



# Vanden High School Robotics Parent Information

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## Team Information

The Vanden Robotics team, the RoboVikes, is a student-led robotics team that teaches STEM to people in the community in fun, exciting ways. The team competes in the FIRST Robotics competition and builds a robot every year that completes tasks to score points. This gives participants an avenue for hands-on learning, and opportunities to apply knowledge gained. The team also competes for awards that recognize outreach in the local community, creativity, and having a plan that highlights ways to achieve the team's objectives. Founded in 2000, the Robovikes have impacted thousands of lives in the local community and across the globe. 100% of participants pursue higher education or enlist in the military, taking the valuable knowledge gained from robotics with them.



The Team makes it a personal mission to spread STEM to people in the district, community, and around the world.

- Started 4 A-G UC Approved courses with over 160 students annually
- Started 34 robotics teams with local middle and elementary schools.
- Host robotics competitions and mentor at STEM camps in the area
- Started and mentored 9 FRC teams in the area over the past 22 years
- Outreach has also taken the team to China in 2014, 2017, and 2019 to promote STEM education.
- Over 2000 students have participated in Robovikes mentored programs
- Do over 1,000 hours of outreach per semester of school

Vanden robotics is a world-class, award-winning team that succeeds in every aspect.

- Earned nearly every award in robotics events, multiple times.
- Robot Awards Received: Quality, Technology, Industrial Design, Safety, Innovation
- Outreach Awards Received: Golden Bell, NASA Sponsored Engineering Inspiration, and Gracious Professionalism at the World Championship level.
- Other Awards: Entrepreneurship, Judges, Chairman's
- Competed at World Championships in 2013, 2015, 2017, 2018, and 2019.

At Vanden High School, there are typically 6 classes related to robotics:

- Intro to Engineering Technology (ET)
- Engineering Technology 1
- Engineering Technology 2 (Articulated with SCC for college credit)
- Engineering Technology 3 (Articulated with SCC for college credit)
- AP Computer Science Principles (CSP)
- AP Computer Science (CS)

Incoming freshmen can take the Intro to Engineering Technology class or Engineering Technology 1. This, however, is not a requirement to be on the team, members must only meet the hour requirement for the first semester.

Sophomores or juniors can take Engineering Technology 2. Students who have taken ET 1 & 2 can take either AP CSP, AP CS, or ET 3 during junior and senior years.

Due to changes in staff after returning to in-person learning, Vanden High School currently offers the following robotics-related courses:

- AP Computer Science Principles (CSP)

## FIRST Robotics

What does FIRST stand for anyway? For all that have robotics fever and are still trying to find the meaning of this acronym, FIRST stands for "For Inspiration and Recognition of Science and Technology". FIRST is an



organization started by inventor Dean Kamen in 1989, in the hopes of fostering interest among high school students in the engineering and technology fields. The FIRST headquarters are in Manchester, New Hampshire, where the very first, FIRST Robotics Competition (FRC) was held in 1992. FIRST also holds FTC (First Tech Challenge) and FLL (First Lego League), as well as Jr. FLL. FRC robots (High School only) are typically 120 lbs and around 30" x 30" x 60". FTC robots (High School and Middle School) are smaller (18" x 18" x 18"). FLL robots (Grades 4-8) are made of Lego Mindstorm kits and components. Jr. FLL (Grades 1-4) doesn't include any robot components, just Legos and kids' imaginations!

Dean Kamen began doing this in honor of science and technology, as his mission states:

*"Our mission is to inspire young people to be science and technology leaders, by engaging them in exciting mentor-based programs that build science, engineering and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership."*

Anyone that has been to a FIRST regional will testify to its atmosphere and to the excitement of a major sporting event. For a few weeks in March, the competitions take center stage and make all the long hours of build season worthwhile. But success does not come without a lot of groundwork. The work is year-round, in and outside the classroom. Members learn not only engineering but project management, ROBOTC programming, AutoCAD programs, and how to build with their hands. A lifelong love of science and engineering is instilled in the FIRST-ers, just as the founders intended. If the fantastic growth of the league is any evidence, FIRST will continue to instill and foster a love of engineering, science, and a spirit of Gracious Professionalism in generations of FIRSTers to come.

## VEX Robotics

VEX is a former branch of FIRST that became a huge international program. It is very similar to FIRST's FTC program. Robots are relatively the same size (18" x 18" x 18") and use similar types of metal. VEX World Championships are held in the same week as FIRST World Championships. It is also similar to FIRST itself. VEX and FIRST are both listed for educational purposes and worldwide competitions. VEX has its own computer program, ROBOTC, which is used for Vex Cortex. FTC can also use ROBOTC but in a slightly different format. However, VEX is cheaper and bigger than FTC at large. High school students and college students compete globally against other teams. VEX robotics competition is the largest and fastest-growing middle and high school robotics program globally, with 7,300+ teams from 25+ countries, playing in 400+ tournaments worldwide. The VEX U college and university competition have more than 220 teams competing in local tournaments and in their divisions at the VEX World Championship.

The Team mentors VEX teams within the school district, as well as hosts and supports VEX competitions. The following include some of the VEX-related opportunities Vanden Robotics is involved with:

- 8 VEX teams at Golden West Middle School
- 8 VEX teams at Vanden High School
- Mentoring 24 VEX IQ teams at Foxboro, Center, Travis, Cambridge, and Scandia Elementary Schools



- Hosting VEX competitions at Vanden High School, Golden West Middle School, and assisting Armijo High School with events.
- Hosting VEX IQ Scrimmages & Competitions

## Parent Support

The team needs parent and mentor support. Throughout the year, parents help the team with fundraising car washes, recycling, raffle ticket sales, and Bingo. During build season, parents help with carpooling and catering and are reimbursed through RPM funds. Parents also help decide which regionals the Team competes in and plan hotels, flight tickets, etc. ahead of time.

### RPM (Robotics, Parents, and Mentors) Meetings

RPM stands for Robotics, Parents, and Mentors. Meetings are held every second Monday of the month to maintain the management of the Team. Team meeting minutes are distributed each month via email. Sign up for the Vanden Robotics email list to ensure frequent updates Team happenings.

### Mentor/Volunteer through Travis USD

The team welcomes mentors and volunteers in all areas. Whether one is an electrical wiz, welding enthusiast, or has an interest in the business aspects of the team, all skills are needed.

To mentor or volunteer with the team, register as a volunteer with Travis Unified School District. The link below provides information on how to register.

<https://www.travisusd.org/Domain/57>

### Communications

Stay in touch with the team by signing up for the team Google Distribution list. Email Doug Green ([dgreen@vandenrobotics.com](mailto:dgreen@vandenrobotics.com)) to be added to the list.

### Team website/Calendar

The official team website is [www.vandenrobotics.com](http://www.vandenrobotics.com). Information concerning team events and media as well as FIRST events, information, and links are located on the website. The Team encourages families to visit the website for any updates to events or further information concerning robotics.

All upcoming events are added to the team calendar on the team website:

<https://www.vandenrobotics.com/upcoming-events>



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## Social Media

Follow the Team on Social Media and please share updates.

- Robovikes on Facebook [Vanden Robovikes](#)
- RoboVikes on Instagram! [@robovikes701](#)
- RoboVikes on Twitter! [@FIRSTteam701](#)

## Fundraising

The team needs to fundraise to keep this exciting program going. The cost of this program can easily reach between \$50,000 and \$100,000 each year. The team partners with the Vanden Robotics Foundation, a non-profit 501(c)3 organization, to support the enrichment of youth in the community with exciting and challenging programs that give way to careers in science, technology, engineering, and mathematics.

The team recognizes sponsor based on the contribution levels below:

- Platinum Level: \$5,000: Sponsor name/logo associated with the Team's (displayed before, during, and after all matches) at all competitions, presentations, demonstrations, and in all publications; all recognitions from lower levels are included.
- Gold Level: \$1,000: Sponsor name/logo on Team Shirts, Banner, and Robot; all recognitions from lower levels are included.
- Silver Level: \$500 Sponsor name/logo is listed on the Team's nationally linked Website, [www.vandenrobotics.com](http://www.vandenrobotics.com); all recognitions from lower levels are included.
- Bronze Level: \$100 Framed picture of the team and a "Thank You" letter for supporting a unique educational experience; recognition of a lasting impression in the growing minds of today's youth.

In addition to requests for team sponsors, the team hosts many fundraising events throughout the year:

- Bingo:
  - Parents go to the bingo hall and volunteer. Contact the Bingo Volunteer Hotline at 707-365-2560 to inquire.
  - 90% of profits go to the student, 10 % of the profits go to the team.
- Rummage Sale: Generally in late September or October at Cambridge Elementary
  - 100 % of the profits go to the team
  - Team asks for parent volunteers to support sales through the day
  - Team asks for donations for the sale
- Spaghetti Feed: Generally in early November
  - 100 % of the profits go to the team



- Team members are required to sell a minimum of 10 tickets
  - Team asks for parent volunteers to cook for the feed and support sales
  - Team conducts a dessert raffle so donations for the raffle are requested
  - Team conducts a raffle and asks for donations for the contents of the baskets.
- VEX Tournament Food Booth: During VEX tournament at Vanden High School
    - 100 % of the profits go to the team
    - The Team requests that parent volunteers cook for the tournament and support sales
  - Amazon Smile
    - Do normal Amazon shopping through the Team's Smile Charity link:  
<https://smile.amazon.com/ch/27-0448093>
    - It does not charge extra fees, but the Vanden Robotics organization earns 0.25% of every purchase made through this link. Share it with family and go shopping!
  - Scrip Sales
    - Scrips allow customers to purchase gift cards with a percentage of the purchase price donated to the team.
    - Scrip Sales are available year-round
    - Orders will be taken via the form and check, as online does not give the team the best support, but available options can be viewed at: [www.shopwithscrip.com](http://www.shopwithscrip.com)

<https://www.vandenrobotics.com/fundraisers>

## Time Commitment from Members

In order for the team to accomplish its goals each year, the following requirements are set forth for team members:

1. Participate fully in all aspects of the team. This includes developing problem-solving skills, technical skills, independent research, participating in team events and outreach efforts.
2. Encourage engineers and other professionals to donate time to work with the team and teach members skills that can be used both currently and when in the workforce.
3. Participate in fundraising events throughout the year. \$40-80,000 must be raised per school year for tools, registration fees, equipment, travel, and other expenses.
4. Encourage willing parents and adults to help raise money, provide food during build season, and aid with other tasks to support the team.
5. Commit the amount of time necessary to turn the Team's dreams and ideas into reality. This is crucial. Members are required to participate in 60% of scheduled team meetings, however, they are encouraged to come whenever available to learn and expand horizons. Members are also required to participate in outreach activities for at least 10 hours each semester.



6. Members need to maintain average to above-average grades (2.0 and above) in all classes. To be eligible for travel, Members must maintain a current grade of 2.5 or above, and may not receive a D or F in any class.

### **Off-Season Team Meetings**

The team meets each week on the following schedule:

- Tuesday 3:15 -7 pm
- Thursday 3:15 -7 pm
- Friday 3:15 -5 pm

It is expected that team members participate in at least 60% of the scheduled meetings.

### **Outreach Hours**

In addition to the work done at the team's home base at Vanden, the Team is extremely dedicated to maintaining a strong presence in the local community. Members are required to have a minimum of 10 outreach hours each semester. The Robovikes achieve this through many varied projects and relationships, all for the furthering of STEM, such as

- Mentoring VEX teams at Golden West Middle School and Vanden High School
- Mentoring VEX IQ at Foxboro, Center, Travis, Cambridge, and Scandia Elementary Schools
- Helping out with local programs, such as Coastal Clean-Up or Relay for Life
- Hosting VEX competitions at Vanden High School and Golden West Middle School
- Hosting VEX IQ Scrimmages & Competitions
- Demonstrating robots at school rallies, homecoming week, football games, and other district school-wide events
- Reaching out to sponsors, such as demonstrating robots at Genentech's "Bring Your Kid to Work Day"

## **Build Season**

Once the FIRST game details are released in early January the team will enter "build season" in order to build the robot for the season before the competitions begin. During build season, the time commitment will increase so that the team can meet its build goals.

### **Build Season Team Meetings**

The team meets each week on the following schedule:

- Monday 3:15 -7 pm
- Thursday 3:15 -5 pm
- Friday 3:15 -7 pm
- Saturday 9 am – 5 pm
- Sunday 9 am – 5 pm



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It is expected that team members participate in at least 70% of the scheduled meetings.

### **Build Season Food and Costs**

The team meets each weekend, so parents are tasked with bringing food for the team each week. Parents are assigned a weekend day to bring food and are paired up with another family. The families can receive reimbursement through the foundation up to \$100 per meal.

Each member is required to pay \$50 for build-season food.

### **Competitions**

The team typically competes in various competitions, both off-season and in-season. For local competitions in Davis and Sacramento, parent drivers are requested to reduce the cost to the team.

### **Requirements to Travel with Team**

To be eligible for travel the student must:

- must maintain a current grade of 2.5 or above, and may not receive a D or F in any class.
- meet the minimum of 100 hours of time outside of class over the second semester and maintain 60% participation in all meetings.
- gain approval for missed school days from all teachers

### **Cost of Competition**

The cost for each competition will vary due to the needed transportation, lodging, and food. Generally, members will pay for the following:

- Lodging (rooms will be shared with a minimum of 3 members)
- Transportation (if the event is local a donation to the parent volunteer is requested)
- Food (the team will coordinate meals for members, but each individual will be required to pay for the meal)

The cost per competition will vary based on the location of the competition, but some general estimates are:

- Travel to local competitions can be as low as \$30 to cover food.
- Travel to competitions where the team does not need to fly can be around \$250
- Travel to competitions where the team needs to fly will vary based on flight, ground transportation, and lodging costs but a general estimate is \$650 to \$1000.

\*There may be changes to the information above due to COVID-19 restrictions and protocols. See Travis Unified School District's [COVID-19 Information Page](#) for further guidance.