

**HEA 540 Case Study Program Overview  
Jamestown College**

**School of Arts and Sciences**

Jamestown College's School of Arts and Sciences understands the increasing need for highly educated individuals in the fields of arts and science to address the diverse learning needs of a globalized society. With this in mind, students are prepared for careers in various fields such as environmental science, global leadership, psychology and social work, computer science, communications, and professional writing. The School of Arts and Sciences programs develop students to think critically and creatively, use effective communication skills, conduct thorough analyses of data, and understand how people and the world around them work throughout the decision-making process. All these skills and abilities are essential for success within the public and private sectors.

Our faculty, who are highly regarded and recognized as experts in their fields at a national level, take pride in their diversified instruction practices and individualized mentorship of students. Jamestown's School of Arts and Sciences provides a high-quality and student-centered learning experience beyond compare.

**BA in Mathematics**

Jamestown College's School of Arts and Sciences degree programs are developed using a balanced core curriculum based on the arts and humanities, mathematics, natural sciences, and social sciences. These fundamental components ensure career versatility in a variable and globalized marketplace.

Graduates of the Jamestown College BA Mathematics program will distinguish themselves with their problem-solving skills, computational and modeling abilities, and excellent communication skills. These skills will allow them to pursue scientific or technical careers in industry, education, or government. Also, the strong analytical skills gained from the program will prepare the graduate to go on to graduate school or to participate in creative and innovative efforts in science, arts, humanities, engineering, and business.

**Program Outcomes**

Graduates of the BA Mathematics Program will be able to do the following after graduating:

- Apply critical thinking skills in understanding how mathematics relates to everyday problems
- Have the requisite knowledge and skills for immediate acceptance into a graduate program or gainful employment
- Acquire knowledge of mathematical and technical aspects that is adaptable to changing tools and environments and provides a solid foundation for future learning
- Demonstrate an understanding of analysis and extensive experience with the tactics of problem solving and logical thinking
- Conduct relevant quantitative analysis and figure out the right questions to ask

### Student Learning Outcomes

Upon completing the BA Mathematics program, students will be able to do the following:

- Perform computations by applying mathematical concepts and models
- Solve problems using mathematics
- Represent mathematical relationships with graphs and charts
- Demonstrate a solid understanding of proofs and other sophisticated mathematical skills
- Communicate own understanding of mathematical concepts and reasoning to a variety of audiences
- Use appropriate software and other technologies for making mathematical models and analyzing quantitative information
- Appreciate the uses of abstract mathematical reasoning
- Demonstrate the capacity to apply mathematical abilities to a wide span of contexts (e.g., the sciences and humanities) within real-world contexts

### Career Outcomes for Mathematics Majors

Your Jamestown College mathematics degree provides you with the knowledge and skills for various career options including those of mathematician, mathematics teacher, actuarial, business administrator, computer programmer, data systems analyst, financial analyst, and others.

### College-Wide Requirements

All Jamestown College students must demonstrate competence in writing and quantitative reasoning by meeting the following three-course requirements:

<b>ENG</b>	Principles of Writing	3 credits
<b>MTH</b>	Mathematics course	3 credits
<b>FYE</b>	First-Year Experience Seminar (freshmen only)	3 credits

### Core Requirements

Jamestown College prides itself on developing well-rounded students, giving graduates a competitive edge in their careers. To achieve this concept, students obtain a foundational knowledge in the liberal arts and develop a broad range of both skills and abilities beyond a major specialization. Each Jamestown College graduate must complete 30 credits of core coursework. Also, students are required to take two 3-credit courses in each of five School of Arts and Sciences study areas: humanities, social science, arts and design, natural science, and communications, plus a 6-credit senior capstone experience.

**Mathematics Required Courses: 45 credits**

**Core**

MTH 101	Foundations of Mathematics	3
MTH 102	Discrete Mathematics	3
MTH 110	Elementary Algebra	3
MTH 111	Intermediate Algebra	3
MTH 310	Mathematical Statistics I	4
MTH 311	Mathematical Statistics II	4
MTH 420	Mathematical Reasoning	3
MTH 210	Intro to Comp. Software	3
MTH 420	Discrete Mathematics	4

**Advanced**

MTH 120	Trigonometry	4
MTH 130	Differential Calculus	4
MTH 131	Integral Calculus	4
MTH 410	Introduction to Mathematical Models	3

**Electives: 45 credits**

**Total: 120 credits**