

Robotics Summer Workshop for STEM Teachers of Grades 6-12

A one-week summer workshop for twelve Science, Technology, Engineering and Mathematics (STEM) teachers from grades 6-12 will be offered at the University of North Carolina Pembroke from June 23-27, 2008, with 2 follow-up sessions during the academic year. The workshop, which is sponsored by NASA and the North Carolina Space Grant Consortium, will be on "Bringing Robotics into the Classroom". Each teacher will receive a \$400 stipend and a \$300 Lego Robotic kit for their school.

The workshop will have two major purposes:

1. To introduce teachers to the use of Robotics in the classroom as a way to rekindle in students the sense of curiosity and enjoyment in learning about how the physical world works.
2. To educate teachers on how to make science and technology accessible to the general student population by using robots as a means for students to apply knowledge to something which is both challenging and fun.

Robotics will be used to show how scientific knowledge is applied to the "real world". Teachers will first learn how the basic components of a robot operate and then learn to join them together to form a robot. The class strategy is to learn science by "actually doing science". Teachers will use the LEGO MINDSTORMS robot kit to design, build, test and modify their own robots. In the Labs participants as teams will be challenged to construct robots that will perform tasks such as run an obstacle course or fetch an object or follow a light.

The major instructional components of this project will be a summer workshop designed to:

1. Increase teacher knowledge and understanding of robotics in teaching science and mathematics.
2. Construct robots from Lego MindStorms kits.
3. Use canned software which is supplied in the kits.
4. Install and integrate sensors into the robot.
5. Integrate robotics into the classroom and to create teams of students to compete in events.

The workshop will meet for six hours each weekday over a one-week period (30 contact hours) with hands-on robotic building sessions as an integral part of the program. A follow-up program that will be conducted during the following academic year will support this intensive summer workshop. Please contact Jose' D'Arruda for information and application.

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