

M3 MathWorks Math Modeling Challenge

A CONTEST FOR HIGH SCHOOL STUDENTS

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October 2020

To: High school math teachers and faculty

Re: \$100,000 in scholarship prizes available

MathWorks Math Modeling (M3) Challenge is an annual Internet-based applied math competition that will take place over the weekend of February 26–March 1, 2021. The contest awards \$100,000 in scholarship prizes ranging from \$1,000 to \$20,000 to teams of high school juniors and seniors. M3 Challenge goes international for the first time in 2021, with sixth form students (age 16–19) in England and Wales becoming eligible to compete. There are no registration or participation fees. Students choose a 14-hour timeframe to work during Challenge weekend. Each team is required to have a teacher-coach who serves as team contact and oversees registration, but who is not required to be with or near the team on Challenge day. The teacher-coach can do as much or as little as they are able to prepare students.

MathWorks, creator of MATLAB and Simulink—some of the best mathematical software around—sponsors the contest and provides free licenses to participants; however, the use of software, programming, or other technical computation is not required to win or participate.

To help you get the word out, I've enclosed some M3 Challenge posters. Please display one in your classroom or at your school and pass along the extras to colleagues so they can do the same.

M3 Challenge helps students see the value and importance of applying math to big problems. During the competition, students work in teams of 3–5 to solve an open-ended, realistic, math-modeling problem—in just 14 hours. Past participants have called the Challenge “transformative” and a stellar high school experience.

Finalist teams and their coach are invited to an all-expense paid trip to New York City to present their paper and receive the contest's top awards.

Please visit M3Challenge.siam.org for lots of useful information: registration form, official rules, sample problems, videos, modeling handbooks, free software licenses, instruction on technical computing, and archives of previous contests including judge perspectives and winning papers. In addition, from the home page, click on “The Challenge” tab to watch a one-minute animation that explains how to participate.

Thank you in advance for displaying these posters and sharing information about the Challenge with your colleagues and students. We look forward to seeing your school's submission(s) in March.

Sincerely,

Michelle Montgomery
M3 Challenge Project Director
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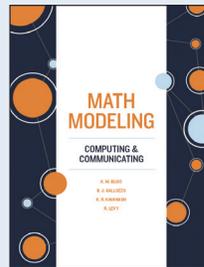


PREPARE to MODEL!

FREE RESOURCES at m3challenge.siam.org/resources

Read the Modeling Handbooks

Written by M3 problem writers and judges, Math Modeling: Computing & Communicating goes beyond the basic process of mathematical modeling to technical computing using software platforms and coding. Math Modeling: Getting Started and Getting Solutions describes the modeling process. Both are a must-read for any serious Challenge contender!



Practice your skills

Sample and practice problems will help you prepare for the Challenge problem.

Watch the Math Modeling video series

Seven 2–3 minute episodes that provide instruction about each component of the modeling process.

Access free software

You can request MathWorks' MATLAB or Wolfram Mathematica software for free! Both software licenses come with hands-on tools you can use to prep for and apply to the Challenge problem, and continue to use throughout the year. Look for the “Access Software” tab under RESOURCES on the website. Note that software use, coding, and technical computing are not required to participate or win, but using them can help you become eligible for the extra add-on Technical Computing Award.

Teach Modeling using the GAIMME report

“Guidelines for Assessment and Instruction in Mathematical Modeling Education” (GAIMME) is a great resource for teacher-coaches!

Peruse the “Tips and Guidance” webpage

Suggestions from past participating students, coaches, judges, and from organizers of the Challenge.

Technical Computing?

Teams that use a programming platform other than spreadsheets (Excel or other) in an outstanding way will be eligible for an additional distinction—the M3 Technical Computing Scholarship Award.

Learn Technical Computing is a tab under RESOURCES on the website where you can get direction on using MATLAB software to prepare your solution and possibly qualify for the extra credit award.

MORE WINNING STRATEGIES

Check out the archives
m3challenge.siam.org/archives

Archives feature past Challenge problems, winning solutions, judge perspectives, and presentation videos organized by year.

Go on a YouTube binge
youtube.com/user/SIAMConnects

Visit “M3 Challenge” playlist on SIAM’s YouTube page to familiarize yourself with all aspects of the Challenge.

TEACHERS AND STUDENTS: Take steps to ensure success in M3 Challenge!

**CHALLENGE WEEKEND:
February 26–March 1, 2021**