

Sample Articles and Coverage of SCUDEM Teams at SCUDEM 2017

14 October 2017, Mount Saint Mary College, Newburgh NY

- From Mount Saint Mary College, article entitled, “Mount hosts inaugural SCUDEM math competition,” at <https://www.msmc.edu/News/mount-hosts-inaugural-scuDEM-math-competition>



Mount Saint Mary College students (from left) Vita Bosco of Chester, N.Y., Cameron Pagan of Newburgh, N.Y., and Francisco Mojica of New Windsor, N.Y. present their findings at the inaugural SCUDEM competition, held at the Mount on Saturday, October 14, 2017.

Three Mount Saint Mary College students took part in the inaugural Student Competition Using Differential Equation Modeling (SCUDEM), which was hosted at the college on Saturday, October 14, 2017. Teams were given their mathematical problems a week before the competition. During that time, they developed a modeling scenario and a 10 minute presentation. The purpose of the competition is to enhance the students’ skills and confidence in modeling with differential equations.

The competition, for high school students and undergraduates, was spearheaded by the Systemic Initiative for Modeling Investigations & Opportunities with Differential Equations (SIMIODE), a nonprofit organization that focuses on mathematical outreach. Christina Alvey, assistant professor of mathematics at the Mount, codirected the competition, along with Brian Winkel of SIMIODE, www.simiode.org. The Mount Saint Mary College team consisted of Vita Bosco of Chester, N.Y., Cameron Pagan of Newburgh, N.Y., and Francisco Mojica of New Windsor, N.Y.

Mojica is the first student to be enrolled in the Mount's new BA in mathematics with an actuarial science concentration, which provides a foundation in mathematics and business.

"Actuarial science is an exciting intersection of mathematics and finance," explained Alvey. "Experts in this field are highly sought after for a variety of positions in business, finance, government, and insurance." Actuaries use mathematics, statistics, and financial theory to study uncertain future events, particularly those that are insurable. The concentration includes courses in economics, business, finance, and mathematics, giving students a strong foundation to solve problems involving risk assessment, mitigation, and management.

- From the University of Bridgeport, article entitled, "Differential equations aren't so hard. Just ask the UB Math Club, which has the prize to prove it!" <https://news.bridgeport.edu/news-releases/good-at-differential-equations-ub-math-club-is-and-theyve-got-the-prize-to-prove-it/amp/>

They computed and calculated, crunched numbers and revised equations, and after seven days of mathematical jockeying, the University of Bridgeport (UB) Math Club snagged one of the top prizes at the SCUDEM 2017 Inaugural Competition. The SCUDEM (short for Student Competition Using Differential Equations Modeling) event was held at Mt. St. Mary College in Newburgh, New York, on October 14. UB Math Club members placed second out of 13 teams from New York, Connecticut, and Massachusetts.

The Math Club will talk about the competition at 12:20 p.m., Thursday, November 2 in room 123 at Dana Hall of Science on the UB campus.

The SCUDEM Competition is aimed at enhancing students' acuity in modeling by using differential equations—a skill that is critical to actuaries, engineers, and scientists, said UB Math Club adviser and Professor Ryan McCulloch. "This was a great experience for them to push themselves and have a lot of fun," said McCulloch. Added Math Club coach and Professor Nicolas Zoghb, "I have high hopes for the math program at UB. The team did UB proud!" UB Math Club members include: Gabriel Ferreira Araujo, Anastasiia Babenko, Christofer Berruz, Dat Tran, and Xuehao Zhang.

Berruz, one of two freshmen on the team, noted that differential equations are generally taught during sophomore or junior year of college, but Prof. Zoghb and older team members pitched in to help him learn about them "from scratch." "We were able to witness how other schools perform and we received feedback in our presentations and executive summaries," Berruz added. "I believe this process of feedback and improving is essential not only math, but in any aspect of life."

The competition was spearheaded by Systemic Initiative for Modeling Investigations & Opportunities with Differential Equations (SIMIODE), a nonprofit organization focusing on mathematical outreach www.simiode.org. Teams were given a series of mathematical problems to solve one week prior to the competition. During that time, UB Math Club members developed a 10-minute presentation and executive summary modeling the optimal spread of an ad in different media (making it go viral) at a minimized cost.

- From the University of Massachusetts, Amherst, in a Department of Mathematics and Statistics Faculty News Brief, at <https://www.math.umass.edu/news-briefs>, we read:

“During the week of 9-14 October , the first ever Student Competition Using Differential Equations Modeling (SCUDEM) event was held. UMass Amherst undergraduates Jonah Chaban, Artem Vysogorets, and Jimmy Hwang worked together as a team, and they produced the top-scoring project among the seven competing teams. On the first morning, all teams received access to three different modeling scenario prompts, and chose which to work on. Meeting throughout the week outside of class time, they devised a model, analyzed its behavior, determined parameters from real-world data, and wrote up their findings. On Saturday, the teams assembled at Mount Saint Mary College in Newburg, NY, where the students were presented with a new twist to their chosen scenario. In the afternoon, all groups presented their work to peers and faculty. Faculty sponsor Matthew Dobson participated in the Saturday event; he and Professor Nathaniel Whitaker also led practice sessions with the students.”