Mathematics Department
AUP for Academic Year 2024-2025
October 2023

Describe Department/Unit

Connection to College Mission

The Mathematics Department at Cerro Coso Community College plays an important role in preparing students to achieve their educational goals. The department currently offers math courses at transfer level as well as an online math degree. Beginning in the fall of 2019, the department implemented a plan to accelerate students through the math sequence by placing all entering math students into either a transfer-level College Algebra or for non-STEM majors, a Beginning Probability and Statistics course with a lab to provide Algebra remediation. Beginning in 2023, the math department now also offers a College Algebra course for non-STEM students. This course provides remedial math and Algebra instruction to students wanting to prepare for other math courses and also provides students with another option for a transfer-level math course.

The department's curriculum supports the mathematical needs of other disciplines and programs. The department's courses help students develop logical reasoning and problem-solving skills which form a foundation for their careers and future study. The Mathematics Department at Cerro Coso Community College offers classes which support the requirement for the AA and AS degrees, vocational/technical programs, and transfer to the university. We have entered into agreements and developed equivalencies with the California State Universities (CSU) and University of California (UC) systems. When our students transfer to the CSU or UC system, credits they earn in the mathematics department are transferable. This is also an indication that these transfer students from Cerro Coso Community College will be successful in completing higher degrees. Courses in the math degree now are in alignment with C-ID descriptors to increase the options students have in transferring to other colleges. The Mathematics Department offers math courses at the Indian Wells Valley (IWV), Eastern Sierra College Center (ESCC), and Tehachapi Center as well as online. Our math courses are also offered at the Tehachapi Correctional facility.

In addition, Cerro Coso's math curriculum continues to be offered as dual enrollment courses at Tehachapi, Cal City and Boron High Schools. Math Dual Enrollment courses have recently been added to curriculum at high schools in Bishop and Bakersfield. Currently, the department has five full-time faculty and several adjunct faculty to provide mathematics instruction to students in our broad geographic range.

Report on Improvements Made and Gaps Identified in the Prior Year

Student Equity

Several instructors used zero cost or reduced costs textbooks to reduce costs for economically disadvantaged students.

Some instructors held out of class tutoring during their office hours while other instructors held tutoring sessions via Zoom.

One instructor worked with site directors to borrow graphing calculators to make them available to loan to non-Prison students.

One instructor adjusted due dates for the first 3 weeks in an online Calculus 2 class to accommodate some of the students who were still in class at their 4-year school.

Instructors provided testing accommodations for DSPS students. Usually this in the form of extended time on exams.

Instructors continue to make online sample problems accessible.

Even though completion and success rates for online math courses were lower than those for on-ground math courses, the differences were not as much as those seen in the college-wide data.

For example, traditionally taught math courses had a significant gap in completion rates when compared to college-wide completion rates. This gap was not observed for online classes where the completion rate for math was only 1% lower than college-wide. There were however significant gaps in success rates for both online and on-ground math courses when compared to college-wide.

There was a larger success gap for women than for men in math courses when compared with college-wide success rates. Men also did not have a class completion gap for math when compared with college-wide completion rates.

There were also gaps in completion and success for continuing and returning students in math as compared to college-wide data.

There were no significant gaps for DSPS students. There also were no completion gaps for economically disadvantaged students.

Outcomes Assessment: Loop-Back Improvements Made

Actions taken in the prior academic year

Over the past year, instructors continued to provide more student/ teacher interaction in online classes as the department seeks to narrow the success gap between traditionally taught courses and online courses by providing more student support as well as making students feel more connected in the online environment.

Instructors continue to offer office hours and tutoring on campus, via Zoom in on site and online classes and have made efforts to tutor students inside the prison for our incarcerated students. Over the past year, instructors added more worked out solutions in their Canvas course shells which helps guide students toward proper mathematical procedures and methodology.

Outcomes Assessment: Results of Last Year's Assessments

MATH C121 Fall 2022

Target Met?

Yes

MATH C151 Fall 2022

Target Met?

Yes

MATH C251 Fall 2022

Target Met?

Yes

MATH C257 Fall 2022

Target Met?

Yes

Outcomes Assessment: Missed Targets

Type:

SLO

Target Missed/Gap Detected:

Type of Gap:

Other (explain in Analysis).

Analysis and Plan for Improvement:

All SLO outcomes met their targets.

Instructors will continue to provide tutoring for both online and on ground classes.

Anticipated Semester for Implementing Planned Improvements:

Anticipated Semester of Next Assessment:

Outcomes Assessment: Schedule of This Year's Assessments

MATH C110

MATH C121 Online and hybrid

MATH C130

MATH C131

MATH C141

MATH C142

Program Review

Mathematics

Year of Last Program Review:

2021

Actions Taken in the Prior Year to Address Strategies:

2 year - Obtain C-ID approval for all math courses in the program. Completed.

2 year - Make pathway clear so that students can graduate in 2 years. Classes were aligned so that the pathway now can be completed in 2 years.

Strategies Still to be Addressed:

2 year - Select additional electives for math program.

5 year - Identify where declared math majors are stopping out of the program.

5 year - Augment online math Instruction by attending a professional development event.

5 year - Improve PLO assessment procedure to focus solely on math majors.

Last Year's Initiatives

Develop a MATH C110 Concurrent Support To Be Consistent Across All Sections

As of fall 2023, only one section of MATH C110 has been offered each semester. Beginning in spring 2024, MATH C110 will be offered at the correctional facility in Tehachapi as well as online. The instructors for both sections will collaborate on topics and content for the lab portion of the course.

Achieve Accessibility Compliance for an Online Transfer-Level Math Course.

Over the past year, online instructors worked extensively to make online documents containing solutions accessible for students in their online classes. Publisher's course management systems have also increased the accessibility of videos, Powerpoint slides, and other media on their sites.

Standardize the Concurrent Support for MATH C121 Across All Sections

Although there is a COR for this class detailing the topics to be covered in the lab portion of the course, there still is not a general consistent documentation of the topics that are actually being taught throughout all sections. Full-time faculty did meet in the summer of 2021 in Tehachapi and via zoom to discuss topics for the lab. However, in discussing the lab portion of the class, we saw that different instructors had different priorities. The outcome of the meeting was pretty much that everyone would do their own thing. In addition, there are adjunct instructors who were not in attendance, so it has proven difficult to get everyone on the same page.

Moving forward it will still be a goal of the department to work towards a standardization of the lab portion of the course for all sections of both MATH C121 and the new MATH C110.

Reminder of Initiatives for the Current Year

Reminder of Initiatives for the Current Year

Move forward in implementing MATH C110 into the curriculum

Improve Online Math Teaching

Select Additional Electives for Math Degree

Plan Initiatives for Next Year

Initiatives for Next Academic Year

Increase success rates

Is this part of a multiyear initiative?

Yes

Specific Action Steps to be Taken:

Offer more math sections on-ground.

Early Observational Data, or "Lead" Measure(s):

More math courses scheduled on ground.

Does the department request help developing these instruments?

No

Institutional Performance Data, or "Lag" Measure(s):

An upward trend in math course success rates.

Person Responsible:

Math Chair and math faculty

Unit gap or institutional goals addressed:

It addresses a gap in outcomes assessment

The data show that success rates are higher in traditionally taught math classes than online math classes.

Improve Online Math Teaching

Is this part of a multiyear initiative?

Yes

Specific Action Steps to be Taken:

Make documents in online classes accessible.

Faculty attend a conference or webinar in online teaching and implement at least one new teaching strategy into an online course.

Investigate new online exam proctoring services.

Investigate procedures on making our own accessible video lectures that could be shared among online math instructors to upload into their courses.

Early Observational Data, or "Lead" Measure(s):

Reporting out at each department meeting of progress made in any of the action steps.

Two or more full-time faculty attend online teaching conference or webinar.

Early attempts at making a video lecture.

Does the department request help developing these instruments?

Yes

Institutional Performance Data, or "Lag" Measure(s):

Lag measures would be increased enrollments and better completion rates in online math courses.

Person Responsible:

Math Chair and math faculty

Unit gap or institutional goals addressed:

It addresses a 2- or 5- year program review strategy, It addresses a gap in outcomes assessment

Standardize the lab portion of the class for all sections of MATH C110 and MATH C121

Is this part of a multiyear initiative?

Yes

Specific Action Steps to be Taken:

Math chair will collect a math skills review topic outline for just the lab portion of the class from all MATH C110 and MATH C121 instructors.

There will be discussion and a reporting out of how well the anonymous tabulated skills review topics reflect the current COR.

Early Observational Data, or "Lead" Measure(s):

A lead measure will be the knowledge of what remedial skills are being reviewed in the lab.

Another lead measure will be the knowledge of what remedial skills are not being reviewed in the labs.

Discussions will take place in department meetings about any gaps in what is actually being reviewed in the lab portion of the class and what is stated in the COR.

Does the department request help developing these instruments?

No

Institutional Performance Data, or "Lag" Measure(s):

CORs for MATH C121 and MATH C110 are updated to reflect a more standardized list of topics for the lab that better fit the deficient math skills of the students in these classes. This will come as a result of the department discussions.

Individual instructors change the topics they review with students in the lab portion of the class to be more in line with the current or updated COR.

Person Responsible:

Math Chair and math faculty

Unit gap or institutional goals addressed:

It addresses a gap in student equity

This addresses goal 1 which is to maximize student success. It is accomplished by allowing all students to have the basic mathematical background necessary to be successful in these transfer-level math courses.

Evaluate Resource Needs

Facilities

There are no facility requests at this time.

Information Technology

There are no new technology needs at this time.

Marketing

There are no marketing needs at this time.

Professional Development

A program review goal is to have full-time faculty attend an online math teaching professional development activity or conference.

Other Needs

No other needs at this time

Staffing Requests

1000 Category - Certificated Positions

Mathematics

Location:

CC Online

Justification:

Mathematics

Location:

Justification:

The department is not requesting a full-time new hire at this time.

2000 Category - Classified Staff