

# Student-designed robots take on March Madness

March 16 2012, By Priscilla Vega

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In this image, robots designed and built by students for the 2011 FIRST Robotics competition are hanging as many plastic shapes on their scoring grid as possible in a two-minute-and-15-second timeframe. This year, the students are tasked with training their robots to get as many basketballs in the hoops as they can in a two-minute-and-15-second match. Credit: NASA/JPL-Caltech

(PhysOrg.com) -- Sixty-six national and international high school teams will take their robots to the courts this weekend to compete in the 21st season of the Los Angeles regional FIRST (For Inspiration and

Recognition of Science and Technology) Robotics Competition. This year's theme is "Rebound Rumble."

Students, teachers and fans will gather at the Long Beach Arena on Friday, March 16 and Saturday, March 17 to watch the robots in action. Preliminary matches are from 9 a.m. to 5 p.m. PDT on Friday, March 16, and pick up again Saturday morning from 9 a.m. to noon. The final round to determine the [winning team](#) will begin at 1:30 p.m. Saturday and conclude at 4:45 p.m. The winning team will advance to the FIRST Robotics national championship.

The event is open to the public and admission is free. Parking fees may apply.

This year's game pits two competing teams, each with three robots, on a flat 27-by-54-foot (18.3-by-16.5-meter) field. Teams compete to score as many basketballs in the hoops as they can during a two minute and 15 second match. The higher the hoop in which the basketball is scored, the more points the team receives. The match begins with a 15-second bonus Hybrid Period in which robots operate independently of driver inputs. During this Hybrid Period, one [robot](#) from each team may be controlled using a Microsoft Kinect. The match ends with robots attempting to balance on bridges located in the middle of the field.

Students have six weeks to design, build, program and test their robots to meet the season's engineering challenge. In this time, students tackle real-world engineering obstacles in teams of 15 to 25 high-school-aged peers - with the help of engineers from NASA's Jet Propulsion Laboratory in Pasadena, Calif., aerospace and other companies, and higher-education institutions. JPL is sponsoring seven of the robotics teams.

The students are among 51,000 students on more than 2,400 [teams](#) from around the world vying to compete in the FIRST championships, to be

held April 25 to 29 in St. Louis. The FIRST robotics competition is part of NASA's Robotics Alliance Project, which aims to expand the number of robotics systems experts available to [NASA](#).

For more information about FIRST Robotics, visit: [www.usfirst.org](http://www.usfirst.org) .  
More information on NASA's Robotics Alliance Project is at [robotics.nasa.gov/](http://robotics.nasa.gov/) .

Provided by JPL/NASA

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