

ANNUAL
REPORT OF PROGRAM DATA

2022

UNIVERSITY *of* HAWAI'I

HAWAI'I
COMMUNITY COLLEGE



Co-Req Math

July 1, 2021 through June 30, 2022

1. Program or Unit Description

Hawaii CC has STEM and non-STEM mathematics pathways. We teach a variety of first-year math courses and offer a single level of remediation for those students that do not place into college-level math courses. Math 78C is targeted for incoming students with math skills below that of a general college-level course but who do not want to spend an extra semester in remediation. Instead, students are able to take a college-level course (e.g. Math 100 or Math 115) with Math 78C as a co-requisite. As a co-requisite course, Math 78C is not a program and has no specific PLOs. Instead, it follows the SLOs for the individual math courses for which it is co-req'd and the PLOs for the program they belong to (Liberal Arts, Natural Science, etc.).

Math 78C will serve as a co-requisite for Math 100 or Math 115 students who do not place into that course but require remediation. Students will be able to take Math 78C/Math 100 or Math 78C/Math 115 instead of having to take Math 75X (first semester) and then Math 100 or Math 115 (second semester), thus fast-tracking students towards completion of a college math course within the first year.

2. Analysis of the Program/Unit

[UHCC Annual Report of Program Data \(VARPD\)](#)

Fifty-two percent of first year Hawai'i CC students enrolled in a math class in their first two semesters. This does not meet the UH System enrollment goal of 100% enrollment in a math class during the first year of study.

The efficiency goal for 2023 is to have 75% of students placed at one-level below college ready to pass college-level math within a semester of enrolling. In 2021-2022, 39% of students one-level below college-level math passed college-level math in the first semester. This is substantially below the goal of 75%. For students who placed two-levels below, the 2023 goal is 70% passing college-level math within one year of enrolling in math. In the 2021-2022 year, 42% of students that placed two-levels below completed college-level math. In general, our lowest level math placers are

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still far below the goals set. Interestingly, 65% of students who had no math placement passed college-level math within two semesters of enrolling in 2021-2022. Overall 56% of new students completed a college level math course, which is encouraging.

Looking closer, the ARPD data (see table below) seems to be skewed for the placement of students at 1- and 2-levels below college-level math. For students that placed 1-level below, the ARPD shows 18 total students enrolled and 7 completed. The actual number of students enrolled in Math 75X and Math 82X, courses that are remediation for students that place one-level below college math, was 102 students. The low completion rate may be due to the high number of students who placed two levels below being enrolled in a 1-level below course. These students are forced to enroll in the 1-level below courses because we don't offer lower levels of remediation.

Many of our students are part-time, adjust their schedules without the input of an academic advisor, and complete certificates that do not require a math course. The UH System enrollment goal of 100% during the first year of study continues to be unachievable without a system in place that is built into Banner/STAR that requires students to enroll in Math courses their first year.

2022 Hawai'i Community College ARPD
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ENROLLMENT GOAL: 100% of new students enroll in Math in their first year

Fall Semester	New Students ^{1/}	Enrolled in Any Math	% Enrolled	Did Not Enroll	% Not Enrolled
Fall 2019	495	283	57%	212	43%
Fall 2020	403	238	59%	165	41%
Fall 2021	364	190	52%	174	48%

^{1/} Entering fall as first-time freshmen or first-time at campus transfers, no prior Math courses, classified, degree-seeking only.

EFFICIENCY BY PLACEMENT GOALS:

1. By 2021, 75% of students placed at one level below college-ready standards will complete their college-level Math course within one semester of enrolling in Math.
2. By 2021, 70% of students placed at two or more levels below college-ready standards will complete their college-level Math course within one year of enrolling in Math.

Math Placement	AY 2019-2020			AY 2020-2021			AY 2021-2022		
	Enrolled	Completed ^{2/}	% Completed College Level	Enrolled	Completed ^{2/}	% Completed College Level	Enrolled	Completed ^{2/}	% Completed College Level
College	301	191	63%	265	197	74%	171	110	64%
1-level	52	20	38%	27	6	22%	18	7	39%
2+ levels	90	31	34%	121	50	41%	107	45	42%
Technical Math	0	0	0	0	0	0	0	0	0
No Placement	16	12	75%	34	20	59%	49	32	65%
TOTAL	459	254	55%	447	273	61%	345	194	56%

^{1/} First-time attempters/enrolled in Math; no prior subject history; classified, degree-seeking only.

^{2/} Completed within one semester for College and 1-level, within two semesters for 2+ and no placement levels.

STUDENT LEARNING GOAL: All students meet course student learning outcomes.

Math Course	AY 2019-2020			AY 2020-2021			AY 2021-2022		
	Enrolled	Completed	% Completed	Enrolled	Completed	% Completed	Enrolled	Completed	% Completed
75X	0	0	0	0	0	0	83	50	60%
82X	128	78	61%	42	27	64%	30	22	73%
100	323	202	63%	291	224	77%	288	179	62%
103	66	33	50%	69	49	71%	55	36	65%
115	139	101	73%	129	101	78%	115	79	69%

3. Program Student Learning Outcomes or Unit/Service Outcomes

- a) *List of the Program Student Learning Outcomes or Unit/Service Outcomes*
- b) *Program or Unit/Service Outcomes that have been assessed in the year of this Annual Review.*
- c) *Assessment Results.*
- d) *Changes that have been made as a result of the assessment results.*

As a co-requisite course, there are no Program Learning Outcomes for Math 78C. This course is linked with the Liberal Arts PLOs (#2 - Think Critically and #3 Reason Quantitatively) and the math courses for which it is co-req'd. Therefore, there is no separate assessment of the Math 78C course; assessment only takes place within a co-req'd Math 100 or Math 115 course. Math 78C was not offered in AY 2021/2022. In the future, we will include results for Math 78C when Math 100 or Math 115 is assessed - if a co-req'd section of Math 100 or Math 115 is scheduled.

4. Action Plan

In the last annual review, we were hoping to create an experimental co-req'd Math course to help with remediation for Math 100. Since then, Math 78C was created and approved to be used as a co-req course for Math 100 and 115. We plan to determine success levels of Math 78C/Math 100 and Math 78C/Math 115 as compared to the original pathway (Math 75x followed by Math 100 or Math 115) and will analyze success rates when we have run enough sections to be meaningful.

The last several times we have tried to run this course it has failed to fill and was canceled. Our action plan for this year includes working closely with the academic advisors to recruit students for the co-Req math courses. We also plan to revise how the two co-req'd courses are scheduled to promote student success and optimize the benefits of the Math 78C course. These changes include creating a stacked schedule for the Math 78C and its co-req'd course, rather than scheduling the classes on alternate days or a block on Fridays.

We plan to continue to offer Math 78C as a co-requisite to Math 100 and Math 115. In the past, we have had successful enrollment and outcomes for Math 78C when it was taught face-to-face. The COVID-19 pandemic and the switch to distance education has made it difficult to run the course due to low enrollment. We plan to continue to try to offer Math 78C as an option for Math 100 and

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Math 115 to further the goal of the college and the UH System to have all students complete their college-level math courses within the first year of enrollment.

5. Resource Implications

*** Special Resource Requests not included in operating "B" budget ***

Detail any special, one-time or personnel resource requests in the categories listed in the table below that are not included in your regular program or unit operating "B" budget.

I am NOT requesting additional resources for my program/unit.

I AM requesting additional resource(s) for my program/unit.

Total number of items being requested: 1

Item Description

Faculty Position, Mathematics

Justification

Prior to the pandemic, there were six faculty positions in Mathematics. One of these was vacant due to faculty retirement and was swept when the COVID-19 pandemic occurred. Currently, there are five total positions in Mathematics, two which became unexpectedly vacant in Summer 2020 and Spring 2021 due to the untimely and very sad passing away of two of our Mathematics faculty. We have been able to hire one new faculty member as a replacement for one of these positions. Therefore, our current faculty consist of one member who is Rank C2 in the first year of their probationary period, one who is Rank C2 in the 4th year of their probationary period, one who is Rank C3 tenured faculty, and unfortunately, our fourth faculty member will not be returning next academic year, leaving us again with three filled math positions and two vacant positions.

This position is essential for meeting the needs of our Hawai'i Island workforce. Mathematics is a required skill set for all degrees and the majority of certificates, as well as for daily life in our community. Thus, this position supports President Lassner's priorities in meeting the workforce needs in Health, Technology, Education, and Agriculture, as this faculty member would support courses that are required for programs in each of these areas. Lastly, it also meets four of the recently determined Budget Guiding Principles and other Priority considerations for our Hawai'iCC campus, including:

- o Fulfilling our mission through our stated goals of: a) meeting the educational needs of our Kauhale, b) ensuring student success, and c) strengthening our Kauhale;
- o Expanding our commitment to serving all segments of our Hawaii Island community, including Manono, Pālanui, and Kō;

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- o Continuing efforts to promote integrated student support in closing educational gaps; and
- o Leveraging resources, investments with returns, or scaling opportunities.

The courses taught by our Mathematics faculty are critical support to all programs and most certificates on the Hawai'iCC campus. Math 100, 115, 120, 135, 140, 241, and 242 are designated as Foundations-Quantitative Reasoning courses, a requirement for graduation. Furthermore, mathematics courses are prerequisites for a significant number of other courses on our campuses - for example, Math 82X is a prerequisite for 18 non-math courses and Math 100 is a prerequisite for an additional 10 non-math courses. In the STEM track, Math 103 is a prerequisite for an additional 10 non-math courses.

Since mathematics and quantitative courses are foundational and fundamental to all other programs on the campus, we feel that it is important that these courses are taught by full-time faculty as much as possible. Of the 19 courses being taught in Fall 2021, 8 are currently being taught by lecturers. Of the 20 courses being offered in Spring 2022, 9 will be taught by lecturers.

While enrollment has decreased due to the pandemic, this Fall, nearly all Math classes are full. In Fall 2021, our department offered 16 Math classes, each with a cap of 25 students, for a total capacity of 400. In addition, our Mathematics faculty and lecturers offered Quantitative Methods (QM) courses for Trades students and this included an additional 3 classes, serving a total capacity of 57 students. In Spring 2022, there will be 18 Math classes, for a total capacity of 450 students. In addition, 2 QM courses are being offered with a total capacity of 40 students. Please note that the capacities listed include primarily online modalities. Face-to-face lecture capacities (i.e. for QM courses) are with social distancing -- pre-pandemic capacities and enrollment for all face-to-face courses were higher. As the UH System returns to increased face-to-face course offerings, the ability to offer additional courses to support our programs and serve additional students will be necessary.

As an indigenous-serving institution, it is our kuleana to address achievement gaps and pursue equitable outcomes for our diverse student population. Mathematics is a great equalizer towards building accessible paths to resources and implementing and creating innovative opportunities that can lead to systemic improvement toward equity, empowerment, and dignity for all. Full-time mathematics faculty are more likely to participate in professional development that promotes critical thinking, asset-based approaches in pedagogy, and place-based and culturally responsive teaching.

Since the UH system developmental math redesign, as well as the lowering of the entrance requirements for mathematics courses, many of our students require additional support within and outside the classroom. Our Mathematics faculty are expected to provide supplemental instruction and in-time remediation in addition to the required mathematics content for courses.

As we expand our commitment to serving all segments of our Hawai'i Island community, including Manono, Pāalamanui, and Kō, it is important to be able to offer mathematics courses at each of our satellite campuses. As stated earlier, these courses support all of our programs and most

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certificates. Additionally, as our campuses expand course and program offerings in STEM and other fields, we will need to teach additional location-specific mathematics courses.

IMPACTS: If this request is not approved, the Mathematics side of the Math and Natural Sciences Department will number three faculty. Since two of the current faculty are not yet tenured, it is unknown with upcoming contract renewals if these positions will persist. Faculty are directly responsible for fulfilling the mission of the college which is to deliver knowledge and to prepare and train our students to be informed and responsible members of our community. It's their passion, hard work and authentic interactions that help uphold our integrity as a college. They are responsible not only for instruction, which affects student success, but are equally responsible for essential duties outside the classroom, such as completing assessment, program reports, committee work, and community service to name a few. Furthermore, if we rely on lectures to teach courses, more work is placed on fewer full-time faculty to participate in service to the college in many forms, such as serving on and chairing committees, providing professional development and academic/tutorial support, and serving in leadership roles. Fewer full-time faculty teaching mathematics and quantitative courses, which are foundational to all programs on our campus, runs the risk of affecting student success across our entire campus network.

CATEGORY	Category-Specific Information Needed			
Personnel Resource	AUG 1st, 2023	FTE; Faculty; Mathematics Instructor	Estimated Salary - C2C09 - minimum \$4,507.00 month	Was an Existing Position Abolished? Vacant