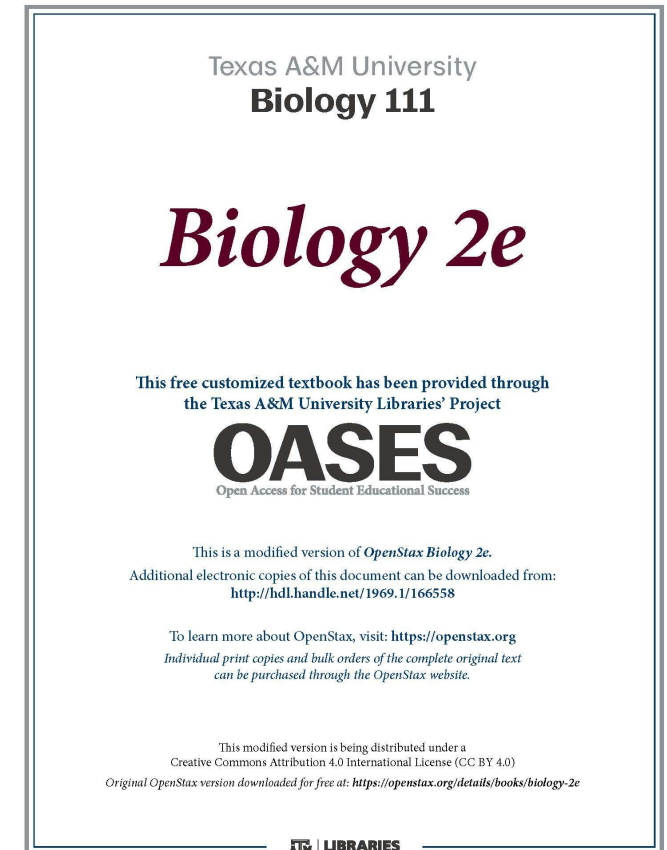


New OERs from Texas A&M



Authored OERs for
Business Math course
sequence

<https://oaktrust.library.tamu.edu/handle/1969.1/188687>



Adapted Openstax OER
for Intro BIOL course
sequence

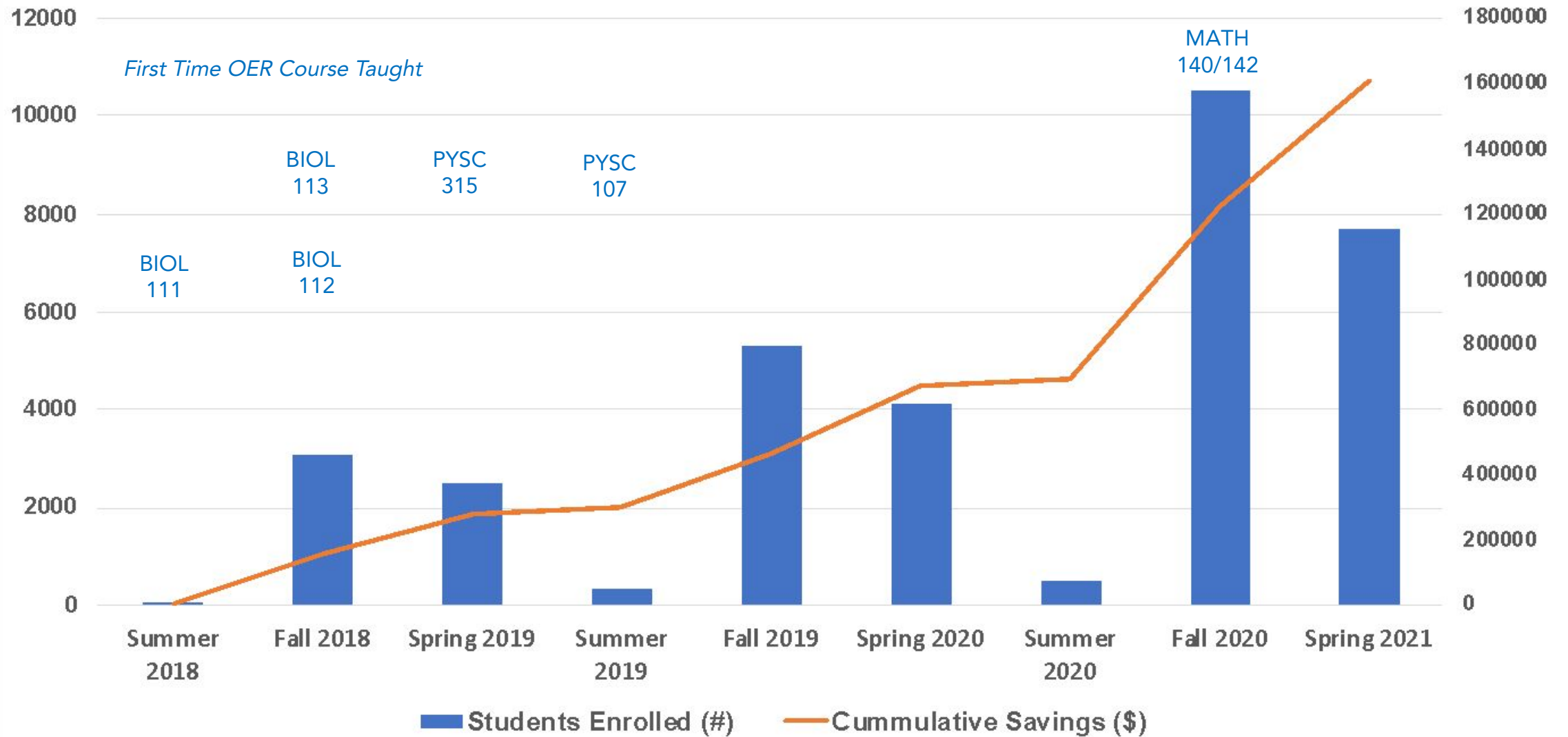
<https://oaktrust.library.tamu.edu/handle/1969.1/166558>

Libraries' OER Program

Partners with EDGE Teams

- Subject liaison & scholarly communications librarians
- Services
 - Search for existing OERs
 - Buy Library eBooks with unlimited seat licenses
 - Copyright and creative common licenses
 - Authoring conventions
 - Publishing to institutional repository
 - Metrics
- Small monetary awards
- Support for awards or promotion

Impact of Texas A&M OER Adoptions



Biology & Chemistry: Fall 2018 v. Fall 2019

Biology – D/F/W rates

TERM	N	OVERALL	URM	FG	<\$60K
2018C	2,006	19%	36%	29%	29%
2019C	2,000	15%	20%	22%	20%

- Redesign laboratory with common lab exams
- Unified syllabus for all sections
- Common learning objectives for each chapter
- Early alerts from professor in every section
- All course materials are OER
- Weekly online low-stakes homework (LMS)
- No-stakes engagement in class (bonus)
- Daily reminders about academic resources.

Chemistry – D/F/W rates

TERM	N	OVERALL	URM	FG	<\$60k
2018C	3,193	25%	34%	39%	31%
2019C	3,313	16%	24%	29%	25%

- Combined laboratory and lecture courses
- TA workload shifted toward teaching v grading
- TA evaluation program improved
- Utilize lab to focus on lecture reinforcement
- Early low-stakes mini-exam added to lecture
- Metacognitive exercises introduced in lecture
- Collaborative problem solving sessions (clickers)

Take Home Message:

Student
Success
requires...

Move from adopting OERs
to.....

Adapting OERs so they align
with redesigned courses!

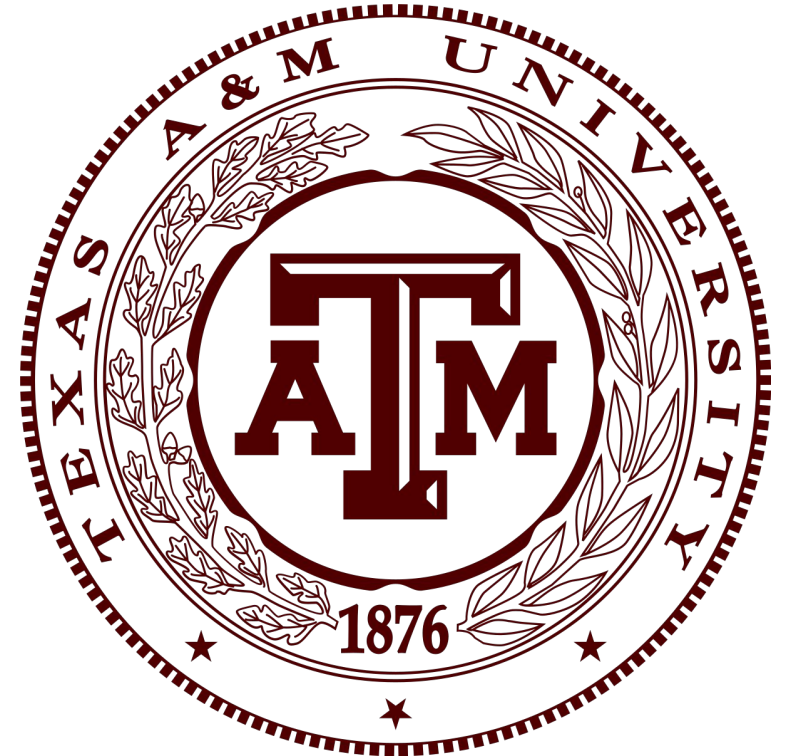
Systemic challenges require
systemic responses: combine
OERs with other interventions.

We are more than happy to meet with groups via Zoom to discuss your OER program, as well as what we learned from ours. Please feel free to reach out via email.

Thank you

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Samantha Shields,
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Answers to Questions Asked via Chat

1. Can you share the rubric from the math folks? [MATH Textbook Scoring Rubric](#)
2. OERs in online labs for the sciences? For the most part, yes, but we haven't published them yet. We do use a few online videos that the TAMU libraries has a subscription to, but other than that, everything is homegrown and/or from OpenStax. We are hoping to start publishing a bunch of it in [CourseSource](#) in the coming year.
3. Are there assumptions made that low income level students have the highest percentage of failing students? This was data driven...I just do not have access to that data. What was identified as having the greatest impact on grade success- being first generation or income? Not sure we know that, but I can ask. Is there an assumption that first generation students are in the lower income? We are actually able to filter for that at the [accountability.tamu.edu](#).
4. Did the redesigned programs and adapted OER materials require extensive compliance efforts for accreditation purposes? I am not sure which accreditation purposes this is referring to, but no. We took a pure course design approach, driven by the course learning outcomes.
5. Do you know what the average compensation was per faculty member for doing the OE course redesigns? For MATH instructors, they received course buyouts...not additional compensation. Additional instructors were then hired to cover the teaching load.
6. What program did the faculty use to "write/modify" the textbooks? MATH used Overleaf.
7. You mentioned that professors were lecturing on the same material in the OER's they published. Were you mentioning this as a positive of your institution's OER initiative or something that needs to be improved upon? My intention was positive...all items are course instructor created! All course materials are truly aligned - course learning outcomes, the OER textbook, the class notes, the online HW system, and the in-class assessments.
8. How are test banks and homework handled. Often commercial textbooks supply these extras, esp. for huge classes. The MATH group is working with Edfinity to also code and create aligned homework assignments.