Getting Started

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First, you will need a Dual Control Starter Kit **(this is part of the products so I don't have a link for it yet)**. We recommend that new teams purchase this kit that has been put together. They are reusable year after year so while you can add more parts to increase the complexity of your creations, you do not need to buy a new kit each year.

Next you will need some programming software. We will be using ROBOTC, and you can purchase the software by contacting us at info@roboglobal.org. This is what is recommended for competition, and it provides excellent opportunities for students to earn industry the standard software at an early age.

Although robotics is a competition-based program schools can take part in robotics without taking part in competitions especially at the beginning. As their program grows they can consider competing at various levels.

However if a school decides to compete we recommend that teams have a Competition Switch which allows them to test their Autonomous and Driver Controlled programs. You can buy the official switch from Roboglobal.

Finally, you need to register your team at www.robotevents.com. This can be done in two ways:

1. Register directly on the Robot Events site. Registration costs $100 for the first team and $50 for any additional teams. Payment is in US Dollars and must be made via credit or debit card.
2. Purchase your registration through Roboglobal Educational Consulting. This costs $100 for the first team and $50 for additional teams. Contact us at the email below.

Once you have paid and are registered with www.robotevents.com, you will receive a Welcome Pack with a few items to help you get started. This will include some game objects to help you design your robot and for you to practice with.

Now that you are registered, you can assign your teams to events that you wish to attend - you can attend as many as you like. See the **Events (link this to Events page)** page for dates and venues.

If you need help registering or assigning your team to an event, contact info@roboglobal.org

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Getting a team together

Each robot can be used by as many as 6-9 students though and there are a number of roles that students can play on a VEX team - the obvious are designers, builders, programmers, and communication specialists in charge of the Engineering Notebook.
On each team we can have between 2-3 students working on each of the sections.

Engineers

You will need a couple of students to be focused on robot design and build (at least 1-2 for each role)

Driver

Sometimes, the best Drivers are not same people who are good at building or programming– they are cool under pressure, they don't panic, and they listen to strategy advice from other members of the team. They will also need to work well with students from other schools because their Alliance Partners are likely to be people they have never met before!

Programmer

A successful robot needs an excellent Autonomous program. The Programmer will also need to work closely with the Driver to ensure that the robot controls are easy to use and that any repetitive tasks are automated.

Engineering Notebook and CAD

The design, build and testing of the robot should all be thoroughly documented in an Engineering Notebook which you should take to every competition. This can include a build diary, design iterations, tactics, program development, fundraising and more.
Your students can use Autodesk Inventor for free to build CAD models of their designs. To download the software, visit our Resources page
Thanks to team 5194B Volt Robotics (@VoltRobotics) for allowing the use of their CAD model, we hope this gives some inspiration to other teams for using CAD as part of their design process.

Fundraising

Your engineers might want parts that you don't already have. Perhaps you need to fund an overnight stay at the VEX Nigeria National Championships or even raise money towards a trip to

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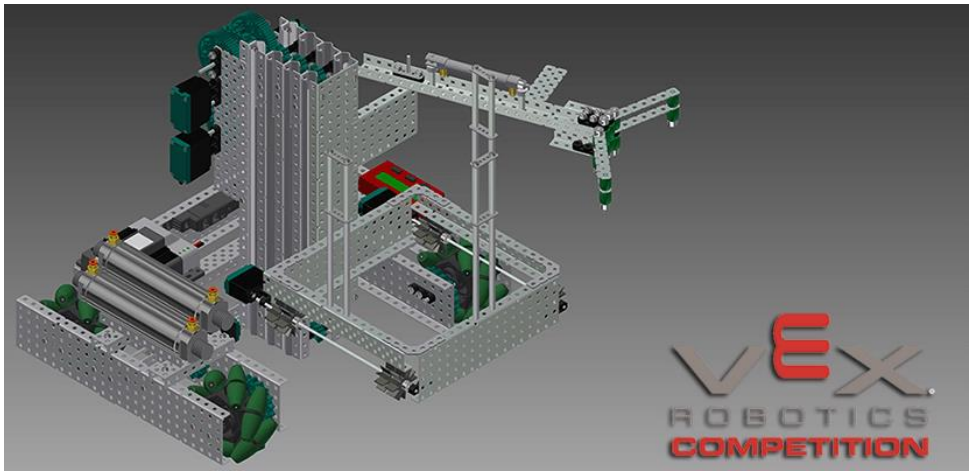
the VEX World Championships in the USA! Whatever the case, fundraisers do not need to be engineers or robot enthusiasts but entrepreneurs.



Building your first robot

Before building your first ever competition robot, we suggest that you build the Clawbot that is included in the Starter kits. This will allow you familiarize yourself with most of the major construction techniques used in VEX. It also gives you a nice platform to play around with some of the sensors and do a bit of programming before you head on to build your first competition robot. You might even find that for your first year, you use the Clawbot as the basis for your design.

First steps with programming

When you first build the Clawbot, you will notice that it has a program built in by default that allows you to drive the robot around with the remote control. Now you can create your own program to change the controls and do some simple autonomous programs - this will prepare you for writing your first program for your competition robot.

You'll need a VEXnet competition switch for this. Buy the official VEXnet Competition Switch by contacting Roboglobal at the email below.
You will also need to make sure that the Firmware is up to date on your Cortex, Joystick and White VEXnet keys. To learn how to update the Firmware, click here.
Our getting started guide is for using text programming in ROBOTC. If you are using any of the other programming languages and require help, contact info@robogloal.org
To view the getting started guide, click here.

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Entering your first competition

Attending a competition is the best way to learn, don't worry if you don't have a great robot, it really doesn't matter. Students learn more about building and programming at their first competition than in many months of classroom or club time.

Make sure you are registered on Robot Events and assign yourself to the events you wish to attend. If you are not sure that you are correctly signed to an event contact info@roboglobal.org to check.

1. Make a checklist of things to take to the competition and ensure you have everything ready in advance. At the minimum going to a competition you should be taking:
    - Your robot
    - VEXnet wireless keys
    - VEXnet 9V backup battery
    - Orange USB tether cable
    - Robot batteries and charger
    - Spare joystick batteries
    - Laptop with your program
    - Team ID plates with your ID number on it
    - VEX Tools: Allen keys and spanners
    - Spare parts- you never know which spares you'll need
    - Drinks and snacks
2. Arrive as early as possible for the event-check the schedule on www.robotevents.com, and see what time you can arrive and what time is check-in
3. . Your robot will need to be inspected by officials before you can compete to ensure it complies with the rules. Make sure you have read the rules thoroughly and that your robot is compliant before you arrive at the competition. Go to inspection as soon as possible so that you can make changes if your robot does not pass. The staff at the event will be more than happy to help make sure your robot is compliant.
4. Assign someone in your team to keep an eye on the match schedule - make sure you are at the Field when it is your turn to compete.
5. Charge your robot batteries between each match and make sure your joystick batteries are charged. The vast majority of robot failures during a match are due to low batteries.
6. Learn from the more experienced teams at the event. Watch how they organize themselves and learn from their robot deigns and game strategies. Experienced teams are always willing to help the novices and our staff will be on hand to help as well.
7. Above all, don't panic and have fun!

Remember, you can attend as many events as you like over the course of the season.