



FAST FACTS

All Ohio public colleges and universities will offer pathways in mathematics that help students succeed, increase the percentage of students completing degree programs and promote the effective transfer of credits for students moving from one institution to another.

July 2016

Three Years Strong!

Ohio Mathematics Initiative . . . creating learning pathways to college completion

The Ohio Mathematics Initiative (OMI) is a collaborative effort of mathematics faculty members from Ohio public colleges and universities and Ohio high schools designed to rethink mathematics courses, curricula and their relationships with other disciplines. The drivers of this initiative are the establishment of Ohio's remediation-free standards, which guarantee placement into college credit-bearing courses for any new student achieving at or above a benchmark assessment score; the need for course options aligned with students' academic and career goals; increasing difficulties with course and credit applicability within the Ohio Transfer Module (OTM); and the introduction of Ohio's New Learning Standards for K-12 students.

In May 2013, the OMI began with the work of the Ohio Mathematics Steering Committee, a group of 17 faculty members from Ohio's public colleges and universities and Ohio Department of Higher Education and Ohio Department of Education staff. The committee was charged by the Chancellor to develop expectations and processes that result in every public campus in Ohio offering pathways in mathematics that yield (a) increased success for students in the study of mathematics; (b) a higher percentage of students completing degree programs; and (c) the effective transfer of credits for students moving from one public institution to another.

The OMI's importance cannot be overstated. It has generated new placement strategies for students who achieve remediation-free status, high-quality gateway courses and mathematics pathways connected to coherent programs of study, assessments that include multiple measures for more accurate placement, and enhanced co-curricular support for students who place below the identified benchmark.

Each of these achievements is an important component of Ohio's postsecondary success agenda. Yet, the OMI is a work in progress. Much more remains to be accomplished.

Here is a brief look at what the OMI has accomplished over the past three years.

Alternative Learning Pathways

Acknowledging that mathematics poses a serious barrier to student success, and that college algebra is not necessary for graduates in all disciplines, the Ohio Mathematics Steering Committee called for the redesign of entry-level mathematics programs with learning pathways that give students options more closely tailored to their degree programs. A mathematics pathway is a course or sequence of courses that a student takes to fulfill the mathematics requirements for her/his program of study.

Less than two years later, Ohio public colleges and universities endorsed a new Ohio Transfer Module (OTM) course with learning outcomes in Quantitative Reasoning. This action gave students three well-defined, faculty-developed learning pathways in mathematics: a Statistics Pathway; a Quantitative Reasoning Pathway; and a STEM Preparation Pathway.

Co-Requisite Remediation Strategies

The state is continuing to work on the development of co-requisite remediation strategies for improving developmental education, and ultimately, college completion rates. With the co-requisite course model, students who demonstrate a few academic deficiencies are placed immediately into entry-level, credit-bearing college courses **with** co-requisite support. For these students, placement with co-requisite support is the default option for remediation with the length and structure of co-requisite support varied depending on the seriousness of a student's academic weaknesses.

Quantitative Reasoning

The state's new OTM course with learning outcomes in Quantitative Reasoning (QR) was adopted in December 2015. A rigorous, college-level course, QR applies mathematics to the analysis and interpretation of real-world quantitative information. It is part of a campus's general education requirement for majors in non-mathematics-intensive fields. Successful QR students should be proficient in numeracy, mathematical modeling and probability/statistics.

Learning Outcomes for OTM Courses

During the 2015-2016 academic year, OMI convened faculty panels to review and revise existing OTM courses with an emphasis on student learning outcomes, and on how they are assessed using formative and summative assessments. Work has been completed on college algebra and introductory statistics. Revisions are still being made to trigonometry and pre-calculus. The faculty panels sought to increase departmental flexibility in determining prerequisite courses and credit-hour requirements, and to avoid triggering resubmissions of already-approved courses.

College Readiness Assessments Expanded

In May 2016, the presidents of Ohio's public colleges and universities approved recommended changes for assessments to be added to the *Uniform Statewide Standards for Remediation-Free Status*. Based on the work of a faculty panel, the expanded assessments are intended to ensure consistency in college readiness determinations and course placement practices statewide. There is no statutory deadline for approval of the recommendations by institutions' boards of trustees, but each institution is responsible for assessing the needs of enrolled students in the manner adopted by the presidents.

In addition to the five areas of action highlighted in this report, changes driven by the OMI include the following:

- Formation of the Mathematics Chairs/Leads Network in order to create an infrastructure that allows for timely, meaningful, cross-institutional communication. Today, the Network is exchanging evidence-based information and reviewing evaluation data linked to specific initiatives or policies.
- The Ohio Department of Higher Education (ODHE) is working collaboratively with the state's public campuses to develop a common protocol for collecting, analyzing and reporting data related to student success and program effectiveness. The initial focus of this work is to identify data collected at the campus and statewide levels that might be used to improve student success in mathematics.
- In April 2015, the OMI's K-16 alignment subgroup planned and hosted an Ohio Student Success Summit for postsecondary mathematics faculty, academic advisors and institutional leaders – and for mathematics teachers and counselors from high schools and career-technical institutions in their service areas. Presently, subgroup members are exploring best and promising practices designed to align K-16 mathematics content and instruction. They also are planning workshops to promote improved alignment for spring 2017.
- During the first half of 2016, ODHE hosted three well-attended workshops on alternative mathematics pathways, co-requisite models of developmental education and quantitative reasoning for mathematics faculty, administrators and advisors. These workshops were designed to assist institutions in implementing innovative learning pathways and instructional models.

Where does the OMI go from here?

During the 2016-2017 academic year, the OMI's highest priority will be to support campus' efforts to think systemically and to link redesigned gateway mathematics courses and structured degree pathways with transformed remediation efforts that give students co-requisite learning opportunities – all part of a comprehensive student success strategy.

This priority will be reflected in the continued execution of Ohio's "Bridges to Success" initiative, additional Quantitative Reasoning training for faculty, training for advisors upon whom students depend for accurate and appropriate counsel, and other workshops for building campus' capacity to improve student outcomes.