MTH 460 GRADING RUBRIC

	Capstone 10	Milestones 8	 5	Benchmark 2
SPECIALIZED KNOWLEDGE				
Construct a paper that draws on current research, scholarship and techniques in a Mathematical topic				
Topic Selection	Identifies **a creative**, focused, and manageable topic **that addresses potentially significant yet previously less-explored** aspects of the topic.	Identifies **a focused** and manageable/doable topic that appropriately **addresses relevant aspects** of the topic.	Identifies a topic that while manageable/doable, is **too narrowly focused** and **leaves out relevant aspects** of the topic.	Identifies a topic that is **far too general and wide-ranging** as to be manageable and doable.
Conclusions	States a conclusion that is a **logical extrapolation** from the inquiry findings.	States a conclusion **focused solely** on the inquiry findings. The conclusion arises specifically from and responds specifically to the inquiry findings.	States a general conclusion that, because it is so **general,** also applies beyond the scope of the inquiry findings.	States an **ambiguous, illogical, or unsupportable** conclusion from inquiry findings.
Broad Integrative Knowledge				
Apply the theories from your selected mathematical topic to at least one other field of study such as Physics, Biology, Accounting, Chemistry, Engineering, Computer Science and others. Develop an approach that draws on both the mathematical theories and theories from other fields of study.				
Connections to Discipline	**Draws clear conclusions** by **combining and connecting** examples, facts, or theories from the mathematical topic and different field of study	**Clearly connects** examples, facts, or theories from the mathematical topic and different field of study	**Connects** examples, facts, or theories from the mathematical topic and different field of study but the connection is not clear.	Presents examples, facts, or theories from the mathematical topic and another different field of study **without making valid connections.**
INTELLECTUAL SKILLS: Use of Information Resources				
Locate, evaluate, incorporate, and properly cite multiple information resources in different media. Use MathSciNet format, www.ams.org.				
Effectively use multiple Information resources in different media to construct a paper.	Communicates, organizes and **synthesize**s information from sources to fully construct a paper that **clearly and purposefully draws** on current research, scholarship and techniques in a Mathematical topic, with clarity and depth.	Communicates, organizes and **synthesizes** information from sources. The paper **draws** on research, scholarship and techniques in mathematics.	Communicates and organizes information from sources. The information is **not yet synthesized**, The paper **does not draw** on research, scholarship and techniques in mathematics.	Communicates information from sources. The **information is fragmented** and/or used inappropriately (misquoted, taken out of context, or incorrectly paraphrased, etc.), so the paper **does not draw** on research, scholarship and techniques in mathematics.
INTELLECTUAL SKILLS: Quantitative Fluency				

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Translates verbal a problem into mathematical algorithm, generate quantitative analysis of the problem, and present the resulting calculation to solve the problem stated.				
Expressing quantitative evidence in support of the argument or purpose of the work (in terms of what evidence is used and how it is formatted, presented, and contextualized)	Translate verbal problems into mathematical algorithms and **construct valid** mathematical arguments using the accepted symbolic system of mathematical reasoning related to the topic selection **with consistency and high quality.**	Translate verbal problems into mathematical algorithms and **sometimes constructs elements of** mathematical arguments using the accepted symbolic system of mathematical reasoning related to the topic selection.	Translate verbal problems into mathematical algorithms **but does not construct** a valid mathematical arguments related to the topic selection.	Uses the quantitative analysis of data as the **basis for tentative, basic judgments, although is hesitant or uncertain** about drawing conclusions from this work.
INTELLECTUAL SKILLS: Communication Fluency				
Construct and organize well supported argument or explication in writing and using at least one other mathematical utility (graphs, mathematical software output outputs), so that material can be understood by your class peers and other students with a limited mathematical background.				
Genre and Disciplinary Conventions Formal and informal rules inherent in the expectations for writing a mathematical paper	Demonstrates **detailed attention** to and **successful execution of a wide range** of conventions particular to the mathematical discipline and writing tasks including organization, content, presentation, formatting, and stylistic choices.	Demonstrates **consistent use of important conventions particular** to the mathematical discipline and writing tasks including organization, content, presentation, formatting, and stylistic choices.	Follows **expectations appropriate** to the mathematical discipline and writing tasks for basic organization, content, and presentation	**Attempts to use a consistent** system for basic organization and presentation.
Integrated Communication	Fulfills the assignment by presenting graph (or other visual representation) **in ways that enhance meaning**, making clear the interdependence of language and meaning, thought, and expression.	Fulfills the assignment by presenting a graph (or other visual representation) **to explicitly connect content and form**, demonstrating awareness of purpose and audience.	Fulfills the assignment by choosing a graph (or other visual representation) that **connects in a basic way** what is being communicated (content) with how it is said (form).	Fulfills the assignment by choosing a graph (or other visual representation) that **poorly connects** what is being communicated content and how it is said (form).

Max Points 70

Min Points 0

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