Robotics

Bell

EST 1955

Learn coding and design skills and compete against other campers in the Robotics Academy!

Construct and program autonomous and remote-control robots to tackle all sorts of challenges, including arena battles, robot football, capture the flag, or obstacle courses.

Try your hand at designing some simple mechanisms for obstacles courses, minesweeping challenges and playing sumo wrestling, and learn how to program both the robots themselves and their wireless controllers.

Learn to design, build and program a fighting robot with coding and robotics skills

If you like computers or technology, or would like to increase your experience in these areas, this is a great Academy to take. It covers a variety of STEM-based skills, including coding, engineering, mechanics, and design.

On this Academy, students will:

· Learn basics of programming for robots including inputs & outputs, loops, variables, and conditionals.
· Understand the basics of autonomous navigation of obstacles.
· Discover how to remote-control a robot over bluetooth radio.
· Gain basic mechanical design skills and knowledge of chassis construction.
· Develop transferable team working skills through collaborative group work.

Sample session

DAY	SESSION CONTENT
Day 1	Learn how to control motors and learn basic coding techniques. Apply these skills in the minesweeper challenge
Day 2	Look at inputs and outputs, and completing the obstacle course challenge
Day 3	Write remote control programs and learn how to communicate wirelessly
Day 4	Capture the flag team challenge with RC robots
Day 5	Robot football challenge in teams Start of sumo build
Day 6	Sumo robot construction using the construction kit and custom plastic panels Sumo robot competition

Summary

School	**Bell The Leys**
Courses	**Summer Explorer**
Tuition	**2 weeks, 18 hours of tuition**
Age	**11-17**
Min. language level	**Intermediate**
Fee	**£195 per two week course**