Mathematics Courses (MTH)

A minimum of 3 math courses (9 hours) will be required for your BBA degree. Math choices will be based on your ACT or SAT math subscore. These courses do not have to be taken in any particular order as long as the prerequisite is met.

1. **MTH 1020. Introduction to Mathematical Reasoning* (3).** This course is intended for students with a Math ACT score less than 25, a Math SAT score less than 570, or a Belmont Math Placement Test score less than 24. Students with higher scores should take MTH 1080 instead of MTH 1020. This course is designed to provide some insight into the nature of mathematics by examining various mathematical structures. Topics include some of the following: sets and their properties, symbolic logic, mathematical patterns, inductive reasoning, number systems and their properties, geometry, probability, counting techniques, and descriptive statistics. Unless the student has prior written approval of the Chair of the Department of Mathematics and Computer Science, credit is not allowed for this course if the student already has credit for MTH 1080.

OR

MTH 1080. Mathematical Inquiry* (3). Prerequisite: MTH ACT score greater than or equal to 25, Math SAT score greater than or equal to 570, or Belmont Math Placement Test score greater than or equal to 24. This is an inquiry course with topics chosen to develop mathematical thinking, abstract thought, an understanding of proof and the role of mathematics in constructing our world view. Topics will be selected from landmark proofs and and real-world applications spanning ancient times to the 20th century, including some of the following: symbolic logic, Fibonacci numbers, Fermat's Last Theorem, counting principles, infinity, number theory, exotic geometry, iterative processes, chaos, voting, and risk. Unless the student has prior written approval of the Chair of the Department of Mathematics and Computer Science, credit is not allowed for this course if the student already has credit for MTH 1020.

OR

CSC 1020. Inquiry Through Computer Science (3). Prerequisite: MTH ACT score greater than or equal to 22, Math SAT score greater than or equal to 520, Belmont Math Placement Test score greater than or equal to 20. An introduction to the fundamental skills necessary to understanding Computer Science and programming and other topics in Computer Science. Students will learn to program, solve problems and think in ways they can connect with and apply to other disciplines, entering them into a conversation with a methodology and a set of ideas that profoundly affect our modern world. Unless the student has prior written approval of the Department of Mathematics and Computer Science, credit is not allowed for this course if the student already has credit for any other computer science course. This course does not count for CSC major credit, is not a substitute for CSC 1110 (Programming I), and is not recommended for students who already know computer programming.
2. **MTH 1150 - Elementary Statistics* (3 hrs).** Prerequisite: MTH ACT score greater than or equal to 22, Math SAT score greater than or equal to 520, Belmont Math Placement Test score greater than or equal to 20, MTH 1110, or MTH 1130. An introduction to statistical reasoning. Topics include descriptive measures, elementary probability distributions, sampling distributions, one and two sample inferences on means and proportions, simple linear regression, and correlation. Case studies of real data will relate to various fields of interest. Special emphasis will be placed on communication of statistical results through projects using computer software. Credit is not allowed for this course if the student already has credit for MTH 1151.

3. **MTH 1140. Quantitative Methods in Business* (3).** Prerequisites: Math ACT score greater than or equal to 24, Math SAT score greater than or equal to 560, Belmont Math Placement Test score greater than or equal to 23, MTH 1110, or MTH 1130. Topics covered in the first half of the course include linear, polynomial, logarithmic, and exponential functions, and applications of each type function, linear programming and matrices. Second half topics include limits and differential calculus, including maximization and minimization of functions. Applications to business and economics are emphasized. Unless the student has prior written approval of the Chair of the Department of Mathematics and Computer Science, credit is not allowed for this course if the student already has credit for the following courses, MTH 1170 or MTH 1210.

**OR**

**MTH 1170. Calculus I for Business, Economics, and the Social and Life Sciences * (3).** Prerequisite: Math ACT score greater than or equal to 25, Math SAT score greater than or equal to 570, Belmont Math Placement Test score greater than or equal to 24, MTH 1110, or MTH 1130. A survey of limits, continuity and the differential and integral calculus with applications in business, economics, social and life sciences. Unless the student has prior written approval of the Chair of the Department of Mathematics and Computer Science, credit is not allowed for this course if the student already has credit for MTH 1210.