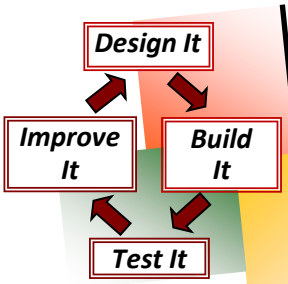
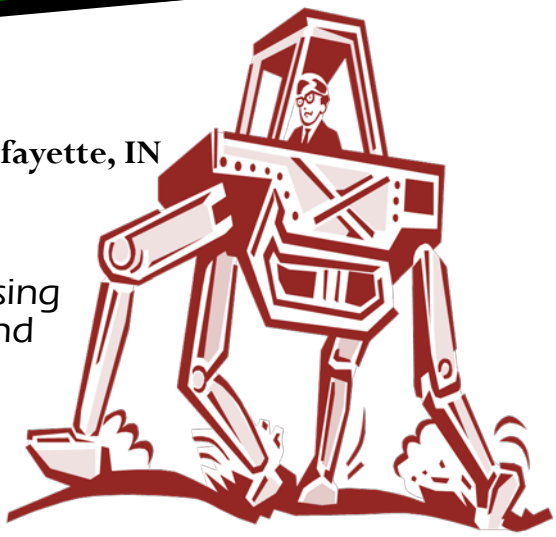


ROBOTICS CHALLENGE

DESIGN/BUILD/TEST/RUN COMPETITION

September 24-26, 2017
Tippecanoe County Fairgrounds, Lafayette, IN



Robots are Everywhere!

Because the uses for robots in society are increasing daily, there is a corresponding increase in demand for individuals who know how to design them, program them, and operate them.

GOAL

The goal of the Challenge is to use engineering design principles executing a specific task (or tasks) in the most efficient way possible. In order to achieve the most efficient design, a cycle of steps are to be used that include planning the initial design, fabrication based on the initial design, testing of the design, modifying it to make improvements, and then testing again.

PURPOSE

The **Robotics Engineering Challenge** is designed to provide youth a means to demonstrate their skills and knowledge in the area of robotics. Participants will have an opportunity to challenge themselves as a part of a team by planning, fabricating, and operating a remotely-controlled robot and also by programming one to accomplish a task without any direct human input.

PARTICIPATION REQUIREMENTS

- This is a team event. Each state participating in the event may register a maximum of two teams.
- Each team will consist of a minimum of two persons — Ideally four or more.
- Participants must have passed their 14 but not 19th birthday as of January 1st of the current year.
- Participation *may be** limited to the first 10 teams to register. (**Depending on equipment availability*)
- Registration details are available at www.4hengineering.org

EQUIPMENT

· **Remote Control Challenge:** Each team will be provided with a VEX robotics kit and a basic set of tools, Teams will NOT be allowed to supplement the kits provided. Each team may bring their own tool kit.

· **Automated Challenge:** Each team will modify a robot by adding sensors, mechanical, or other available components and then program it with a user-developed instructions that allows the robot to perform an unattended task. (No remote-controlled operation.)

REFERENCES

- Robotics Academy *(Carnegie Mellon)*
  www.education.rec.ri.cmu.edu/products/vex_online
- VEX Robotics
  curriculum.vexrobotics.com

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