LAWRENCE TECHNOLOGICAL UNIVERSITY ROBOFEST CARNIVAL

Fun & unforgettable hands-on STEM+C learning experience through interactive robots.

Students will learn how to program robots to send Bluetooth messages to robots. Then visit the following stations **to program the controller** and play the game.

Scorpion Balloon Blaster	If the controller is programed correctly, students are asked to select a math or science trivia quiz card. If the answer is correct, then they will have the chance to control a Lego scorpion robot via Bluetooth to pop a balloon. If the answer is not correct, the student may go back to the end of the line to try the trivia quiz again. Winners will be announced based on the completion time.	Elementary Middle School
Robot Goal Challenge	If the controller is programed correctly, students are asked to select a math or science trivia quiz card. If correct, then they will have the chance to play with a Lego soccer robot to kick tennis balls. If not correct, the child may go back to the end of the line to try the trivia quiz again. There will be 4+ tennis balls with numbers on the field and some obstacles. The goal is to maximize the sum of balls successfully kicked into the goal. Some balls are easy to kick in, but the values will be low. Only 2 minutes will be given for each player. Winners will be announced based on the scores earned.	Elementary Middle High School

Additional learning activities that do not require programming

Lifter Design and Race	Students are asked to design a robot arm to lift a Lego barbell. If a student brings back the barbell using the robot with the arm, the mission is accomplished. Winners will be announced based on the completion time.	Elementary Middle School
Speed Calculation	After introducing the concept of speed/velocity calculation, a robot car will be started to follow a straight black line. When it stops at the red color tape at the end of the black line, the robot will display the time taken from the beginning. Students are asked to calculate the speed of the robot car in cm/sec as well as inches/sec. Students will be given a tape measure. Winners will be announced based on the accuracy and mathematical formulas of the calculation	Middle High School
Lego Math	Students are asked to calculate the number of Lego blocks used to construct shapes/structures. A bonus problem involves calculating a gear ratio. 3 minutes are given. Winners will be announced based on (1) accuracy (2) use of math formulas **/** calculations (3) time to calculate	Elementary Middle High School

This new Robofest program will be offered in the new Taubman Complex / Marbuger STEM Center in September. Please email at robofest@LTU.edu for more info.