Department of Mathematics

At Georgia College, students can obtain a Bachelor of Science degree with a major in Mathematics. Within this major program, we also have a Teaching Concentration option for those students who wish to pursue a career teaching mathematics at the secondary level. A minor in mathematics is also available. An undergraduate degree in mathematics is excellent preparation for a wide variety of rewarding careers and for further study at the graduate level in several disciplines, including mathematics, engineering, economics, and law. Career opportunities for mathematics majors are numerous. They include positions as applied mathematicians, financial analysts, scientific programmers, teachers, statisticians, and actuaries. Advanced mathematical methods are becoming widespread and essential in the sciences. Other opportunities exist in business, government, and education. For more information regarding career opportunities, see the document entitled "Mathematics: What can I do with this degree?" found here: https://www.gcsu.edu/sites/files/page-assets/node-1020/attachments/mathematics.pdf

All students pursuing a B.S. in Mathematics are required to take a series of overlapping sequences:

- Calculus Sequence:    Calculus I, II, III
- Transition Sequence:  Foundations of Mathematics, Geometry
- Algebra Sequence:     Linear Algebra, Number Theory, Abstract Algebra
- Analysis Sequence:    Differential Equations, Complex Variables, Mathematical Analysis
- Capstone Sequence:    Intro to Research in Math, Senior Project

The calculus sequence is a standard three-course sequence where the emphasis is on problem-solving but with some attention, when appropriate, to the formal arguments which underlie the theory. The transition sequence is designed to provide an increasingly rigorous introduction to proof so as to better prepare students for the algebra and analysis sequences. The algebra sequence leads students through an increasingly rigorous treatment of topics in algebra, while the analysis sequence leads students through an increasingly rigorous treatment of topics in analysis. The capstone sequence is designed to provide students with the opportunity to conduct undergraduate research under the direction of a faculty mentor. Students who are pursing the Teaching Concentration are also required to take several mathematics education courses which have been developed by our Math Ed faculty for students interested in teaching mathematics at the secondary level. For more detail on the curriculum, see the document entitled: "The B.S. in Mathematics" found here:

https://www.gcsu.edu/sites/files/page-assets/node-995/attachments/b.s._in_math.docx.

The program is designed to be completed in four years. Sample four-year plans can be found at these links:

B.S. in Math:  https://www.gcsu.edu/sites/files/page-assets/node-995/attachments/new_4-year_program_sequ_mathematics_-_619.docx

B.S. in Math with a Teaching Concentration:  https://www.gcsu.edu/sites/files/page-assets/node-995/attachments/new_4-year_program_sequ_mathematics-teaching_concentration_-_619.docx

The Capstone Sequence noted above is an important and significant feature of the program.  The Georgia College Department of Mathematics understands the importance of providing an undergraduate research experience for our majors. To support this goal, mathematics majors work under the direction of a departmental faculty member to develop a research project involving advanced mathematical topics within the student's area of interest. Our majors are actively engaged in the research process in a collaborative setting, make connections between courses, and develop valuable presentation skills. The annual Mathematics Department Capstone Day represents the culmination of the experience as students showcase their research for faculty, fellow students, and family. Such an experience is commonly viewed as one of the key elements under consideration when applying for jobs or a graduate program.  Titles and abstracts of student research projects can be found in the programs for our Capstone Day events: https://www.gcsu.edu/artsandsciences/math/capstoneday.  The projects themselves can be found here:  https://www.gcsu.edu/artsandsciences/math/projects.

The Georgia College Math Club is an active and vibrant student organization dedicated to providing an outlet for students who either major in mathematics or who just have an interest in mathematics.  It provides a sense of belonging and cohesion to our majors through activities such as information parties, bowling night, the design of creative T-shirts, the Pi Day race, and travel to conferences where many of our students present their capstone research projects.  We are very fortunate in that our department is able to fully fund such travel for our students.

Georgia College has a student chapter of the Association for Women in Mathematics (AWM).  It is open to all students regardless of gender.  The goals of the chapter are to encourage students of all genders to study and have active careers in the mathematical sciences, to facilitate networking with professional mathematicians, and to engage in outreach activities in local schools.  If you would like more information about the Math Club or the AWM, please contact Dr. Rachel Epstein who serves as a faculty advisor to both organizations.  She can be reached at rachel.epstein@gcsu.edu.

The Department of Mathematics offers several scholarships and awards to outstanding students. These include the Sara Nelson Scholarship, the Outstanding Mathematics Major Award, and the Joanne Mayberry Mathematics Prize.  In addition, each year we select a group of deserving students for membership in Kappa Mu Epsilon, a national mathematics honorary society.

I will be happy to talk with you about any questions you may have or any additional information you might want.  We can converse by e-mail, telephone, Webex, or Zoom whichever you prefer. Feel free to contact me at robert.blumenthal@gcsu.edu to set something up.

Welcome to Georgia College.  I look forward to meeting you in the fall.

Robert Blumenthal
Chair, Department of Mathematics
Georgia College