



Michigan
Technological
University



One-day, NSF-Sponsored Professional Development Opportunity for K-12 Teachers in the Field of Robotics

Michigan Tech and Bay de Noc Community College invite K-12 Teachers to participate in a ***One-day, National Science Foundation (NSF) Sponsored Professional Development Opportunity in the Field of Robotics.***

Where and When: Michigan Technological University, December 9, 9am - 4pm.

Overview: Robotics can be used as an interdisciplinary, project-based learning vehicle to teach STEM fundamentals. It is widely recognized that robotics is a valuable learning tool that can enhance overall STEM comprehension and critical thinking, foster problem solving skills, communication skills, teamwork skills, independence, imagination, and creativity. This professional development opportunity is intended for K-12 teachers wishing to expand their knowledge in engineering and science. Through this workshop, we hope to increase awareness about the role robotics plays in STEM education. The workshop will help teachers understand the valuable role robotics education plays in helping students understand theoretical concepts through invention and creation.

Seminar Agenda:

- Participants (K-12 Teachers) will learn concepts of industrial robotics (1 hour).
- Participants will learn the basic theory of industrial robots: mechanics, operation, frames, and robot manipulation. (1.5 hours).
- K-12 teachers will execute three hands on laboratory exercises operating and conducting basic programming of FANUC industrial robots (1.5 hours).
- Participants will be introduced to the capabilities of the free robotic software “RobotRun” and available robotic portal educational tutorials Participants will execute two simulation assignments using “RobotRun” software (1.5 hours).
- Participants will work with a college faculty member to consider ways to incorporate the robotic educational materials and the “RobotRun” software into the K-12 curriculum (1.5 hours).

Note: Financial assistance for attendees local to the workshop location (\$100) and participants requiring travel (\$300) will be provided to support all anticipated costs. Please note that the workshop is limited to 6 local and 6 remote participants. The first 12 (6+6) applicants will be registered for the workshop and receive the confirmation email.

For more information contact: Dr. Alex Sergeyeve at (906) 487-2258 or avsergue@mtu.edu

To register log on to: <http://www.cs.mtu.edu/~kuhl/robotics/k-12-teachers.html> and click on **Register for One Day K-12 Teachers Robotic Workshop**