

CONCURRENT SESSION 1
PREREQUISITES &
COURSE SEQUENCING

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SESSION B
AMBIGUITY OF MATHEMATICS SEQUENCING
RESULTING IN CONTENT OVERLAP

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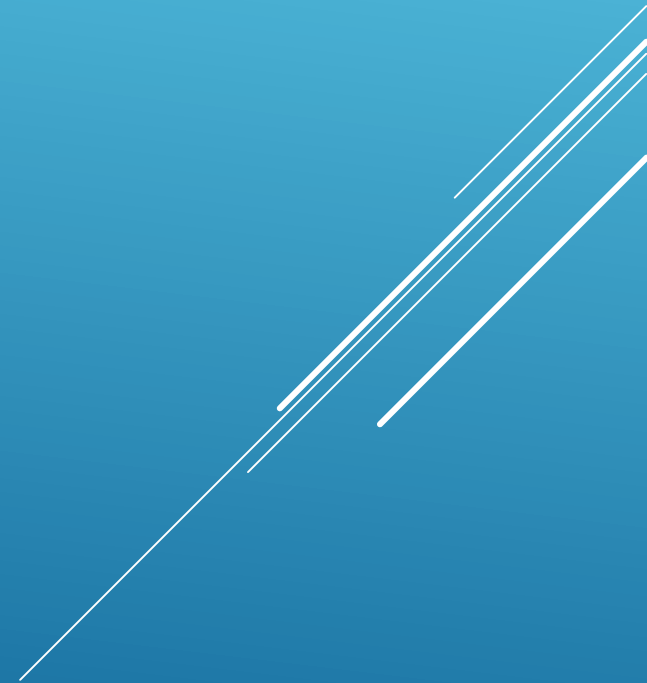
RECOMMENDATION 1

Encourage colleges and universities to implement instructional models which allow for students to place directly into college level mathematics courses carrying general education credit.

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STRATEGY

Provide statewide institutions of higher learning with a variety of tested and/or researched methods or models for placing students directly into college level mathematics courses carrying general education credit. For example, co-requisite models, mini-term courses, combination courses and summer or orientation boot camps.



RATIONALE

Existing research already shows the potential for increasing student success within courses, and all methods imply the shortening of time and credits to degree or certificate completion. However, there is the potential for a reduction in the number of sections of gateway mathematics courses being offered.



NECESSARY RESOURCES

(1) A means of effectively communicating these recommendations to all Florida higher education institutions along with suggested methods and models that have been tried and any supporting research evidence.




NECESSARY RESOURCES

(2) Faculty will need professional development opportunities to explore which methods or models seem to best meet the needs of their department and student population. This could include more state-supported state-wide or regional institutes and/or state appointed liaisons/experts who would be able to travel to individual institutions to help in the decision-making process.


RECOMMENDATION 2

Review Florida Administrative Code & Florida Administrative Register section 6A-10.030 with regard to the number of required semester hours of mathematics for college/university graduation in the state of Florida.

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STRATEGY

Explore methods of best measuring the quantitative reasoning skills attained by college/university graduates to include those being used by other states and/or nations and based on recommendations from organizations and agencies such as the Mathematical Association of America (MAA), the American Mathematical Association for Two-Year Colleges (AMATYC) and the Center for Curriculum Design (CCR).


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RATIONALE

The mathematical and quantitative reasoning needs of 21st century students is rapidly evolving and may no longer be best met by measuring number of mathematics courses/credits, but rather in how they apply those reasoning skills throughout their college/university experience. Current graduation requirements in other states seem to point in this direction already. Therefore, an investigation into their thinking processes for their requirements would seem to be warranted. Although on the surface this may appear to potentially eliminate a large number of mathematics courses being offered, part of the research may reveal otherwise and/or a redistribution of instructional duties for mathematics faculty.


NECESSARY RESOURCES

A state-supported team of mathematics faculty and administrators from higher education and researchers tasked with investigating recommendations and existing models for measuring college-level mathematical reasoning upon graduation from an institution of higher learning.

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RECOMMENDATION 3

The College System needs more control & flexibility over which topics are offered in each math course. More math courses are needed that align with careers and programs versus a “one size fits all” approach to math courses. Design at least three pathways and a math course (or two) for each one.




STRATEGY

(1) Develop multiple mathematics tracks appropriate for degrees, certificates and/or areas of emphasis being offered in the Florida College System

(2) Review and possibly revise existing mathematics courses or develop new mathematics courses appropriate for degrees, certificates and/or areas of emphasis assigned to each track

RATIONALE

(1) Developing common tracks across the Florida College System has the potential for contributing to better student advising

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RATIONALE

(2) Course content more closely linked to the mathematical needs of various fields of study has the potential for reducing the breadth of topics and/or skills in individual courses and number of required courses/credits, and increasing student success by providing more direct applications through instruction and/or practice

NECESSARY RESOURCES

(1) A statewide group made up of discipline experts

(2) Research data on degrees, certificates and areas of emphasis currently being offered in the Florida College System, and mathematical skills and/or concepts necessary and/or utilized in those fields



GENERAL RECOMMENDATION

Re-establish the statewide group that monitors the course numbering system proposals for mathematics with oversight by the FDOE.

This should be an active group that meets each semester and has some authority/power to make decisions about vague submissions. We recommend that the committee be comprised of 7 to 10 members on an alternating and rotating basis allowing all colleges to have representation within the cycle.