

Math Pathways Task Force

October 3, 2014

10:00-11:30am

Department of Higher Education
1560 Broadway -Suite 1600 - Denver, CO 80202

Call-in Number: 1-877-820-7831; Access code: 473156#

To join the webinar: <http://connect.enetcolorado.org/gecouncil/>

Agenda & Meeting Notes (in red)

Objective: Organize and establish Task Force, refine membership, plan logistics & prep team members (now – November 2014).

In attendance: Dean Allison (UNC), Dave Ruch (MSU Denver), Alexis Venter (ACC), Rob Tubbs (UCB), Bruce Vandal (Complete College America), Ian Macgillivray (CDHE)

1. Greetings and Introductions
2. Meeting Schedule & Calls with CCA and Dana Center
 - a. Fridays; late mornings or early afternoons? **Yes.**
3. Discussion of first steps: What is our general sense of the work required in Colorado to work toward the three main goals set out by CCA / Dana Center? Recall these were:
 - i. Convening math faculty leaders to **decide how well are the gateway math courses aligned with programs of study. For example, are there programs that require College Algebra when that might not be the best gateway mathcourse? Could do ii. and iii. with better advising. Question to examine: Is College Algebra a good pathway for as many students as are now being funneled into it? (many Business schools like it as prep for Calc.). What is the change that will best serve students?**
CCCS considering an alternative to Accuplacer. Problem is Early Algebra cut score of 85 is too high for Intro to Stats and Math for Lib Arts but too low for College Algebra.
CU has lots of students who take College Algebra just to fill their math requirement.
 - ii. **Designing Identify** alternative gateway math courses that are more appropriately aligned with the math skills students need to succeed in their program of study.

Tying in Fac2Fac and revision of gtPathways competencies. Math Task Force outcomes can guide the work already started.

- iii. Working with representatives from academic disciplines to review their math requirements and adopt alternative courses to College Algebra for non-Calculus based majors.

Ian is following up with CCCS development education contact in regards to which math courses to recommend for students in dev ed, depending on the degree with designation they intend to complete.

4. Task Force Membership (8-12 people)

- a. Rocky Mtn Section of the Mathematical Association of America (MAA - <http://sections.maa.org/rockymt>); meeting April 17-18, 2015 Colorado Springs.
 - i. Heidi Keck, Secretary/Treasurer (WSCU) hkeck@western.edu (970) 943-3167
 - ii. Erica Marlys Hastert, Vice-Chair (CCCOnline) Erica.Hastert@cccs.edu (720) 858-2334
 - iii. Bill Emerson, Governor (MSU Denver) emersonb@msudenver.edu (303) 556-3930
- b. Suggestions for members:

Rick Miranda, Alexander Hulpke, Heidi Keck, Radu Cascaval, Frank Zizza, Lori Payne, Steve Aldrich, Carl Leinert or Sandy Gilpin.

Mines: The Core requirements for ALL undergraduate students at Mines is three semesters of traditional calculus. Thus, every student is by definition on a STEM track at Mines. Since most of the discussions in the task force are regarding students not on a STEM track, I think that is why none of us thought to include them in the discussion. However, if the CCs are wanting to direct a lot of their students into a college algebra course in order to keep the option alive to go to Mines, then that fact needs to definitely be part of the discussion.

Good resources for Quant Math (not Task Force members):

Bill Briggs at UCD. He is co-author of a popular textbook used in QR courses, such as our Math for Liberal Arts at UNC.

Corrine Brase at ACC and Charles Brase at Regis are co-authors of "Understanding Basic Statistics", a good textbook used for introductory stats courses.

- c. Workforce/Business – in an advisory role?
 - d. Faculty from other disciplines- in an advisory role?
 - e. Someone from GE or Academic Council? Ex officio member?
 - f. Sandy Gilpin (FLC); Janet Barnett (CSU-Pueblo)?
 - g. CDE math content specialist?
 - h. Other national/state/community organizations that care about this?
5. Draft a Work Plan and Agenda for First Meeting of the Full Task Force
The background work (resources, data, PPT slides) the Dallas folks got.
Use 6_Starter Slide Deck_2014_09_05.pptx out of DropBox

Rob: Make a pitch that Intro to Stats isn't the right course for SBS programs? (U of Houston does modeling course? Bruce had idea of institutions that don't use Intro to Stats).

Ian: Can we use C2C grant funds to reimburse mileage for first meeting?

6. Identify the preliminary data that will be most helpful for the initial meetings
Survey institutions for gateway math by discipline to get lay of the land. Can send document from Dean and ask for similar. If don't have, then we are not asking folks to determine all of that information for now. However, any information they do have for their institutions would be helpful.

How many sections of Math for the Liberal Arts (or comparable course) and Introductory Stats and College Algebra do you typically offer each year?

Ian & Dean: Re-pull data used at Dallas. Define questions.

7. As time allows, we could review, refine, and edit the following tentative list of tasks, goals and challenges:

Draft a Charge

- a. Refer to Ohio and Georgia examples
- b. Create a vision for the state
- c. Are there data we need that support the goals, identify a problem, and would allow us to build faculty support for this common cause?

Small ("low hanging fruit") Goals & Challenges

- a. Common definition/shared understanding of gateway courses
- b. Degrees with Designation – gateway math courses
- c. Revise data pulled for the institute in Texas. Disaggregate by IHE and confirm accuracy
- d. Connect this work with Fac2Fac revision of gtPathways content and competencies
- e. How do algebra with modeling math courses fit into the alternative math gateway? Which institutions have these courses? Are they in gtPathways? Do they transfer and apply to programs of study?
- f. What to do with October 24 Fac2Fac? Too soon to get right people there and invite Uri?

Big (long-term) Goals & Challenges

- a. Data on what happens to students who are funneled into College Algebra?
 - i. College students with no declared major
 - ii. Concurrent Enrollment high school students
 - iii. What percent of students completing college algebra go on to complete a non-business calculus course?
- b. Which programs require which gateway math course and pre-reqs (by major)?
 - i. Institutional Transfer Guides that GE Council is working on can help answer
 - ii. Add a question/note on the template regarding the math pathway of the major?
 - iii. Is College Algebra "hidden" as a pre-req?
 - iv. Is college readiness in mathematics defined by intermediate algebra?
- c. Which IHEs/programs use College Algebra vs. Pre-Calc vs. another option as preparation for calculus?
- d. How do we loop advisors into this work?

- e. Are faculty (in majors that require it) satisfied with student outcomes for *Math for the Liberal Arts* (including support, mentoring and supervision for adjunct and other faculty)?
 - i. How do we ensure rigor of this course so that when more students are funneled into it, they are well prepared for their programs?
- f. The “fate” of College Algebra
- g. Students transferring math from Emily Griffith, Delta-Montrose or Pickens Technical Colleges (either into CTE or academic degrees)
- h. Consult with professional/accreditation organizations to see what mathematics they are interested in their students learning
- i. Meta-majors with math pathways
- j. These majors a good place to start?: nursing & allied health; business, communication/journalism; criminal justice; social sciences

Related State/National Initiatives and “Where Do We Fit In?”

- 8. Other Business?

Next meeting: October 31, 2014, 11:00AM-2:00PM at CDHE with full membership.