Introduction to Robotics using LEGO Mindstorms

Self-paced online course
Learn to program a robot with instructor-led tutorials and assessments designed for K-12 teachers and informal educators

This non-credit online course introduces robotics as a method for teaching STEM (Science, Technology, Engineering and Mathematics). The course is designed for pre- and in-service teachers, and is also appropriate for youth leaders, coaches or parents who are supporting FIRST LEGO League (FLL) robotic competition teams.

Through self-paced, instructor-led tutorials, you'll learn about:

- computer systems and programming;
- robot construction, locomotion and autonomy;
- sensors; and
- common robot challenges.

The course uses the LEGO Mindstorms robotic platform and supports both the NXT and EV3 versions.

The course offers more than five hours of video-based instruction from MSU Professor Brock LaMeres along with self-assessment activities for both the NXT and EV3 versions of the platform. The course is viewable on desktop computers and mobile devices.

Prerequisites

No robotics or programming experience is necessary. This introductory course is ideal for people who have not previously programmed a robot. Participants should have access to a LEGO Mindstorms robotics kit–either the NXT or EV3 platform.

Instructor

Brock LaMeres is an associate professor of electrical and computer engineering who has taught engineering at MSU for the past 10 years and conducts research on how to use technology to teach the concepts of STEM. LaMeres also created the MSU robotics competition team that won the national championship at the NASA Mining Competition in 2010. He has extensive experience in online teaching.

Registration

A three-month access pass to the course is $49. Optional Montana State University Continuing Education Units (CEUs) are available for an additional $25. Register online at **http://eu.montana.edu/noncredit/** and choose "Introduction to Robotics using the LEGO Mindstorms."

For more information, contact Janine Hansen with MSU Extended University at (406) 994-5240 or jhansen@montana.edu

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