

2019-20 Mathematics Annual Program Plan

I.A. Program Profile: Purpose

Describe the program(s) to be reviewed. What is the purpose of the program and how does it contribute to the mission of Skyline College?

Narrative

The math program is unique in that it will make or break the comprehensive college redesign as well as the completion agenda. AB705 mandates that all transfer bound students complete transfer level math within two semesters of beginning a math sequence. In addition, the Chancellor's office funding formula incentives this completion occurring within the first two semesters of enrollment. However, according to the office's own research, without significant support and intervention, a significant portion of students, a possible majority in fact, who take a transfer level course in the first semester will fail and need to retake it in the second. Either that, or they will need to take one course below transfer in the first semester and then progress to transfer level in the second.

Within the math program two distinct math pathways have been realized: Statistics and Liberal Arts Math (SLAM) which is mainly associated with the Meta Majors of Arts, Language, and Communication as well as Society and Education; and (Business, Science, Technology, Engineering, and Math (B-STEM) which mostly connects to the Meta Majors of Business, Entrepreneurship, and Management as well as Science, Technology, and Health.

If placed directly into a transfer level SLAM, students with a High School G.P.A. less than 2.3 have a 29% chance of success. If placed directly into transfer level B-STEM, students with a High School G.P.A. less than 2.6 and who didn't take High School Precalculus have a 28% chance of success. In contrast, students with a High School G.P.A less than 1.9 have a 42.6% chance of passing transfer level English.

As a consequence of all of this, all transfer bound students will need to take math in the first semester with significant resources allocated to improve their success and persistence within their selected math sequence

Separate from the redesign and the completion agenda, the purpose of the math program is to help students improve their own critical thinking, as well as the communication of that thinking, and to foster a love of lifelong learning. This directly aligns with the ISLO's of Critical Thinking, Effective Communication, and Lifelong Wellness. This in turn pairs with the vision of students achieving intellectual, cultural, and personal fulfillment. In pursuing this purpose, the aim is to empower classroom communities to participate in democratic societies across the globe.

I.B. Program Planning Team

Annual program planning is intended to be a collaborative process which promotes dialogue and reflection. Please identify all individuals who contributed to or shaped the narrative. Include names and the title or role of each person.

Narrative

David Hasson -- Tenured Faculty and B-STEM Math Pathway Coordinator

Denise Hum -- Tenured Faculty and SLAM Math Pathway Coordinator

Rick Hough -- Tenured Faculty and Math Department Coordinator

II.A. Analysis: Progress on Prior Program Objectives (Goals) and Activities

Describe the progress made on previously established program objectives (goals) including identification of achievements or areas in which further effort is needed. New programs which have not yet established CPR/APP objectives should discuss progress on program implementation or activities.

Narrative

Two prior objectives were to improve both intra- and inter-departmental communication. Two communities of practice have been formed around the SLAM and B-STEM pathways with a coordinator for each. The department has also retained a position of overall coordinator.

Nested block scheduling has been implemented to ensure that these communities can regularly meet Fridays 11:30am to 1:00pm. The pathway and department coordinator(s) are regularly meeting with the Counseling and English departments; the Assessment, Learning, Disability Resource, and STEM centers; the College Redesign Team; the Student Equity and Support Program; and the Center for Transformative Teaching and Learning. In particular, we have formed working groups for Intermediate Algebra, Data Science/Statistics, ASLT integration, Placement, as well as Workforce Development and Partnerships.

In addition, the coordinators have focused on reducing costs for students by scaling the adoption of inclusive access and purchasing technological resources to be use in class so that the savings can be passed on to students.

II.B. Analysis: Program Environment

Describe any recent external or internal changes impacting the program or which are expected to impact the program in the next year. Please include when the specified changes occurred or are expected to occur.

Narrative

Shelter-in-place necessitates extensive professional development on how to adopt best practices in interactive pedagogy, online or otherwise. The coordinators will develop a department specific training in June to be conducted in July for implementation of best practices in Fall 2020. Our goal is that these best practices will go beyond the traditional lecture model of instruction and then will transfer back into the classroom when Shelter-in-place ends.

In addition, the situation requires that we intentionally and accurately assess students adaptation to their new learning environment. We have not yet developed such assessments nor analyzed the results of the college's surveys and focus groups attempting to do the same. However, we plan to do so soon, and incorporate what we learn into our trainings for the department.

II.C. Analysis: Student Learning Outcomes (SLOs and PSLOs)

- 1) Instructional Programs Only: Describe what was learned from the assessment of course SLOs for the current and past year.
- 2) Student Service Programs Only: If PSLOs are being assessed this year (3-year cycle), describe what was learned. If no assessment was done because this is an off-cycle year, please state that this item is not applicable.

Narrative

SLOs and ISLOs were assessed this year but the data has not yet been analyzed. As reminder, our department SLOs are as follows:

ANALYZE problems in mathematics in order to appropriately choose and correctly apply concepts and techniques.

COMMUNICATE solutions in mathematics by using the multiple representation of graphs, tables, symbols, and words.

PARTICIPATE in activities that reinforce the use of success strategies while solving problems in mathematics.

And a possible fourth is...

CREATE mathematical models or hypothesis tests for real-world datasets and evaluate their implications for society.

III.A. Reflection: Considering Key Findings

Consider the previous analysis of progress achieved, program environment, and course-level SLOs or PSLOs (if applicable). What are the key findings and/or conclusions drawn? Discuss how what was learned can be used to improve the program's effectiveness.

Narrative

The strength of the math department is our willingness to restructure and adapt continuously. You know what we're talking about



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III.B. Reflection: ISLOs

If your program participated in assessment of ISLOs this year:

(1) What are the findings and/or conclusions drawn?

(2) Does the program intend to make any changes or investigate further based on the findings? If so, briefly describe what the program intends to do.

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IV.A. Strategy for Program Enhancement: Continuation/Modification

Indicate whether the program is continuing implementation of the last CPR strategy or revising the strategy. Please describe the modifications if revisions are intended.

Note: Any new strategies should be linked to Institutional Goals through creation of objectives in the next section. If the program has not yet participated in comprehensive program review, an annual or multi-year strategy can be defined in this item.

Narrative

Goal #1 -- Technological resources to support low-income students.

Plan -- Purchase sixty laptops, six laptop carts, renew thirty Minitab site licenses, and join TAC in order to advocate for reliable and scalable WiFi within Buildings 1, 2, 4, 7, 8 and Pacific Heights.

Resources Needed -- \$90000 for the laptops, \$3000 for the carts, \$3500 for Minitab, and storage allocated in Buildings 1, 2, 4 and Pacific Heights

Date -- Fall 2020

Goal #2 - Technological Resources to Support Faculty

Plan -- Purchase 20 tablet PCs to be checked out by faculty to create videos and annotate lectures during class recordings

Resources Needed -- \$50000 for 20 district approved tablet PCs

Date -- Fall 2020

Goal #3 -- SLAM Pathway Meetings.

Plan -- Schedule meetings bi-weekly alternating with the other pathway meetings. Then invite the ALC and SE meta-major counselors, the TLC Math Instructional Aide, and the Peer Mentors Retention Specialist to attend. Finally, identify two meta-major math faculty liaisons within the community.

Resources Needed -- 0.2 FTE for the SLAM faculty coordinator as well as support from Deans and Vice Presidents to encourage inter-departmental participation.

Date -- Fall 2020

Goal #4 -- B-STEM Pathway Meetings

Plan -- Schedule meetings bi-weekly alternating with the other pathway meetings. Then invite the BEM and STH meta-major counselors, the STEM Center Math Instructional Aide, and the STEM Center Retention Specialist to attend. Finally, identify two meta-major math faculty liaisons within the community.

Resources Needed -- 0.2 FTE for the B-STEM faculty coordinator as well as support from Deans and Vice Presidents to encourage inter-departmental participation.

Date -- Fall 2020

IV.B. Strategy for Program Enhancement: Action Plan and Resource Requests

Based on the most recent CPR and any desired modifications, develop an annual action plan with related resource requests. No narrative response will be entered in this section, but the objectives you create will be printed automatically in the APP report under this item.

(1) To begin, click on PLANNING at the top of the page, then CREATE A NEW OBJECTIVE. To view previously created objectives, click PLANNING at the top of the page, then VIEW MY OBJECTIVE.

(2) IMPORTANT! Make sure to associate each objective to this standard in the APP. Need help? Contact the PRIE Office for further instructions. Institutional Goals. Need help? Contact the PRIE Office for further instructions.

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