

ENGINEERING MACHINE DESIGN CONTEST

BE INSPIRED



PROGRAM OVERVIEW

The Engineering Machine Design Contest (EMDC) is an opportunity for teams of students to design and build a complex machine. Teams are evaluated on...

- Team Presentation
- Team Journal
- Machine Design and Operation

Students showcase their machines at regional events with the opportunity to advance to the Championship, a multistate event.

Students, educators, parents, administrators, and stakeholders are enthusiastic about the EMDC for many reasons including...

- Cross-curricular
- Skill-based
- Low-to-no-cost

The EMDC is a place for young people with a variety of interests (engineering, science, creative and visual arts, theatre,...) to feel a sense of belonging and know they provide value to a team. It is an opportunity for students who struggle to connect with STEM concepts to engage in a different way – being an inspiration point for future interests.



MINNESOTA STATE
Engineering Center of Excellence

CROSS-CURRICULAR.

INCLUSIVE.

SENSE OF BELONGING.

LOW-TO-NO-COST.

FLEXIBLE IMPLEMENTATION.

DIVISIONS

Junior Division (5th-8th Grade)
Senior Division (9th-12th Grade)

WHEN & WHERE

Regional Contests: February and March
(Iowa, Minnesota, Wisconsin, and virtually)

Championship: April (Location varies)

TEAM INPUTS

Average Time: 55 Hours preparing

Average Cost: \$198, including registration fees, transportation costs, and materials

LEARN MORE

The contest handbook, team resources, and information about regional events are available at:
engineering.mnsu.edu/EMDC/

SCAN ME!



OBJECTIVES

The Engineering Machine Design Contest is guided by three primary objectives:

1. Provide a low-cost or affordable learning experience that is accessible to students from underserved and rural communities.
2. Inspire an interest in engineering and related career pathways.
3. Equip students with skills that will help prepare them for future careers.

The program is guided by the EMDC Advisory Committee, which consists of a diverse group of educators and industry representatives.



REAL-WORLD CONNECTION

Creating awareness and connection to real-world challenges are important aspects of the EMDC. Each year a competition theme is chosen to guide the machine build and allow for whimsical creativity to flourish.

Students are able to explore science, technology, engineering, and mathematics (STEM) principles while having fun in a collaborative environment.

The program is aligned with the National Academy of Engineering Grand Engineering Challenges and Next Generation Science Standards.

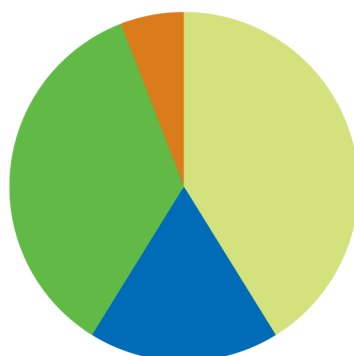


FLEXIBLE IMPLEMENTATION

How is the EMDC implemented?

Non-school Activity
5.9%

Extracurricular School Activity
35.3%



School Course or Class Activity
41.2%

Home-room or Free-time in School
17.6%