



## ACME: Problem solving for the 21st century.

Brigham Young University's Applied and Computational Math Emphasis (ACME) program is a major designed for solving the problems of the 21st century. Mathematics provides the foundation of modern technology and science, it is the key to building successful algorithms in artificial intelligence and machine learning, and it provides the analytical power needed to process, evaluate, and take full advantage of the ever-growing flood of data and information in the world. ACME is a new educational model that teaches both the theory and the practical skills in mathematics, statistics, and computation needed to solve the problems of the modern world.

Students who participate in ACME can expect a focus in rigorous mathematics, scientific computing, and modeling. After finishing two years of mathematical prerequisites, students then take two year-long core sequences each year for their junior and senior years. These courses and their associated labs cover the topics of

- Mathematical analysis, both linear and nonlinear
- Algorithms, approximation theory, and optimization
- Modeling with data and uncertainty, using advanced statistical and probabilistic methods, as well as the theory and tools of machine learning.
- Modeling with dynamics and control, covering numerical and theoretical differential equations, dynamical systems, and optimal control.

Students learn theory in the classroom and then immediately put that theory into practice in the labs, coding up algorithms and applications that rely on the theoretical mathematical tools. Students also choose a concentration in a subject where they can use their mathematical and computational skills. Concentrations range from computer science to economics, from biology to physics, and from linguistics to engineering.

If you have questions not answered by this website, please do not hesitate to contact us using the information under the “Contact” tab.

## Recording and Slides from the ACME Info Session

Students, if you missed our info session on March 11 never fear. You can still find out all about ACME by watching the Zoom recording [here](#) and also [see the slides](#). If you have questions that aren't answered here, don't hesitate to send us an email using the information under the “contact” tab.

