

# Mathematics Department

## AUP for Academic Year 2023-2024

October 2022

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### 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. 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 (IWW), Eastern Sierra College Center (ESCC), and Tehachapi Center as well as online. Our math courses are also offered at the Cal City and Tehachapi Correctional facilities.

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

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### 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.

Instructors provided testing accommodations for DSPS students.

There are still significant success gaps (roughly 12%) for ages 18 to 29 and 35 to 39. For DSPS math students there are gaps of -13% and -8% for success and completion respectively when compared with the collegewide data. For inmate students math success rates were 9% lower than success rates collegewide and retention rates were 7% lower than collegewide as well.

#### Outcomes Assessment: Loop-Back Improvements Made

##### Actions taken in the prior academic year

Instructors provided 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.

One instructor offered office hours inside the prison for the first time. This provided equitable support across all campuses, including the prison.

Other instructors conducted Zoom office hours for their online classes.

Another instructor built sample solved homework problems for use during Covid-correspondence instruction in the prison.

## **Outcomes Assessment: Results of Last Year's Assessments**

### **MATH C255**

#### **SLO 1**

**Target Met?**

Yes

### **MATH C255**

#### **SLO 2**

**Target Met?**

Yes

### **MATH C255**

#### **SLO 3**

**Target Met?**

Yes

### **MATH C152**

#### **SLO 1**

**Target Met?**

Yes

### **MATH C152**

#### **SLO 2**

**Target Met?**

Yes

**MATH C152**

**SLO 3**

**Target Met?**

Yes

**MATH C121 H**

**SLO 5**

**Target Met?**

Yes

## **Outcomes Assessment: Missed Targets**

**No missed targets**

**Type:**

SLO

**Target Missed/Gap Detected:**

Target 70% Results 70% or higher

**Type of Gap:**

Other (explain in Analysis).

**Analysis and Plan for Improvement:**

No gap. All targets met.

**Anticipated Semester for Implementing Planned Improvements:**

na

**Anticipated Semester of Next Assessment:**

na

## **Outcomes Assessment: Schedule of This Year's Assessments**

MATH C121 Fall 2022

MATH C151 Fall 2022

MATH C251 Fall 2022

MATH C257 Fall 2022

## Program Review

### Mathematics

#### Year of Last Program Review:

2021

#### Actions Taken in the Prior Year to Address Strategies:

Pathway was reset so that students could complete the Math Program in 2 years.

#### Strategies Still to be Addressed:

Bring additional electives for math majors.

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

Attend an online conference or webinar and implement a strategy to improve online teaching.

## Last Year's Initiatives

### Create a Transfer-Level College Algebra for Non-Stem Majors

The MATH C110 COR was written and taken through the CIC committee. The class is in the course catalog and state approval has been granted. It is on track to be offered in the fall of 2023.

### Coordinate the MATH C121 Lab Among Instructors

MATH C121 instructors have collaborated and discussed best practices for the lab portion of MATH C121. In the past year, no conferences dealing with remedial math and Algebra topics, activities or methodologies for student support in Statistics have been attended. The main goal was to have similar lab content taking place across the sections of MATH C121 and that has happened to some extent. Several instructors are now sharing lab topics, activities and assignments.

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## Reminder of Initiatives for the Current Year

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

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

**Standardize the Concurrent Support for MATH C121 Across All Sections**

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## Plan Initiatives for Next Year

## Initiatives for Next Academic Year

### Move forward in implementing MATH C110 into the curriculum

#### Is this part of a multiyear initiative?

Yes

#### Specific Action Steps to be Taken:

Beginning in fall 2023, MATH C110 replaces MATH C053 and MATH C055 online and is offered at all campus sites including the prisons.

At the end of the semester instructors meet to standardize the topics of the lab portion of the class and share feedback about the first semester of teaching it.

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

Collect and compare exam scores in MATH C110 with those of MATH C121 and MATH C141.

#### Does the department request help developing these instruments?

No

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

Analyze student enrollment, success and retention data for MATH C110.

#### Person Responsible:

Math Chair and math faculty

#### Unit gap or institutional goals addressed:

It addresses a gap in student equity, It addresses a Strategic Plan goal or objective, It addresses a Student Equity and Achievement Plan goal

## Improve Online Math Teaching

#### Is this part of a multiyear initiative?

Yes

#### Specific Action Steps to be Taken:

Review and augment assignments for the lab portion of the MATH C110 and MATH C121online courses.

Increase accessibility of online math courses.

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.

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

Exam, homework, and quiz scores

**Does the department request help developing these instruments?**

Yes

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

Success and retention rates for online math courses

**Person Responsible:**

Math Chair, math faculty and IR

**Unit gap or institutional goals addressed:**

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

**Select Additional Electives for Math Degree**

**Is this part of a multiyear initiative?**

Yes

**Specific Action Steps to be Taken:**

Investigate what electives other colleges with math degrees offer.

Implement a student exit survey to see where math students are transferring to and inquire what electives are needed.

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

Data collected on the actual majors of students taking the upper-level math courses

**Does the department request help developing these instruments?**

Yes

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

Enrollment history for elective courses

**Person Responsible:**

Math Faculty and IR

**Unit gap or institutional goals addressed:**

It addresses a 2- or 5- year program review strategy, It addresses a Strategic Plan goal or objective

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## Evaluate Resource Needs

### Facilities

There are no facilities needs.

### Information Technology

There are no information technology needs.

### Marketing

There are no marketing needs.

### Professional Development

The department does have a need for release time to collaborate on the structure of the lab for the new MATH C110 course. The department would like to send two or three faculty to a conference dealing with best practices for providing support in transfer-level courses or alternately, meet with faculty from other colleges who currently have a similar course in place to share ideas on how the lab portion of the class should be structured.

### Other Needs

Two class sets of printed copies of Openstax texts to be used for MATH C110 for the prisons.

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## Staffing Requests

### 1000 Category - Certificated Positions

#### MATH

**Location:**

**Justification:**

No request for math faculty is being made at this time.

### 2000 Category - Classified Staff

**None**

**Location:**

**Salary Grade:**

**Number of Months:**

**Number of Hours per Week:**

**Salary Amount:**

**Justification:**

No new classified staff are needed at this time.