



Welcome to Program Review

Merritt College - 2019

MATH - Instruction

Annual Program Update

Program Overview

Please verify the mission statement for your program. If your program has not created a mission statement, provide details on how your program supports and contributes to the College mission.

The Mathematics Department's mission is to offer lower division college math courses needed for the associate in arts and associate in science degrees, vocational certificates, and transfers to four-year colleges. These courses are intended as the first two years of college math courses and as such have been designed to satisfy the general education requirements for graduation as well as the requirements for transfer. In addition, the department offers the Associate in Science degree in mathematics for Transfer (AS-T). Mathematics is the language of the sciences and as such these courses are needed as prerequisite to science courses and student success in general.

Program Total Faculty and/or Staff

Full Time

Daniel Lawson
Tae-Soon Park
Rebecca Uhlman
Sun Young Ban

Part Time

Marilyn Green
Sooji Sohr
Minyoung Lee
Amit Singh
Suman Shah
Eli Lebow
Quynh Nhu Lamha
Waseem Khaja
Miriam Hardak Inberg

The Program Goals below are from your most recent Program Review or APU. If none are listed, please add your most recent program goals. Then, indicate the status of this goal, and which College and District goal your program goal aligns to. If your goal has been completed, please answer the follow up question regarding how you measured the achievement of this goal.

To increase retention and success rates in Math courses

Status

In-Progress

If Completed, What evidence supports completion of this goal? How did you measure the achievement of this goal?

College Goal

Completion: Increase number of degrees and certificates by 20% over the next 5 years.

District Goal

Advance Student Access, Equity, and Success

Develop curriculum for math courses which allow students to complete a transfer level math course in 2 semesters after college entry.

Compare the success rates under the new placement rules to past data.

Status

In-Progress

If Completed, What evidence supports completion of this goal? How did you measure the achievement of this goal?

College Goal

Completion: Increase number of degrees and certificates by 20% over the next 5 years.

District Goal

Advance Student Access, Equity, and Success

Offer the calculus sequence more regularly (at least one section of math 3A, math 3B, and math 3C) during each academic year

Status

In-Progress

If Completed, What evidence supports completion of this goal? How did you measure the achievement of this goal?

College Goal

Completion: Increase number of degrees and certificates by 20% over the next 5 years.

District Goal

Advance Student Access, Equity, and Success

Sustain the tutor training program and hire more math faculty and a Math Lab technician.

Status

In-Progress

If Completed, What evidence supports completion of this goal? How did you measure the achievement of this goal?

College Goal

Completion: Increase number of degrees and certificates by 20% over the next 5 years.

District Goal

Advance Student Access, Equity, and Success

Offer at least 1 technology-based training to math faculty per academic year.

Status

In-Progress

If Completed, What evidence supports completion of this goal? How did you measure the achievement of this goal?

College Goal

Completion: Increase number of degrees and certificates by 20% over the next 5 years.

District Goal

Advance Student Access, Equity, and Success

Describe your current utilization of facilities, including labs and other space

Smart classroom technology

iPad Pros for instruction

Learning Center Math Lab

Photocopy production

S111 equipped with dry erase boards on all walls.

Two laptop charging cabinets containing

30 laptops in S111

30 laptops in S203

S203 equipped with two rolling dry erase board easels

TI-84 calculators for student use

P218 Computer lab

Program Update

Semester End Enrollment/Usage Pattern

Review your Semester End Enrollment by setting the filter to your college and subject



Using the dashboard, review and reflect upon the data for your program. Describe any significant changes and discuss what the changes mean to your program. Consider whether performance gaps exist for disproportionality impacted students. Focus upon the most recent year and/or the years since your last comprehensive program review. Cite data points from the dashboard to support your answer.

The overall math course completion and retention rates have held fairly stable over the past few years (around 60% and 75% respectively). There does not appear to be a significant performance gap based on any gender. The completion and retention rates for various ages has also held fairly steady. The completion rate for African Americans is 52%, which is far below the average of 60%. The department has planned to implement math placement and curriculum reforms whereby all students will be placed at the transfer level with academic support provided as needed. While these reforms are expected to improve success rates across the board, it is not clear that they will resolve the equity issue identified here. More work needs to be done on this issue. For each year, foster youth are far below the mean completion rate. This may be an issue that must be addressed at the institutional level. Perhaps the department can seek a partnership with NextUP. In the last two years, the completion rate of DSPS (now SAS) students has fallen more than 3% below the mean completion rate. The department should work with SAS to identify how to help these students complete their math courses. Each year, the completion rate of low income students was within 3% of the mean for that year. The department has participated in the major overhaul of the math placement rules, so that all incoming students will be placed at the transfer level, which has made a huge improvement to student success in the pilot semester of Fall 2018. It is anticipated that these changes will continue to result in impressive improvement to all student success indicators.

Describe the department's progress on Student Learning Outcomes (SLOs) and/or Administrative Unit Outcomes (AUOs) since the last Program Review/APU. If your discipline offers a degree or certificate, please describe the department progress on Program Learning Outcomes (PLOs).

We have a large number of courses which we do not plan to offer in the immediate future due to AB705 placement changes. We are not deactivating them as we are not sure if new administrative bills will be coming out of the state chancellor's office.

We have several courses scheduled to be assessed this semester, and a few more that will be assessed next semester.

Learning Objective to be assessed are assigned at department meetings. The SLOs for the courses are included on the course syllabi, which are distributed and discussed with all students in each section. The PLOs for the program are included in the course catalog and on the website: <http://www.merritt.edu/wp/math/program-learning-outcomes/>

The department chair checks in on ILO/PLO/SLO assessment throughout the semester during department meetings.

While doing assessments, faculty have discovered the need to revise SLOs to make them more clear and relevant to the course. For example, the SLOs were revised in Math 202 Geometry, Math 50 Trig, and Math 3E Linear Algebra.

Describe the outcomes and accomplishments from previous year's funded resource allocation request.

Brief description of funded request	Source (any additional award outside your base allocation)	Total Award Amount	Outcome/Accomplishment
We got 10 laptops (out of requested 40)	BSSOT	10000	We now have 2 classrooms furnished with 30 laptops. We are still requesting 30 more computers to have a third classroom furnished with laptops.

In the boxes below, please add improvement actions and resource requests that are directly related to the questions answered in this section. If there are no improvement actions or resource requested in this area, leave blank.

Improvement Action

Improvement Actions

Improvement Action

Action Item	Description	To be completed By	Responsible Person
Resource Requests	Resource Requests	4/10/2020	Resource Requests

Resource Request

Personnel	Full-time Faculty		
% Time	Description/Justification	Estimated Annual Salary Costs	Estimated Annual Benefits Costs
100	There have been a number of retirements and promotions from the math discipline which have not been replaced.	80000	17500
Total Costs			
97500			

Resource Request

Personnel	Full-time Faculty		
% Time	Description/Justification	Estimated Annual Salary Costs	Estimated Annual Benefits Costs
100	There have been a number of retirements and promotions from the math discipline which have not been replaced.	80000	17500
Total Costs			
97500			

Resource Request

Personnel	Classified Staff		
% Time	Description/Justification	Estimated Annual Salary Costs	Estimated Annual Benefits Costs
50	Math Lab Technician to standardize and administer math tutor training. The math lab tech could also proctor exams and deliver modular remediation as needed by students. Hiring a Math Lab technician is a program goal.	40000	8000
Total Costs			
48000			

Resource Request

Personnel	Student Worker		
% Time	Description/Justification	Estimated Annual Salary Costs	Estimated Annual Benefits Costs
100	Multiple embedded tutors. In accordance with AB705, we are offering approximately 10 support courses each semester to help students successfully complete transfer level math in their first year. Embedded tutors help with completion and success rates.	24000	2000
Total Costs			
26000			

Resource Request

Professional Development	Department-wide PD needed
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Description/Justification

Training in pedagogy to improve student success, in particular with new placement rules required by AB 705. Stipends for participation in communities of practice around the development of new support courses and course design of transfer-level math classes. Content-specific training for transfer-level instructors (for example, for new Statistics instructors).

Estimated Cost

60000

Resource Request

Supplies

Software

Description/Justification

Instruction apps for iPads, subscriptions to instructional web resources and programs

Estimated Cost

5000

Resource Request

Supplies

Books, Magazines and Periodicals

Description/Justification

Departmental subscription to professional teaching journals from NCTM, MAA, etc., to allow Math faculty to maintain currency in the research on best math education practices.

Estimated Cost

1000

Resource Request

Supplies

Instructional Supplies and Materials

Description/Justification

iPad cases, VGA adapters, etc. Printer paper Toner cartridges Markers and erasers Pens Notepads Staplers Tape dispensers Paperclips Batteries Correction tape And other office supplies

Estimated Cost

5000

Resource Request

Supplies

Library Collections

Description/Justification

6 copies each of all default math textbooks for student use

Estimated Cost

10000

Resource Request

Technology and Equipment

New

Description/Justification

30 laptops Lockable charging cabinet This would allow three separate classrooms to be equipped with 30 laptops in a charging cabinet. This would be useful because of curriculum changes due to AB 705.

Estimated Cost

40000

Resource Request

Facilities

Classrooms

Description/Justification

Dry erase boards around the classroom for all math classrooms, to allow for student participation, group activities, and formative assessment opportunities. Adequate locking storage space in classrooms.

Estimated Cost

30000

Resource Request

Facilities

Offices

Description/Justification

Proper office and storage space in the Science Building. An office for each full-time faculty member, including new hires. An office suite in the Science building where all Math faculty office would be located, to encourage collaboration and communication.

Estimated Cost

30000

Resource Request

Facilities

Labs

Description/Justification

Dedicated Math computer lab

Estimated Cost

10000

Resource Request

Facilities

Other

Description/Justification

A lockable storage cabinet in each math classroom for teaching materials, calculators, etc.

Estimated Cost

1000

Resource Request

Choose an Option

Resource Request Summary

Total Cost: \$461000
 Total Resource Request: 15

Program Update Personnel					
Type	% Time	Description/Justification	Estimated Annual Salary Costs	Estimated Annual Benefits Costs	Total Costs
Full-time Faculty	100	There have been a number of retirements and promotions from the math discipline which have not been replaced.	80000	17500	97500
Full-time Faculty	100	There have been a number of retirements and promotions from the math discipline which have not been replaced.	80000	17500	97500
Classified Staff	50	Math Lab Technician to standardize and administer math tutor training. The math lab tech could also proctor exams and deliver modular remediation as needed by students. Hiring a Math Lab technician is a program goal.	40000	8000	48000
Student Worker	100	Multiple embedded tutors. In accordance with AB705, we are offering approximately 10 support courses each semester to help students successfully complete transfer level math in their first year. Embedded tutors help with completion and success rates.	24000	2000	26000
Sub-Total: \$269000					

Professional Development		
Type	Description/Justification	Estimated Cost
Department-wide PD needed	Training in pedagogy to improve student success, in particular with new placement rules required by AB 705. Stipends for participation in communities of practice around the development of new support courses and course design of transfer-level math classes. Content-specific training for transfer-level instructors (for example, for new Statistics instructors).	60000
Sub-Total: \$60000		

Technology and Equipment

Type	Description/Justification	Estimated Cost
New	30 laptops Lockable charging cabinet This would allow three separate classrooms to be equipped with 30 laptops in a charging cabinet. This would be useful because of curriculum changes due to AB 705.	40000
Sub-Total: \$40000		

Supplies

Type	Description/Justification	Estimated Cost
Software	Instruction apps for iPads, subscriptions to instructional web resources and programs	5000
Books, Magazines and Periodicals	Departmental subscription to professional teaching journals from NCTM, MAA, etc., to allow Math faculty to maintain currency in the research on best math education practices.	1000
Instructional Supplies and Materials	iPad cases, VGA adapters, etc. Printer paper Toner cartridges Markers and erasers Pens Notepads Staplers Tape dispensers Paperclips Batteries Correction tape And other office supplies	5000
Library Collections	6 copies each of all default math textbooks for student use	10000
Sub-Total: \$21000		

Facilities

Type	Description/Justification	Estimated Cost
Classrooms	Dry erase boards around the classroom for all math classrooms, to allow for student participation, group activities, and formative assessment opportunities. Adequate locking storage space in classrooms.	30000
Offices	Proper office and storage space in the Science Building. An office for each full-time faculty member, including new hires. An office suite in the Science building where all Math faculty office would be located, to encourage collaboration and communication.	30000
Labs	Dedicated Math computer lab	10000
Other	A lockable storage cabinet in each math classroom for teaching materials, calculators, etc.	1000
Sub-Total: \$71000		

Library

No Resources found for this category

Other

No Resources found for this category

Sign and Submit

Please provide the list of members who participated in completing this program review.

Rebecca Uhlman
Dan Lawson

Please enter the name of the person submitting this program review.

Rebecca Uhlman