

## Program Learning Outcomes Mathematical and Scientific Computation

Upon graduation, Mathematical and Scientific Computations majors should have a set of fundamental competencies:

1. Demonstrate analytical skills and extensive experience with the tactics of problem solving and logical thinking. Graduates will have the ability to ask pertinent questions and perform suitable quantitative analysis.
2. Demonstrate a solid understanding of rigorous mathematical proof. Students will be able to write clear well-organized and logical mathematical arguments..
3. An ability to identify, formulate, abstract, and solve mathematical problems that use tools from a variety of mathematical areas, including algebra, analysis, probability, numerical analysis, and differential equations.
4. A deep understanding of at least one more area of specialization within mathematics or its applications.
5. Solid expertise in computer technology, software, and algorithmic processes necessary in quantitative analysis and mathematical modeling.
6. Familiarity with mathematical models, apply mathematical analysis and problem-solving skills in a broad range of intellectual domains (e.g., biological, physical, or social sciences and engineering) in public or private service.
7. An ability to communicate effectively and to function well on multi-disciplinary teams.