

General Education Course Review
(MTH 130 Contemporary Mathematics)

General Education Goal	Course Goal
Part One: Intellectual Abilities and Dispositions	
A. Conceptual and Practical Understanding of Modes of Learning, Problem-Solving and Creative Inquiry	Develop and demonstrate problem solving strategies. Be able to look for and discover patterns. Solve ratio and proportion problems, use solutions of linear and quadratic equations as well as using systems of linear equations for solving problems. Develop the ability to read, understand, and communicate mathematical ideas (verbally and in writing). Develop a questioning approach to mathematics through a focus on gathering information, making conjectures, testing conjectures, justifying ideas through an organized mathematical argument. Experience mathematics as active, engaging, and dynamic. Experience the use of technology as a tool in building concepts and solving problems.
B. Information-Gathering, Reasoning, and Synthesizing Abilities	
1. Skill in formulating questions and in setting goals for inquiry.	Develop and demonstrate problem solving strategies. Develop the ability to read, understand, and communicate mathematical ideas (verbally and in writing). Develop a questioning approach to mathematics through a focus on gathering information, making conjectures, testing conjectures, justifying ideas through an organized mathematical argument
2. Knowing how and when to make generalizations and value judgments.	Use statistics to organize and communicate data and to be aware of the misuse of statistics.
3. Skill in generating and evaluating observations and evidence.	Be able to look for and discover patterns. Use statistics to organize and communicate data and to be aware of the misuse of statistics. Develop a questioning approach

	to mathematics through a focus on gathering information, making conjectures, testing conjectures, justifying ideas through an organized mathematical argument
4. Skill in making deductive inferences.	Be able to look for and discover patterns. Communicate precisely the meaning of ordinary sentences using truth tables and Venn diagrams. Have an understanding of logical connectives and quantifiers. Develop the ability to read, understand, and communicate mathematical ideas (verbally and in writing).
5. Ability to use relevant quantitative methods.	Develop and demonstrate problem solving strategies. Use statistics to organize and communicate data and to be aware of the misuse of statistics.
C. Reflective, Creative, and Critical Dispositions	
1. Striving to be well informed and open-minded.	Develop the ability to read, understand, and communicate mathematical ideas (verbally and in writing). Develop an understanding of the historical development of mathematics. Experience mathematics as active, engaging, and dynamic. Develop a questioning approach to mathematics through a focus on gathering information, making conjectures, testing conjectures, justifying ideas through an organized mathematical argument.
2. Looking for multiple possibilities and being able to deal with ambiguity.	Develop and demonstrate problem solving strategies. Develop the ability to read, understand, and communicate mathematical ideas (verbally and in writing). Develop an understanding of the historical development of mathematics. Experience mathematics as active, engaging, and dynamic. Develop a questioning approach to mathematics through a focus on gathering information, making conjectures, testing conjectures, justifying ideas through an organized mathematical argument
3. Striving to achieve one's best with persistence and imagination.	Develop and demonstrate problem solving strategies.
4. Willingness to make choices and to	Develop and demonstrate problem solving

evaluate those choices.	strategies. Use statistics to organize and communicate data and to be aware of the misuse of statistics. Develop the ability to read, understand, and communicate mathematical ideas (verbally and in writing).
5. Intellectual self-awareness: being conscious of one's own thinking process, including the cultural and social contexts of that thinking.	Develop the ability to read, understand, and communicate mathematical ideas (verbally and in writing).
D. Communication Skills	
1. Writing and speaking with clarity and precision for diverse audiences.	Develop the ability to read, understand, and communicate mathematical ideas (verbally and in writing). Develop an understanding of the historical development of mathematics.
2. Making use of computers and other technological tools	Experience the use of technology as a tool in building concepts and solving problems.
3. Interpreting and communicating visual information	Be able to look for and discover patterns. Understand and apply the concepts of perimeter, circumference, area, surface area, and volume. Develop the ability to read, understand, and communicate mathematical ideas (verbally and in writing). Experience the use of manipulatives and models for developing mathematical ideas.
Part Two: Knowledge and Understanding	
A. Understanding the Natural World	
1. Knowledge of the physical Universe, including its origin and the physical laws governing it.	Develop and demonstrate problem solving strategies.
2. Knowledge of living systems, including their nature, organization, and evolution.	

<p>3. Understanding the history and methods of scientific inquiry and alternative explanations of the natural world.</p>	<p>Develop an understanding of the historical development of mathematics. Develop a questioning approach to mathematics through a focus on gathering information, making conjectures, testing conjectures, justifying ideas through an organized mathematical argument.</p>
<p>4. Understanding the multiple influences on scientific inquiry and the consequences of science and technology.</p>	<p>Develop an understanding of the historical development of mathematics. Develop a questioning approach to mathematics through a focus on gathering information, making conjectures, testing conjectures, justifying ideas through an organized mathematical argument.</p>
<p>5. Understanding the ways human choices affect the earth and living systems and the responsibilities of individual citizens and communities to preserve global resources.</p>	
<p>B. Understanding of Culture and Society</p>	
<p>1. Knowledge of the many expressions of culture, including</p> <ul style="list-style-type: none"> • Understanding the unique shared ways of thinking, believing, and acting, developed by a people who live together over a long period of time. • Ability to conceptualize and trace the influences of community, institutions, and other constructions such as class, gender, and race • Familiarity with the ways in which culture is expressed artistically, through literature, performance, and artifact • Awareness of and appreciation for the ways in which culture and society influence and are influenced by work and leisure. 	<p>Develop an understanding of the historical development of mathematics.</p>
<p>2. Understanding the sources and expression of diverse values throughout the world, including ethical, religious, aesthetic, political, and economic values as well as social and cultural priorities.</p>	<p>Develop an understanding of the historical development of mathematics.</p>

3. Ability to trace the impact of technology on societies and cultures for diverse audiences.	Experience the use of technology as a tool in building concepts and solving problems. Develop an understanding of the historical development of mathematics.
4. Understanding the ways human choices affect communities, from local to global, and responsibilities of individuals to assume the duties of citizenship.	Develop an understanding of the historical development of mathematics.
5. Understanding the role of government regulation and of legal requirements, political processes, and financial and economic influences on decisions of individuals and society.	
C. Self-Understanding	
1. Understanding the nature of our humanness and how human beings are like and different from the other beings with whom they share the planet.	
2. Knowledge of individual physical, emotional, intellectual, social and creative development as well as ability to use such knowledge to improve personal well-being.	
3. Knowledge of individual physical, emotional, intellectual, social, historical, spatial, and cultural matrices into which the individual is born; and the influence of the unique set of experiences which the individual encounters.	
4. Ability to perceive one's own being not only from cognitive perspectives but also from those perspectives which come from exposure to and creative vision of the arts – to imagine the possibilities the future holds and to develop responsible goals for interactions with others, modes of personal expression, and roles in improving the world.	