

M3 MathWorks Math Modeling Challenge

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SIAM
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To: Upper secondary math teachers and faculty

Re: £75,000 in scholarship prizes available

MathWorks Math Modeling Challenge (M3 Challenge) is an annual Internet-based applied math competition that will take place over the weekend of February 25–28, 2022. The contest awards £75,000 in scholarship prizes ranging from approximately £720 to £14,400 to teams of high school juniors and seniors or sixth form students (age 16–19). M3 Challenge helps students see the value and importance of applying math to big problems. There are no registration or participation fees.

During the competition, students work in teams of 3–5 to solve an open-ended, realistic, math-modeling problem—in their chosen 14-hour timeframe over 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.

Finalist teams and their coach are invited to an all-expense paid trip to New York City on April 25, 2022 to present their paper and receive the contest's top awards. The one team from either England or Wales with the highest ranking, regardless of their overall ranking, will also be invited to the final event in New York City, all expenses paid.

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.

I encourage you to visit M3Challenge.siam.org for useful information, including the 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.

Please display the enclosed posters in your classroom or at your school and pass along the extras to colleagues so they can do the same. We appreciate you sharing information about M3 Challenge with your colleagues and students, and we look forward to seeing your school's submission(s) in February.

Sincerely,

A handwritten signature in blue ink that reads "Michelle Montgomery". The signature is fluid and cursive.

Michelle Montgomery
M3 Challenge Project Director
montgomery@siam.org

See reverse for more information.

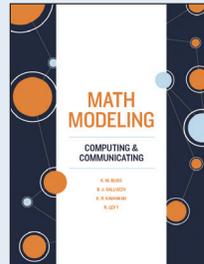


PREPARE to MODEL!

FREE RESOURCES at m3challenge.siam.org/resources

Read the Modeling Handbooks

Written by M3 problem writers and judges, Math Modeling: Getting Started and Getting Solutions is a terrific introduction to the modeling process. Math Modeling: Computing & Communicating goes beyond the basic process of mathematical modeling to technical computing using software platforms and coding.



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 and insight about each component of the modeling process.

Access free software

You can request MathWorks' MATLAB or Wolfram software for free! Look for the “Access Software” and “Learn Technical Computing” tabs under RESOURCES on the website. Use of software, coding, and technical computing is not required to participate or win, but using them makes you eligible for the M3 Challenge 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 Challenge Technical Computing Award.

Learn Technical Computing is a tab under RESOURCES on the website where you can get direction on using MATLAB software to possibly qualify for the technical computing 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 greater success in M3 Challenge!

CHALLENGE WEEKEND:
February 25 – 28, 2022