



1675 Peachtree Parkway Suite#180
 Cumming GA Ph: 678-ON-CHESS
 Serving Georgia K-12 Next Gen STEM Skills
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VEX IQ Robotics is for Rising 4th graders to 8th graders. Chesstronics Academy offers 3 below programs for VEX IQ Robotics. (All are in-person programs only)

1. [VEX IQ Basic/Intermediate program - 10-12 Hours](#)
2. [VEX IQ Advance Program - 30 hours \(15hrs Coaching + 15 Self Team Practice \)](#)
3. [VEX IQ - \(BYOR &TEAM \) PRACTICE - \(Monthly 4hrs Coach + 14hrs Team Practice\) - Monthly Team Fee](#)

1. VEX IQ Basic/Intermediate Program Syllabus :

Eligibility : Rising 4th graders to 8th graders. (Freshers)

Topic#	Topic
1	Overview - Robotics, Engineering, STEM - Knowledge Check Refresh
2	VEX IQ - Overview, Hardware, Controller & Brain
3	Basic Movement & Controller Calibration,
4	Basic VEX IQ Chasis - Overview, Build Options, Design Process
5	Basic VEX IQ ARM Utility- Overview, Build Options, Design Process
6	Configuring Sensors , Know about all sensors, Touch Sensor, Touch LED, Gyro, Distance, Color
7	Key Concepts - Friction, Center of Gravity, Speed, Torque, Simple Machines & Motions
8	Mechanisms - DC Motors, Gear Ratios, Drivetrains, Lifting mechanism, Object Manipulation
9	Knowledge Check-Test-Demo
10	ROBOT C Programming structures, simple move forward programming - Simple (Helloworld)
11	Smart Machines - Sensor, Programming, Distance Sensor, Gyroscope, Degrees of Turn
12	Demo on Robot - Driving, and Autonomous



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NOTE:

- All Classes are In-Person only.
- If Students miss any classes, the Make-up class will not be there, but students will catch up in the next class and what they have built they review and take the notes.
- Students in this class will not participate in any competition events. After they complete this course they will be eligible to get into the next level of Advance VEX IQ Robotics, where they will participate as a Team in Robotics Events.
- Students will be awarded VEX IQ Certificate and Robotics Trophy at the end of course.

Advance VEX IQ Program Eligibility Syllabus:

Eligibility -> Only Those Who completed Basic/Intermediate vex-iq programs are eligible. If they completed/participated in any prior school competition or learning from other institutions may be eligible. But they need to go through Interview / Test.

Sessions	Topic
1	Competition Robot Game/Model Overview - Robotics, Engineering, STEM
2	VEX IQ - Overview, Hardware, Controller & Brain- Knowledge Check
3	Robot Building -1 - Overview, Build Options, Design Process
4	Robot Building - 2 - Overview, Build Options, Design Process
5	Robot Building - 3 - Overview, Build Options, Design Process
6	Key Concepts - Friction, Center of Gravity, Speed, Torque, Simple Machines & Motions
7	Mechanisms - DC Motors, Gear Ratios, Drivetrains, Lifting mechanism, Object Manipulation
8	Knowledge Check-Test-Demo
9	Smart Machines - Sensor, Programming, Distance Sensor, Gyroscope, Degrees of Turn
10	VEX IQ Challenge Robot - Session 1 (Participate in some Robotics Events)
11	Engineering Notebook
12	Programming Coding
13	VEX IQ Team Challenge Robot - Session 2(Feedback and Participate in 2nd event)
14	Programming Trouble shoot assistance and robot building help
15	VEX IQ Field Learnings (School - County Level Competition)



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- Team Assignment based on Grade (Elementary 4th & 5th) or Middle School(6-8)
- One of the Goal is to get exposure to Robotics Competition events at least 1 or 2 events
- Score at least 5 to 10 points in competition.
- Programming Code assistance for the chesstronics preferred competition model robot.
- Self Teams practice additional 15 hours where they practice as a team and try to score higher points in Driving Skills and .
- Team Registration Fee \$100.00 will be extra
- Competition Registration fee \$30 to \$50 will be extra.

3. VEX IQ - (BYOR &TEAM) PRACTICE - (Monthly 4hrs Coach + 14hrs Team Practice) - Monthly Team Fee \$200.00

Eligibility : Team (2-5 Team Members) Team Members share the Team Fee \$200.00

If you have your own VEX IQ School Team or any private team, you can Bring your Robot and Self-Team practice(16 hours Monthly) at Chesstronics and get coach assistance Monthly 4 hours. (OR)

If you have completed Advance VEX IQ (30 hours) and want to continue and practice for next competition the chesstronics team will be given same Robot they built during Advance vEX IQ course and use the Robot for the competition events.

Highlights of this program:

- Monthly 4 Hours of Coach Assistance of Programming, Trouble shooting Robot
- Monthly 16 hours practice on field, game elements, Block the calendar 1 week in advance.