WEEK THREE
Programming and Sensors

Lesson Goals

1. Team members should become familiar with the process of brainstorming.
2. Team members should continue to learn to work cooperatively.

Technical Learning Goals

1. Team members should become familiar with the various sensors and their functionality.
2. Team members should become familiar with programming with these sensors.
3. Team members should become familiar with programming concepts such as readability, writability, and modularity.

Coach Preparation

Background Reading
- The Process of Creative Problem Solving
- Browse the Mindstorms Robotic Invention System User Guide programming section (starting on page 20).

Preparation Time : 1.5 hours

Lesson Preparation
Once again, you should review all the material provided and determine how to split up the work. If you have 2 RCXs, one group can work on the sensors and building while the other works on programming. Note that the programming lesson is very large and may take multiple meetings to work through.

Preparation Time : 1.5 hours

Equipment Requirements

- At least one FLL Challenge Kit (2 RCX bricks would come in handy).
- A PC with the RCX software installed and the transmitter attached.
- A large area for the robot to run around in.
- A test area that has 2 black lines. You can use the test pad or put tape on the floor. Make sure that the IR transmitter is within range of this test area, as members will have to check the light sensitivity of these black lines.
- An alternative light source such as a lamp or flashlight for experimenting with light sensitivity.

Documents

The Process of Creative Problem Solving
Creative Problem Solving Exercise : Everyday objects.
Technical Learning : Sensors and Programming.