**CSU’s AUCC Category 1B: Quantitative Reasoning**

**GT Pathways Mathematics (MA1)**

Note: Utilize this help document for all AUCC and GT Pathways proposals submitted in CIM prior to August 2019.

AUCC and Guaranteed Transfer (GT) Pathways Course (Re)submission Process

1. **CIM course proposal:** Submit through the [CIM-Courses website](https://next.catalog.colostate.edu/courseadmin/) – detailed CIM forms instructions below.
	1. Attach the **Course Syllabus Template** that includes the required CDHE language as outlined below.
	2. Attach the **CDHE GT Pathways Course Submittal Form & Institution Verification**.
	3. Submit the course proposal with the attachments through the regular CIM workflow to be reviewed by your college curriculum committee and the University Curriculum Committee (UCC). Once approved by the UCC and Faculty Council, the Provost’s Office will submit the resubmission paperwork to the CDHE.
2. **Course Syllabus Template:** Create a syllabus template for the course that includes the SLOs, Content Criteria, and the required GT Pathways designation statement: The Colorado Commission on Higher Education has approved XXXX #### 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>.
3. **CDHE GT Pathways Course Submittal Form & Institutional Verification** [**(Link to Submittal Form)**](http://highered.colorado.gov/Academics/Transfers/gtPathways/Submittal%20Form/Submittal_Form_GTP_Curriculum_FINAL_MATH_GT_MA1.docx)**:**

Complete each section (I-IV). In Section IV, explain how your unit will ensure that the required GT Pathways information will be included on each syllabus for every section of the course and how this will be regularly communicated to teaching faculty. Section V ‘Institutional Verification’ will be completed by the Provost’s Office after UCC review.

Additional GT Pathways information is available on the Curriculum & Catalog website: <https://curriculum.colostate.edu/aucc>. Contact your [UCC Representative](https://curriculum.colostate.edu/ucc-representatives/) or the [Curriculum & Catalog Unit](https://curriculum.colostate.edu/) at curriculum@colostate.edu with questions/concerns about the AUCC and GT Pathways (re)submission process.

**CIM COURSE PROPOSAL:**

1. For the **Proposed Changes field** at the top of the CIM course proposal, click “Major”. Every field in red outline is required.
2. For both EXISTING and NEW AUCC course proposals, under the **AUCC section**, respond to the prompt listed below rather than the text currently on the CIM form:

Explain how this course will build a foundation of both content knowledge (Content Criteria) and transferable skills (Core Student Learning Outcomes) relevant to this AUCC category. For example, how will the course explore/introduce/utilize methods central to the field of study, intellectual processes, readings that reinforce both skills and content, and/or assignments that require reflection and some level of application.





1. Under the **Course Learning Objectives field**, copy and paste the Core Student Learning Outcomes listed in the chart on pages three and four of this document verbatim. The formatting on this field will be standardized by the Curriculum & Catalog Unit, so do not worry if your SLOs are not formatted perfectly.
2. Complete the **Course Content field** by listing the appropriate Core Student Learning Outcome number in the first column. You can list each CLO separately or you can list multiple CLOs on each row – whatever works best to correspond to the ‘Course Content/Topics’ column. See CIM Help Bubble for detailed instructions. Click the green “+” button to add additional rows.



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**The following statement must be copied and pasted verbatim into each instructor’s syllabus for every section, every term** (replace the text in red with your course subject code and number): The Colorado Commission on Higher Education has approved XXXX #### 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>.

**Course syllabi:**  The **Content Criteria** and **Core Student Learning Outcomes** below must be copied and pasted verbatim into each instructor’s syllabus for every section, every term.

**CIM proposals:** Copy/paste the Core Student Learning Outcomes below into the **Course Learning Objectives section**. Respond to the following prompt in the **AUCC justification section**, “Explain how this course will build a foundation of both content knowledge (Content Criteria) and transferable skills (Core Student Learning Outcomes) relevant to this AUCC Category. For example, how will the course explore/introduce/utilize methods central to the field of study, intellectual processes, readings that reinforce both skills and content, and/or assignments that require reflection and some level of application.”

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| **AUCC Category** | **GT Pathways Content Area** | **Content Criteria**Content Competencies pertain to the knowledge base, methods, concepts, and content-related learning that students should garner from participation in a course. Students should be able to demonstrate acquisition of such content focused learning as a result of participation in courses in each category of the AUCC.  | **Core Student Learning Outcomes**Core Student Learning Outcomes are transferable skills that students garner in a variety of educational settings and that have wide applicability across fields and in life. |
| **1B:**Quantitative Reasoning | **GT-MA1:** Mathematics | *Quantitative Literacy*1. **Interpret Information**
2. Explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words).
3. **Represent Information**
	1. Convert information into and between various mathematical forms (e.g., equations, graphs, diagrams, tables, words).
4. **Perform Calculations**
5. Solve problems or equations at the appropriate course level.
6. Use appropriate mathematical notation.
7. Solve a variety of different problem types that involve a multi-step solution and address the validity of the results.
8. **Apply and Analyze Information**
9. 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.
10. Formulate, organize, and articulate solutions to theoretical and application problems at the appropriate course level.
11. Make judgments based on mathematical analysis appropriate to the course level.
12. **Communicate Using Mathematical Forms**
13. Express mathematical analysis symbolically, graphically, and in written language that clarifies/justifies/summarizes reasoning (may also include oral communication).
14. **Address Assumptions**
	1. Describe and support assumptions in estimation, modeling, and data analysis, used as appropriate for the course.

*(Continued on next page)*  |
| 1. 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.
1. Generate and interpret symbolic, graphical, numerical, and verbal (written or oral) representations of mathematical ideas.
2. Communicate mathematical ideas in written and/or oral form using appropriate mathematical language, notation, and style.
3. Apply mathematical concepts, procedures, and techniques appropriate to the course.
4. Recognize and apply patterns or mathematical structure.

 f) Utilize and integrate appropriate technology. |

**CSU’s AUCC Category 1B: Quantitative Reasoning GT Pathways Mathematics (MA1)**

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| **AUCC Category** | **GT Pathways Content Area** | **Content Criteria** | **Core Student Learning Outcomes**Core Student Learning Outcomes are transferable skills that students garner in a variety of educational settings and that have wide applicability across fields and in life. |
| **1B:**Quantitative Reasoning *(cont.)* | **GT-MA1:** Mathematics*(cont.)* |  | *Problem Solving*1. **Define a problem**
	1. Construct a detailed and comprehensive problem statement or goal.
	2. Identify relevant contextual factors.
2. **Propose Exact and Approximate Strategies for Solution of a Problem**
	1. Identify reasonable approaches to solving the problem within the given context.
3. **Evaluate Potential Strategies**
	1. Provide an evaluation of the potential strategy(ies) which may include:
		1. the history of the problem,
		2. the logic behind the potential strategy(ies),
		3. the limitations of potential strategy(ies),
		4. the feasibility of the proposed strategy(ies),
		5. the potential impacts of the proposed strategy(ies).
	2. Choose a feasible strategy.
4. **Apply a Strategy**
	1. Implement chosen approach(es).
	2. Quantify uncertainty and error in results.
	3. Gauge success of the chosen strategy(ies) and revise as needed.
5. **Evaluate Results**
	1. Discuss and review results relative to the context of the problem.

 b) Make recommendations for further work (where applicable). |