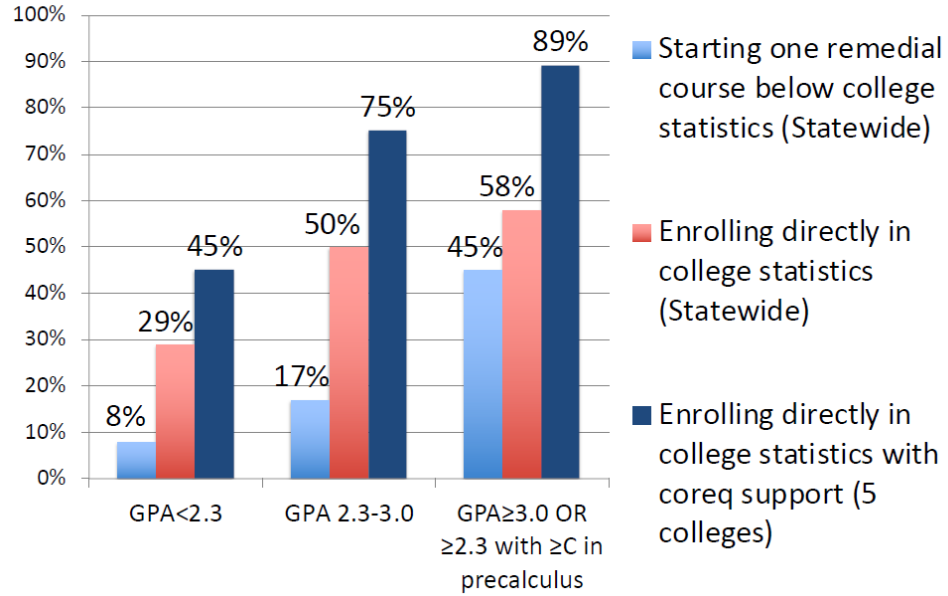
FLEX Spring 2022

Curriculum updates and OER

Jennie Graham, Alain Olavarrieta, David Powers,
with contributions from Michael Peterson

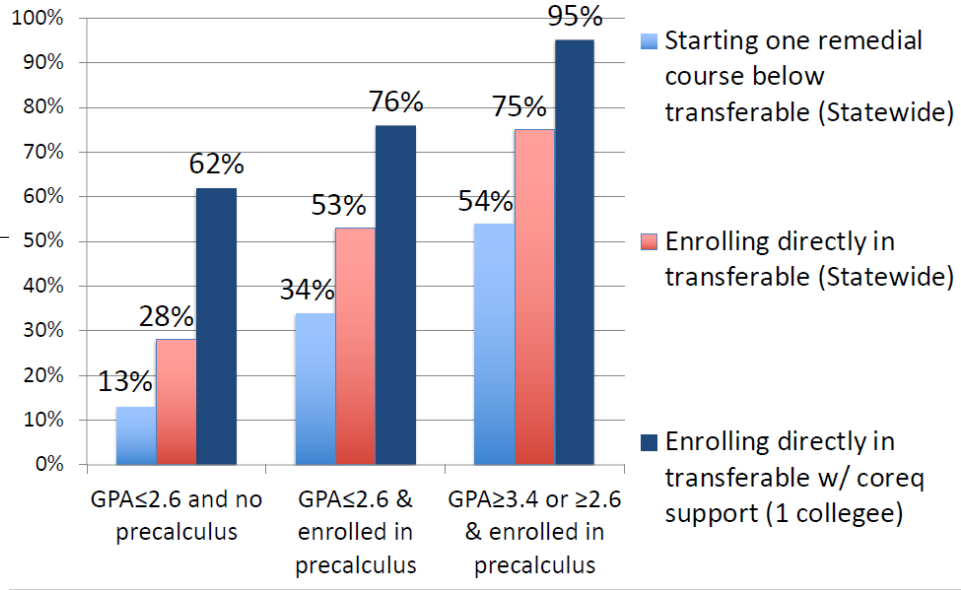
Completion of College Statistics

Multiple Measures Assessment Project



Completion of Transferable BSTEM Math

Multiple Measures Assessment Project



AB 705 Bill Text

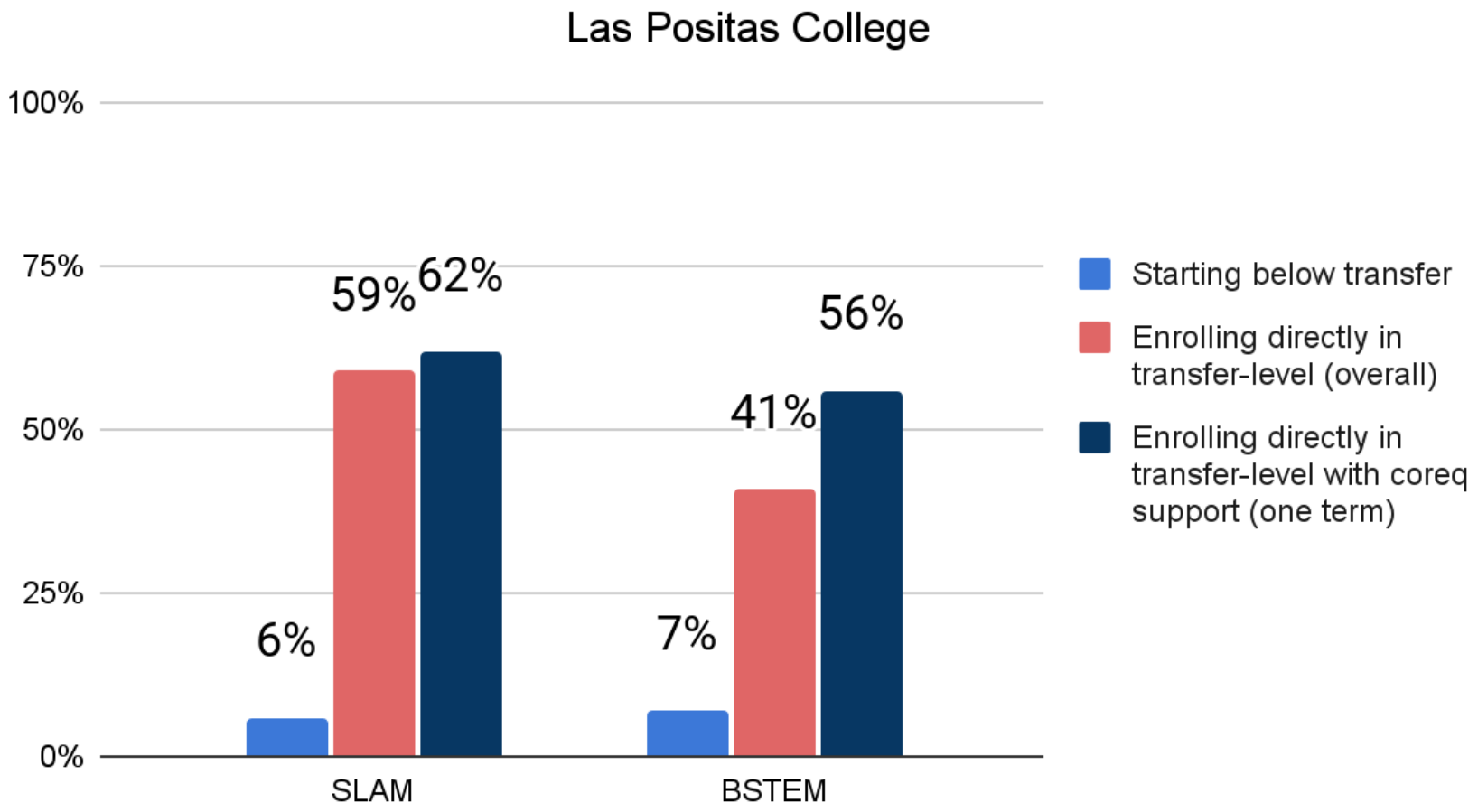
A community college district or college shall **maximize the probability** that a student will enter and complete transfer-level coursework in English and mathematics **within a one-year timeframe …**

From New Chancellor's Office Memo, Fall 2021

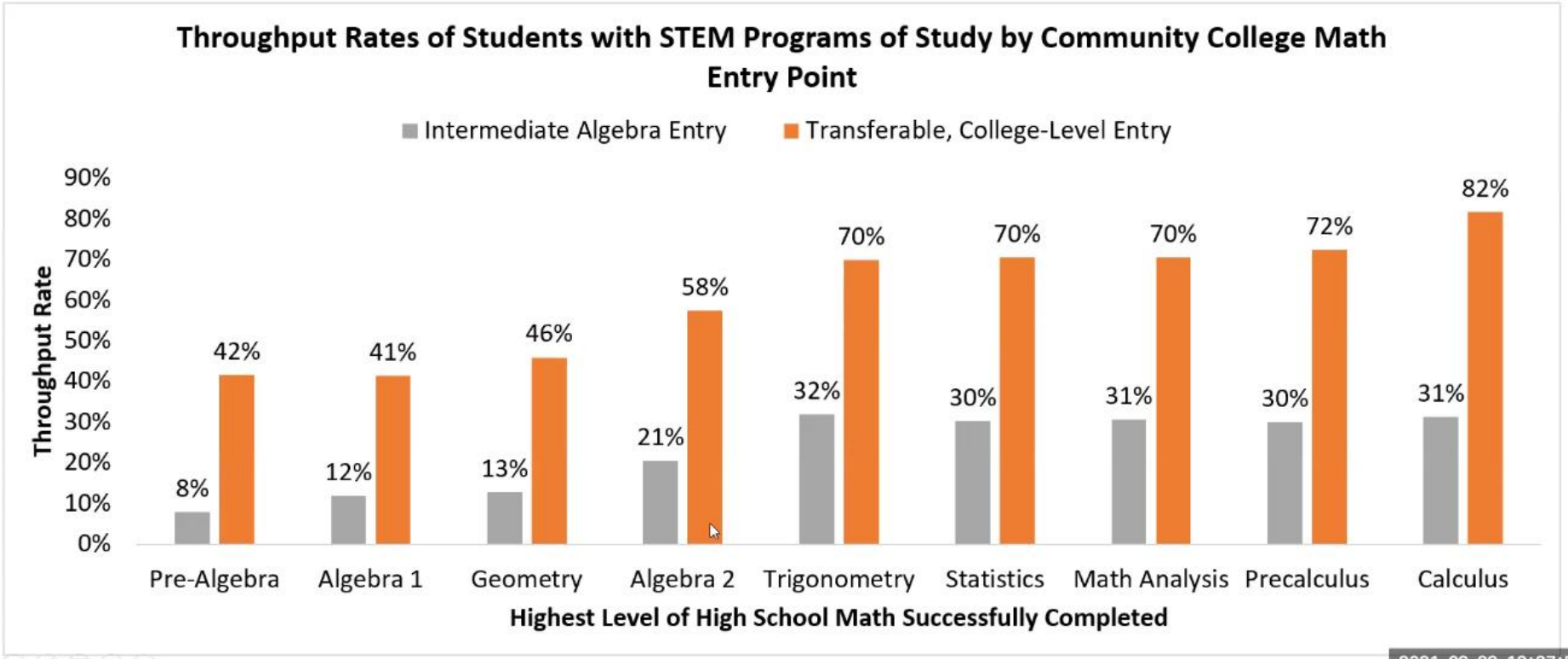
By fall 2022, the California Community College system must complete full implementation of the law and associated regulations …

… all U.S. high school graduate students, both new and continuing, in certificate, degree or transfer programs, will be placed into ***and enroll in*** transfer-level English and math/quantitative reasoning courses (whether with or without support) where English and math requirements exist.

Completion of Transferable Math



STEM Students' Math Throughput



As of Summer 2022

Concurrent support or Math Jam will be ***required*** for students based on high school background

For **BSTEM**, support required for students with:

- Highest class successfully completed below Algebra 2
- Highest class successfully completed was Algebra 2 AND cumulative GPA under 2.6

For **SLAM**, support required for students with:

- Highest class successfully completed below Algebra 2 AND cumulative GPA under 2.6
- Highest lass successfully completed was Algebra 2 AND cumulative GPA under 2.3

Concurrent Support will also be highly recommended for other students, including some Calculus students

What does this mean for Fall 2022?

	Number of Sections Offered		
	Fall 2018	Fall 2020	Fall 2022
Pre-algebra (Math 107/NMAT 207)	6	8	0
Elementary algebra (Math 110/NMAT 210)	13	8	0
Intermediate algebra for SLAM (Math 50/NMAT 250)	5	2	0
Intermediate algebra for BSTEM (Math 55/NMAT 255)	14	10	1
Math for technicians (Math 72, 53)	8	8	0
Statistics and probability (Math 40)	16	31	37
College algebra for STEM (Math 30)	7	8	17

State framework for K-12

- What is being proposed to the school districts?
  - Student progress through middle and high school will be normalized.
  - Expectation is that by sophomore year, students will reach algebra 1 or geometry, but will not need to progress further.
- What does this mean for LPC students?
  - Some students will graduate without knowledge of intermediate algebra content.
  - Students will only be allowed to enroll in a transfer level math course at LPC.

Supports for our Students

- Math Jam
  - Math boot camp the week before the semester starts.
- Concurrent support
  - Students get just in time remediation with their transfer level course.
- NMAT 202C
  - Open Entry/Open Exit, non-credit, drop-in tutoring that students can use throughout the semester.
- Improved SmartShops to cover topics as most classes are approaching them.
  - http://www.laspositascollege.edu/smartshops/index.php

What else is LPC doing to facilitate student success?

- Local High School Alignment meeting
- LPC Math Faculty Outreach to High Schools
- Different modes of offering
  - Emporium: Semi-flexible pacing, allows for students to continue into the next semester if necessary.
  - HyFlex: Students attend in person and online.
  - Asynchronous/Synchronous fully online
  - Traditional in-person
- Working with learning communities to create Math cohorts: Puente, Umoja, Veterans

Goal is to create an equitable learning experience for our students. To that end…

Open Educational Resources

Definitions provided by Kali Rippel, LPC’s OER Liason

OER Vocabulary

OER = Open Educational Resources

Teaching, learning, and research materials that are either (a) in the public domain or (b) licensed in a manner that provides everyone with free and perpetual permission to engage.

ZTC = Zero Textbook Cost

Courses with no textbook-related costs, including access fees for online materials. Exact definition at LPC is TBD.

LTC = Low Textbook Cost

Courses with “low” textbook-related costs, including access fees for online materials. Exact definition at LPC is TBD.

Why OER?

- Textbook costs can be a barrier ”with a disproportionately negative effect among racial/ethnic minorities, low-income students, and first-generation college students” (Equity & OER).

- OER encourages student success ”decrease non-tuition costs, while simultaneously increasing student access, academic performance, and time-to-graduation rates (Jenkins, et al., 2020, 9).

OER + Math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FREE THE TEXTBOOK


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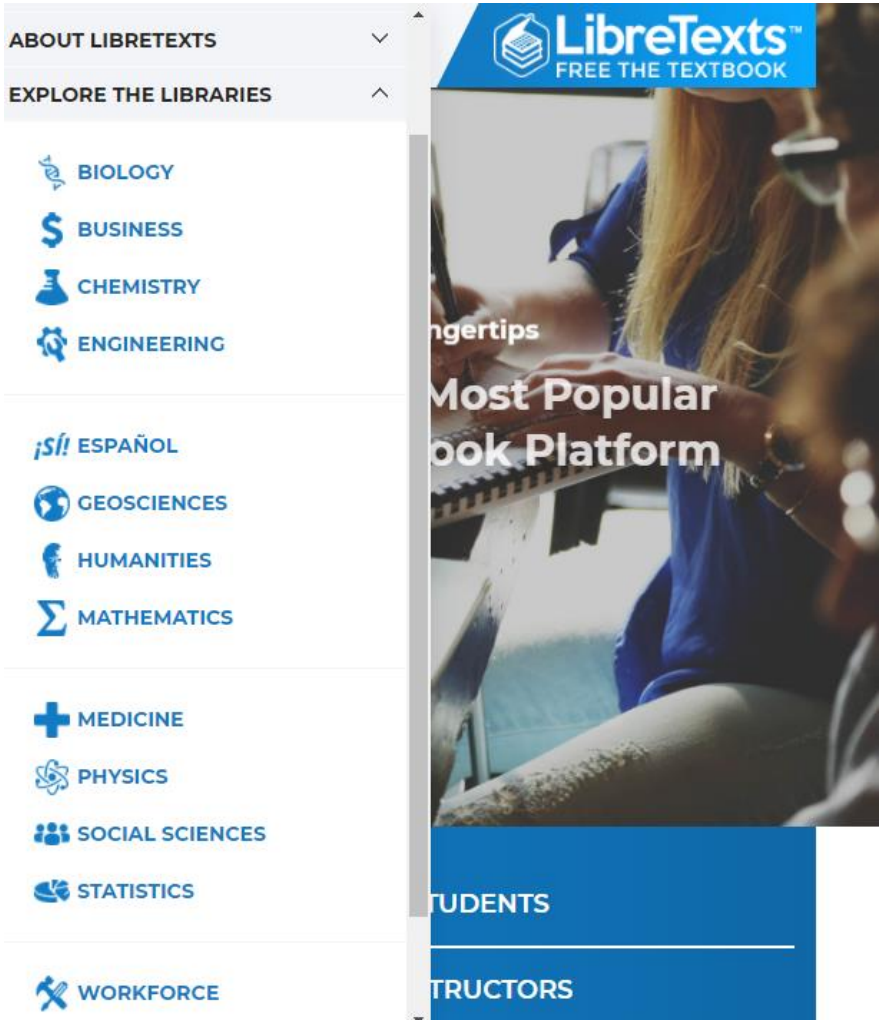
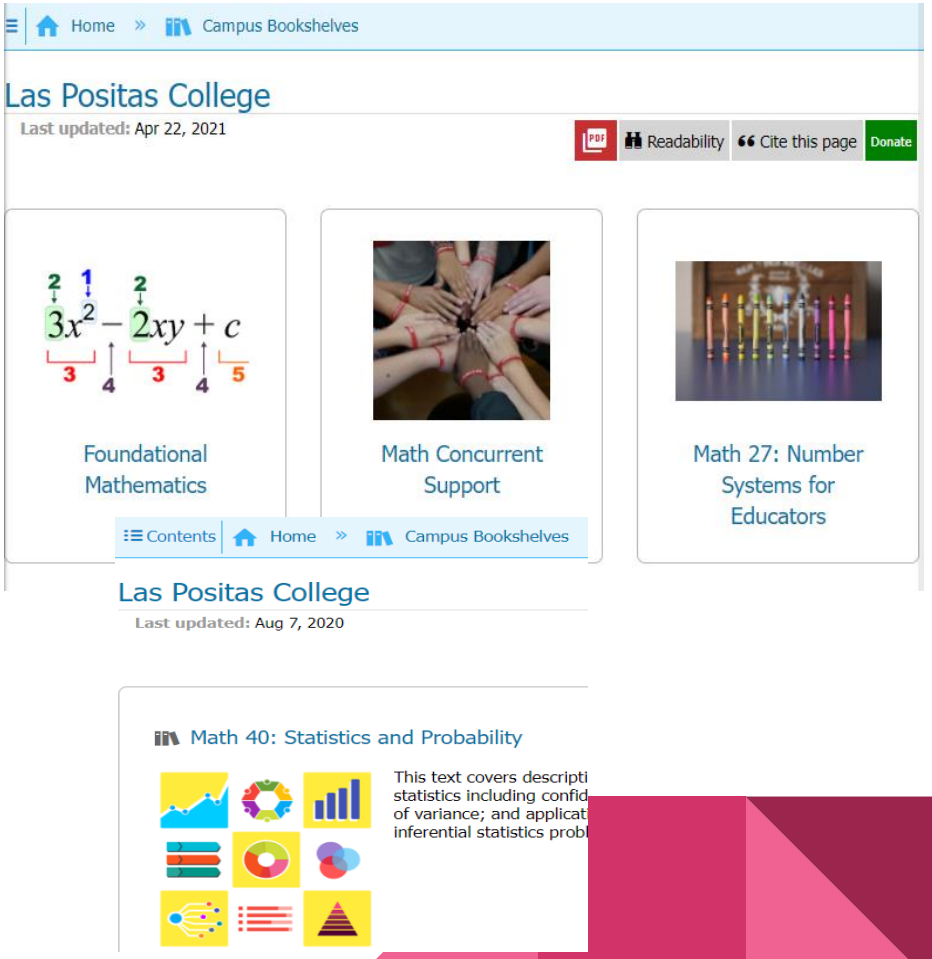


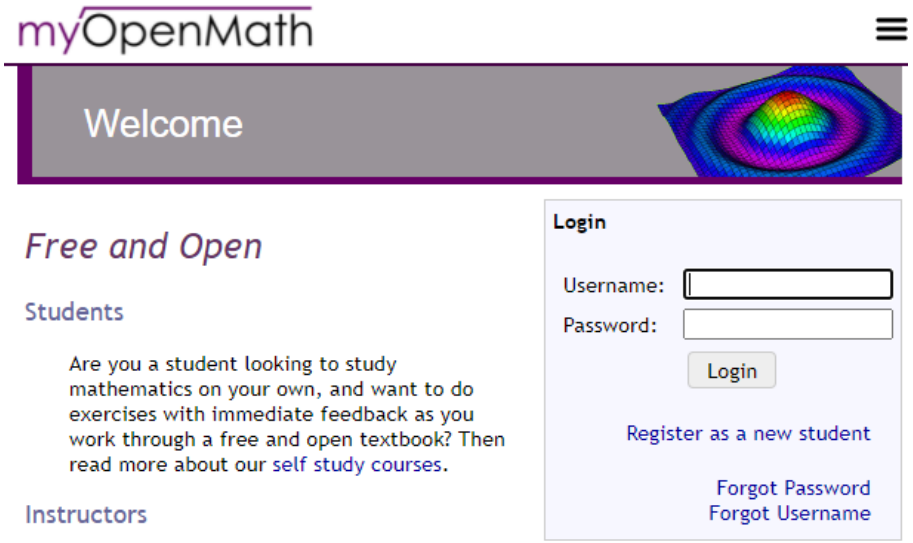
"The LibreTexts mission is to unite students, faculty and scholars in a cooperative effort to develop an easy-to-use online platform for the construction, customization, and dissemination of open educational resources (OER) to reduce the burdens of unreasonable textbook costs to our students and society."

- LibreText, Mission and Values Statement

LPC: Campus Bookshelves

- Ability to adjust existing OER textbook through
  - Editing pages
  - Adding pages
  - Mixing content from different books (same/different subjects).
- Free = 10 books per campus across all library campus hubs.
- Central campus hub is possible with unlimits textbooks if part of the LibreText Consortium (payment of $500/year).





"MyOpenMath is an online course management and assessment system for mathematics and other quantitative fields. MyOpenMath's focus is providing rich algorithmically generated assessment to support the use of free, open textbooks like the ones listed on OpenTextBookStore.com.

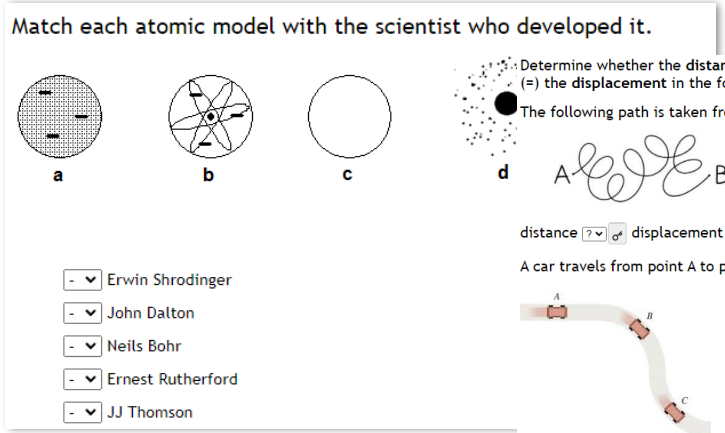
MyOpenMath is a collaborative community of users. MyOpenMath.com provides managed hosting of the open source IMathAS online assessment software. Questions and pre-built courses are all created by faculty in the user community and shared with others in the spirit of openness. Experienced users provide peer-to-peer support through discussion forums.

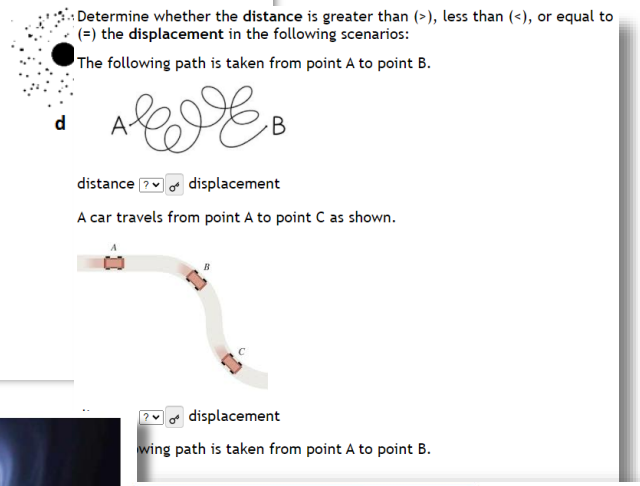
MyOpenMath.com is operated by the non-profit organization MyOpenMath."

- MyOpenMath, About Us

MyOpenMath

- Publishers charge students $$$ to use these types of platforms.
- The caliber of questions/student supports in MyOpenMath have nearly reached publisher level.
- Questions are easily created or edited to meet your needs.
- Easy integration into Canvas.
- Not just for math. Libraries exist for:
  - Chemistry
  - Physics
  - Astronomy
  - ...more





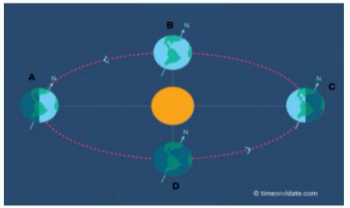
A Black Hole is defined as any place that satisfies the equation:

$$\frac{R}{3\ \text{km}} = \frac{M}{M_\odot}$$

Calculate the size of a black hole that has each of the following masses, using the units provided.

a) The Sun (in kilometers)

km



Which of the four labeled points (A through D) represents the day with the most hours of sunlight in the northern hemisphere?

Which of the four labeled points (A through D) represents the day with the most hours of sunlight in the southern hemisphere?

Which of the four labeled points (A through D) represents the vernal equinox in the Northern Hemisphere?

Which of the four labeled points (A through D) represents the autumnal equinox in the Southern Hemisphere?

Math's Progress on OER Materials:

- Book and Homework Sets Complete
  - Math 40: As of Fall 2022, everyone teaching this course should shift to the OER materials.
  - Math 39: As of Su 2022, material will be piloted, and available for department use Fa 2022.
- Book and Homework Sets are in progress
  - Math 30: As of Su 2022, material will be piloted, and available for department use Fa 2022.
  - Math 47: As of Fall 2022, everyone teaching this course should shift to the OER materials.

Let’s explore

- Math 47 - Math for Liberal Arts
  - My Open Math

- Math 39 - Trigonometry
  - Canvas
  - My Open Math
  - Libre Text

https://forms.gle/wU8EbJhT9r493Xxr9

Let’s explore

- Math 40 - Statistics and Probability
  - Canvas
  - My Open Math
  - Libre Text

Let’s practice with MyOpenMath:

- Copy course from the Math Department MyOpenMath Group: Department, Math to your MyOpenMath account.
- Make adjustments.
- Create Export Package
- Import into your Canvas course
- Make some adjustments