**Appendix C**

**GT PATHWAYS: MATHEMATICS GT-MA1 COURSES**

**State-level Goal:** Collectively, the general education requirement in mathematics is designed to help students:

• Develop an understanding of fundamental mathematical concepts and their applications.

• Develop their quantitative problem-solving skills.

• Develop a level of quantitative literacy that provides a foundation for success in their programs of study, careers, and citizenship.

**REQUIRED Syllabus Statement Language for direct inclusion in all GT-MA1 course syllabi is below this line. This includes Content Criteria and Competencies.**

**GT-MA1** This MATH [#] course satisfies the Guaranteed Transfer (GT) Pathways Requirements for Mathematics.

The Colorado Commission on Higher Education has approved [MATH & number] for inclusion in the Guaranteed Transfer (GT) Pathways program in the GT-MA1 category. For transferring students, successful completion with a minimum C- grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to <http://highered.colorado.gov/Academics/Transfers/gtPathways/curriculum.html>.

This designation verifies the following Content Criteria and Competencies are met in this course.

**GT-MA1 MATHEMATICS Content Criteria:**

This GT-MA1 course provides students with the opportunity to:

a) Demonstrate good problem-solving habits, including:

* Estimating solutions and recognizing unreasonable results.
* Considering a variety of approaches to a given problem, and selecting one that is appropriate.
* Interpreting solutions correctly.

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.

**GT-MA1 MATHEMATICS Competencies and Student Learning Outcomes**

***Quantitative Literacy Competency***

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.).

***Student Learning Outcomes (SLOs)***

*Students should be able to:*

1. **Interpret Information**: Explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words).
2. **Represent Information**: Convert information into and between various mathematical forms (e.g., equations, graphs, diagrams, tables, words).
3. **Perform Calculations** 
   1. Solve problems or equations at the appropriate course level.
   2. Use appropriate mathematical notation.
   3. 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** 
   1. 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.
   2. Formulate, organize, and articulate solutions to theoretical and application problems at the appropriate course level.
   3. Make judgments based on mathematical analysis appropriate to the course level.
5. **Communicate Using Mathematical Forms** 
   1. Express mathematical analysis symbolically, graphically, and in written language that clarifies/justifies/summarizes reasoning (may also include oral communication).
6. **Address Assumptions** (required of Statistics courses only)
   1. Describe and support assumptions in estimation, modeling, and data analysis, used as appropriate for the course.