



Position Statement of the AMERICAN MATHEMATICAL ASSOCIATION OF TWO-YEAR COLLEGES on **Mathematics for Liberal Arts**

Mathematics for Liberal Arts (MLA) courses are general education quantitative reasoning (QR) courses which provide mathematical skills and perspectives to empower students as they pursue their personal, academic, and career goals. This position statement integrates the position and recommendations of the American Mathematical Association of Two-Year Colleges (AMATYC) for general education mathematics courses.

Rationale

QR is an essential learning outcome of all mathematics courses, supporting student success in the 21st century.^{1, 2, 3} The increasing importance of QR to more programs of study, combined with the national Mathematics Pathways movement, has resulted in MLA courses now being more explicitly focused on developing QR skills. One of three mathematics pathways identified in AMATYC's *IMPACT* is Quantitative Literacy.⁴ Since MLA courses will serve as capstone courses for this pathway, AMATYC presents the following four recommendations.

Course Purpose

MLA courses should be designed with the goal of increasing students' quantitative and logical reasoning abilities. MLA courses should assist students to realize the relevance of mathematics and to develop an appreciation for mathematics.

Course Topics and Approach

Content should be useful and meaningful for students and relate to real world applications. Focus should be placed on conceptual understanding through modelling, interpretation, and real world connections. Topics should be covered in appropriate depth and at an appropriate pace so that students gain a sense of mastery. Technology should be utilized in order to reduce the computational load and to facilitate a broad exploration of the concepts.

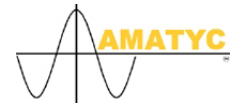
Engagement

One of the four pillars of AMATYC's *IMPACT* is "Engagement: Developing Intellectual Curiosity and Motivation in Learning Mathematics" for both students and faculty.⁵ MLA courses should engage students in the learning process by incorporating active learning strategies and exploration through activities and projects that are of general interest to students. Faculty should be encouraged and supported by professional development opportunities to use best educational practices in creating a productive and dynamic learning environment.

Student Audience

While MLA courses are a suitable option to fulfill degree requirements for students in non-STEM-intensive majors, all students in the first two years of college should have access to QR courses because of the great benefits they offer. Students in non-STEM-intensive majors should be encouraged to take at least one additional course in the mathematical sciences above their minimal degree requirement.⁶ Students in STEM-intensive majors would also benefit from a QR course.

Approved at the Delegate Assembly
November 16, 2019



¹ American Mathematical Association of Two-Year Colleges (AMATYC) (1995). *Crossroads in Mathematics: Standards for Introductory College Mathematics Before Calculus* (Memphis, TN: AMATYC), 40-41.

² American Mathematical Association of Two-Year Colleges (AMATYC) (2006). *Beyond Crossroads: Implementing Mathematics Standards in the First Two Years of College* (Memphis, TN: AMATYC), 39-41.

³ Association of American Colleges & Universities (AAC&U) (2007): *College Learning for the New Global Century: A Report from the National Leadership Council for Liberal Education & America's Promise* (Washington, DC: AAC&U), 3.

⁴ American Mathematical Association of Two-Year Colleges (AMATYC) (2018). *IMPACT: Improving Mathematical Prowess And College Teaching* (Memphis, TN: AMATYC), 3.

⁵ *IMPACT*, 43-53.

⁶ Mathematical Association of America (MAA) (2004): *Undergraduate Programs and Courses in the Mathematical Sciences: CUPM Curriculum Guide 2004* (Washington, DC: MAA), 28.