

ROBOTICS PROJECTS TRACK

Gr. 5 to 8

NEW Exciting Platform
Low Cost, but High
Expandability

Instead of \$400+ LEGO, only
approx. \$150-\$200

Scaffolding complexity
Math as a learning Tool
Higher Order of Thinking
Focus on Automation

Level B to I
C/C++ (with
simplified libraries)

Level II+
C/C++ (with
native Arduino)

ROBOTICS PROJECTS TRACK

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B - I

Adapt basic engineering process – from Design with flowchart to simple trouble-shooting.

90% programming development, 10% mechanical

II+

Continue to delve more programming techniques and math application solutions.

More sophisticated robotics projects with performance and expandability

COMMON CORE GR. 8 – 12

Common Core – Algorithms in C/C++ B & I

Core Foundation for participating in various advanced electives

COMPUTER SCIENCE TRACK

ALGORITHMS IN C/C++

LEVEL B TO IV

Focus on
Computational
Thinking

COMPUTER ENGINEERING TRACK

ROBOTICS WITH ELECTRONIC

LEVEL B TO II

(minimum prerequisite:
ALGORITHMS IN C/C++
LEVEL I)

COMMON CORE GR. 8 – 12

Electives (with prerequisites)

COMPUTER SCIENCE TRACK

Electives: **SOFTWARE
ENGINEERING COMPETITIONS**
– A.C.S.L., Satellite
Programming, Robotics
Simulation

COMPUTER ENGINEERING TRACK

Electives: **ROBOTICS
COMPETITIONS** with open-
source hardware, software
Heavily focus on full-
automation with
advanced techniques