

RM@RT Recommendations

MichMATYC Panel Discussion on Pathways

October 15, 2016

1. Strategy 1 (Align Pathways Outcomes)

- Establish a standing committee on mathematics transfer courses under the umbrella of the newly created MCCA/MASU Michigan Transfer Steering committee.
 - Involve representatives from K-12, community colleges, universities, the mathematics professional associations and business and industry partners.
- Building on the descriptors in the January 2014 report from the MTA Math Committee, the standing committee should recommend broad learning outcomes for a set of college-level courses in quantitative reasoning, statistics and preparation for calculus.
 - Include outcomes describing development of common critical mathematical thinking skills as well as mastery of pathway-specific topics and pre-requisite skills for later courses as applicable.
- In collaboration with community colleges, universities and state mathematics professional associations, the committee should hold mini-conferences to refine and disseminate the recommended learning outcomes for introductory courses in quantitative reasoning, statistics and preparation for calculus.
 - Recommendations should acknowledge that institutions serve different regions and student populations and will accommodate those differences.

2. Strategy 2 (Match Programs with Pathways)

- The standing committee should develop a Michigan mathematics pathways handbook providing information for faculty within and outside of mathematics describing learning outcomes for mathematics pathway courses, case studies of implementation, and student outcomes data for each introductory course.
 - The handbook should be available online from MCCA and MASU and should be widely disseminated by these and other professional associations via conference presentations, webinars, campus representatives and other available channels.
- Discipline/program-specific workgroups established under the umbrella of the Michigan Transfer Steering Committee should participate in workshops with members of the Mathematics Standing Committee as a core component of their work in aligning program requirements across 2- and 4-year institutions.
 - Discipline/program-specific workgroups should consider information from the handbook along with criteria from accrediting bodies and institution-specific curricular requirements in selecting appropriate mathematics content for the program(s) of study.
- Institutions elect to revise mathematics requirements as needed, targeting high-enrollment bachelor's degree programs.
 - Institutions that have revised mathematics requirements should track enrollment and success in mathematics pathway courses to document improvements.

3. Strategy 3 (Promote Implementation of Best Practices at the Developmental Level)

- The Michigan Center for Student Success (MCSS), in collaboration with MASU and the state mathematics professional associations, will establish a statewide learning network for developmental mathematics.
 - Membership in the network will be voluntary and based on institutions' agreement to: implement strategies that enable students to enroll in and complete a college-level math course more quickly than in the traditional developmental math sequence; help students develop skills as learners; and employ curriculum design and pedagogy based on proven practice.
- Underprepared students will be offered mathematics learning opportunities that prepare them for the mathematics required in areas of focus and/or specific programs of study aligned to their interests and abilities.
 - Learning opportunities will be designed to minimize or replace lengthy sequences of developmental mathematics courses and to accommodate exploration of majors and careers during the first few semesters for undecided students.