

GT Pathways & LAC Learning Outcomes: Mathematics

Note that competencies are general statements of knowledge, skills, and behaviors while outcomes are specific statements about skills students can demonstrate in a measurable way. The content criteria represent the makeup of the course itself (i.e., what the course must include in terms of content).

The left column summarizes information about the category and its requirements. This data is for reference purposes and is not included on the syllabus.

The right column contains the competencies, outcomes, and content criteria that are required on the syllabus.

Mathematics	
<p>o GT-MA1: Mathematics</p> <p>Competencies: GT-MA1 requires the following competencies and SLOs:</p> <ul style="list-style-type: none"> • Quantitative Literacy: 1a, 2a, 3a-c, 4a-c, 5a (and 6a for Statistics courses) <p>Content Criteria: Mathematics</p> <p>LAC attribute: Mathematics (LAX1)</p>	<p>LAC Mathematics Learning Outcomes + GTP Competency & SLOs</p> <p>Quantitative Literacy: Competency in quantitative literacy represents a student’s ability to use quantifiable information and mathematical analysis to make connections and draw conclusions. Students with strong quantitative literacy skills understand and can create sophisticated arguments supported by quantitative evidence and can clearly communicate those arguments in a variety of formats (using words, tables, graphs, mathematical equations, etc.).</p> <p>Student Learning Outcomes (SLOs) <i>Students should be able to:</i></p> <ol style="list-style-type: none"> 1. Interpret Information <ol style="list-style-type: none"> a. Explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words). 2. Represent Information <ol style="list-style-type: none"> a. Convert information into and between various mathematical forms (e.g., equations, graphs, diagrams, tables, words). 3. Perform Calculations <ol style="list-style-type: none"> a. Solve problems or equations at the appropriate course level. b. Use appropriate mathematical notation. c. Solve a variety of different problem types that involve a multi-step solution and address the validity of the results. 4. Apply and Analyze Information <ol style="list-style-type: none"> a. Make use of graphical objects (such as graphs of equations in two or three variables, histograms, scatterplots of bivariate data, geometrical figures, etc.) to supplement a solution to a typical problem at the appropriate level. b. Formulate, organize, and articulate solutions to theoretical and application problems at the appropriate course level. c. Make judgments based on mathematical analysis appropriate to the course level. 5. Communicate Using Mathematical Forms <ol style="list-style-type: none"> a. Express mathematical analysis symbolically, graphically, and in written language that clarifies/justifies/summarizes reasoning (may also include oral communication). 6. Address Assumptions (<i>required of Statistics courses only</i>) <ol style="list-style-type: none"> a. Describe and support assumptions in estimation, modeling, and data analysis, used as appropriate for the course. <p>Content Criteria for Mathematics (GT-MA1): This course should provide students with the opportunity to:</p> <ol style="list-style-type: none"> a) Demonstrate good problem-solving habits, including:

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| | <ul style="list-style-type: none">• Estimating solutions and recognizing unreasonable results.• Considering a variety of approaches to a given problem and selecting one that is appropriate.• Interpreting solutions correctly. <ol style="list-style-type: none">b) Generate and interpret symbolic, graphical, numerical, and verbal (written or oral) representations of mathematical ideas.c) Communicate mathematical ideas in written and/or oral form using appropriate mathematical language, notation, and style.d) Apply mathematical concepts, procedures, and techniques appropriate to the course.e) Recognize and apply patterns or mathematical structure.f) Utilize and integrate appropriate technology. |
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