

**CCC Math Task Force**

November 9, 2017

1:30 pm – 3:00 pm

5206 Lanai Tower, Sheraton San Diego Hotel and Marina

1-913-312-3202 or 1-888-886-3951

Participant Passcode: 720525

**Members**: Leslie Banta, Wade Ellis, Katia Fuchs, Mark Harbison, Ginni May, John Stanskas, Donna Greene

**Guests**: Joe Conrad

1. Welcome and Introductions
2. Approval of Agenda
3. Discuss Taskforce Structure and determine co-chairs

It was suggested to consider having a representative from SACNAS (sacnas.org). The group decided to reach out for input possibly when we are further along with our work.

Co-Chairs: Leslie and Ginni

1. Discussion and Review of current Math/QR situation for CCCs

AB 705 and the CSU EO 1100 and 1110 were discussed.

1. Determine Charge of the CCC Math Taskforce

Recommended Charge:

Provide guidance to the field about quantitative reasoning pathways.

Ideas of Guiding Principles to be used by the Task Force:

* Educate the larger community that mathematics is a powerful tool in one’s life.
* Promote and increase diversity in STEM fields.
* Encourage students to consider STEM, especially those that may otherwise not consider a STEM field.
* Encourage students to explore STEM opportunities.

More ideas will be considered and discussed at the next meeting.

Compliance:

How do we imagine appropriate curricular design that gets students through transfer in one year?

It was clarified that one year does not mean two semesters. It may include the summer before the fall term begins.

Following are some ideas for compliance that were discussed:

* Multiple Pathways and a Bridge – could utilize the C-ID system descriptors to provide some models that the Task Force members believe have value that could support students to achieve their goals.
* Support for a Bridge between paths, so that the short path is not a trap.
* There was concern that there could be too many paths.
* It was shared that one college has three paths depending on the students’ interests.
* It was recommended that the Task Force document professional development and implementation procedures. For example, many colleges have already begun to make pathways and could consider three tracks: one that is terminal, one for transfer non-STEM, and one for transfer with a STEM option.

It was noted that the Task Force needs deliverables/recommendations by April 2018 regarding sequential pathways leading to fulfillment of CSU GE B4 (Quantitative Reasoning) and bridges between the pathways. A timeline will be made with short-term and long-terms goals clarified.

Task Force members will send some notes to Ginni to include with the meeting minutes (see below).

1. Future Meetings:

December – Phone meeting: Ginni will send out a Doodle Poll

January – In person meeting: Ginni will send out a Doodle Poll

1. Adjourn

**Additional Notes/Comments from Task Force members sent on Monday, November 13, 2017:**

1. Students that are going into non-intensive disciplines or careers with minimal need of mathematical thinking should have the opportunity to earn the certification that is a bachelor’s degree. However, even such students need to be able to participate fully as citizens in an information and data based society.
2. Perhaps in making an “easy” pathway to a degree, we are discouraging students who might be effective STEM students or at least students that could be technicians in STEM based areas.
3. The society is demanding more STEM trained individuals in the workforce, but encouraging students to take a pathway that would require much less mathematical thinking seems to be counterproductive.
4. I have attached articles on risk factors and key characteristics for successful collegiate learners along with a draft of a paper entitled “Learning to Learn in Mathematics – Why is it Critical?”.

We need clarity on AB705 and I’d like to see us advocate for an interpretation to the fast-track model that includes summer semester.

Challenges of co-requisite/support models include a current lack of faculty (especially FT faculty, but also PT faculty) at CCCs. Access to faculty is an integral part of student success, especially in STEM majors.

Access and diversity in STEM needs to remain a priority and “tracking” students away from STEM for the sake of expediency or in the name of “equity” should be discouraged.

* To be clear here, I believe that equity is not seen only in the attainment of a degree (what I call the “any degree will do you” model). Equity means having access to and support through the academic pathway of your choice. There is a great danger in tracking students into expedient pathways will reduce the number of women and people of color in STEM majors.
* Additionally (and respectfully), the current CCC Chancellor’s position regarding mathematics attainment has the potential to send the message that certain populations “can’t” be successful in math, which is a deficit mindset approach. I’d like to see us reaffirm that success in mathematics is attainable by students across varying populations and backgrounds.
* The need for STEM majors continues to grow and the decisions being made at the state level with regard to mathematics preparation have the potential to adversely impact California’s future STEM work force and limit opportunities for our graduates.

We should be mindful along the way that the CCC system serves a variety of communities and the needs in small rural districts may be quite different than larger urban districts. There will not be a one-size-fits-all solution and the ASCCC (and CMC3) should be advocating for the primacy of faculty in the discipline in making these decisions.

* AMATYC (American Mathematical Association for Two-Year Colleges) voted on a resolution regarding QR at their delegate assembly this weekend. I don’t know the outcome (as I was already headed home) but we might review that. When I read the draft, I was concerned that it did not consider the limitations small schools may have offering discipline-specific sections in QR.
* Any recommendations we make as to QR content should allow for a broad spectrum of topics (some colleges may choose to make courses heavy in technical math, some may choose to make the course heavy in statistics, depending on the needs of their students).

It was suggested that we “provide guidance to the field about QR pathways”. I’ve been giving this some thought and am concerned it is too limited in scope (although, I do realize we may want a short title for whatever we submit). By “the field”, do we mean the mathematical community? The STEM community? The CCC community? Also, it looks like we will also be considering the impact QR pathways may have on STEM pathways. Might it be beneficial to incorporate that idea somehow as well?

I’ve attached a few docs from our college. One shows our tracks on a single page, the other splits them out by STEM and non-STEM.

Ginni May has contacted CMC3-South to appoint membership to the CCC Math Task Force.

I’m sure that Placement will remain at the forefront of these discussions; talks of eliminating placement exams, allowing students to place themselves, and use high school grades for placement are all on the table at this point. My concerns/visions for this are that students from “traditional under-represented” groups in STEM will not voluntarily place themselves into a STEM pathway if left entirely up to their own devices. With a college the size of mine especially, but I’m sure in general to a certain extent, it is unreasonable for counselors to bear the brunt of having in-depth conversations with students about math placement, encouraging STEM, carefully evaluating what the best place for them might be, etc. I think I would like to see a piece where we advocate for math advising to happen within individual departments, with an emphasis on encouraging women and people of color (as well as others) to consider STEM pathways.

By “the field” I mean discipline faculty in QR, Curriculum committees and senates evaluating general education.