Team 2471

http://www.team2471.org/

Our Mission

- Team 2471 is a FIRST robotics team for high school students
- **FIRST stands for:**

For Inspiration and Recognition of Science and Technology

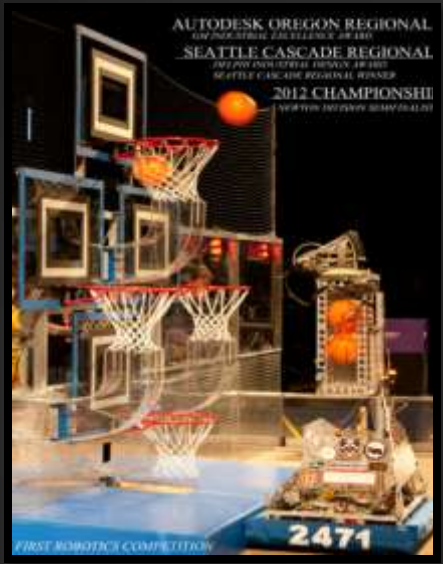
Our team is a union of students from three school districts;
Camas, Hockinson, and Washougal.

Our mission is to inspire kids in Science and Technology, through a mentor-based program. As students experience what they can do with newfound knowledge, they are inspired to take risks and learn on their own. We encourage hands on, learn-by-doing opportunities. Our students essentially run a small, high-tech company.

Team History

Our team has qualified for World Championships 3 years in a row.

We have won Design, Quality, Safety, and Engineering awards for the last 5 years



Year	Students	Mentors	Competitions	Outreach	Awards *	Notes
2008	5	3	1	0	0	
2009	9	5	2	1	3	Regional Finalist
2010	15	6	3	2	4	Regional Finalist
2011	24	6	4	3	5	Regional Winner -> Championships
2012	32	8	5	5	6	Regional Winner -> Championships
2013	30	8	5	7	5	Regional Winner -> Championships

* Regional level awards for Engineering Design, Quality, Safety, Imagery and 1st place Alliance

The FIRST Program

- FIRST is a 21 year old national program with a proven track record. It is supported by the U.S. government, various Corporations, and the Educational community.
- It's sports-like competition fires up students' interest to learn valuable skills, so they can design a competitive robot.
- Private and Corporate donations fund the teams, supplementing school STEM efforts.
- Mentors from related industries donate time and expertise to train the next generation of engineers and business leaders.

The Robot Shop

A tribute to Craig's List

- Our shop is based in a 1500 sq. ft. former wood shop at Liberty Middle school.
- Our Tools include:
  - Saw-Stop Table saw
  - 18" Lathe
  - 2 Mills, 1 with Digital Read-Out
  - 5 Computers
  - 2 drill presses, a grinder, Sheet metal brake, Arbor press, and Belt sander
  - 3 band saws, Scroll saw
  - MIG Welder
  - Power hand drills, numerous hand tools
  - Large collection of robotic parts and materials
  - CNC Milling Machine (at Hockinson HS)

(Many students have never used power equipment when they first join the team.
All students receive safety training and certifications before using equipment on their own.)

Team Schedule

Activity	Period	Note
Fall Team Kickoff	Sep	New student introduction.
Girls Generation & Rookie Rumble	Sep	Two competitions using last year's robot & game. Only girls or new students run & repair robot.
Training & Projects	Sep - Dec	Shop tool safety certifications for new students. Individual project to advance team for returning.
BunnyBot Build	Sep - Dec	Build robot for preseason competition. Returning students design, new students build.
Intro classes	Oct	Intro classes for 3D CAD & Programming
FIRST Fare	Nov	Regional training seminars for FRC students
BunnyBot competition	Dec	Compete the robot. Sometimes two of them
FRC Kickoff	Jan	New game announced by FIRST at o-dark 30
Build Season	Jan - Feb	6 week build season.
FRC Competitions	March - April	Regional and World Championship competitions
Outreach / Sponsor	May - Aug	Sponsor appreciation letters and visits. Demonstrations at schools & public events
Summer Projects / Advanced CAD design	June - Aug	Student picked projects of interest: Past examples: Build 3D printer, Aluminum casting with microwave melting, Swerve drive design.

2
4 Hours a day
7 Days a week
1 Build Season

What is the "Build Season"?

- The build season is grueling race against time. In six short weeks, the team must define a strategy, build a robot, and train a team of drivers to address the yearly challenge.
- During the season:
- Concepts must be developed and proven.
- Designs are conceived, and prototypes constructed.
- On the final day, construction is completed, and the functional robot must be sealed in a bag until the competition.

Funding: Leveraging resources

Team 2471 brings together private, corporate and education resources to enhance and support local school STEM efforts.

Source of funds:

Source	Amount	Note
Corporate donations	$20,000	US Digital, Boeing, Linear Technology, Columbia Machine, Rotary, HP
Private donations	$6,000	Mentors and private donations
CHS, HHS, WHS ASB	$3,000	Club funds from student ASB fees
School services	$4,000	Shop space, Accounting, Receiving
Other Grants	$3,000	State & FIRST grants
Students	$4,000	Team Fees
Total	$40,000	

Use of funds

All of our funds are used to support student training, robot construction and attending competitions.

Source	Amount	Note
Competition Registrations	$15,000	2 Regional's, World Championships, 2 or 3 off season events
Parts and tools	$5,000	Tools, tooling, materials,
Competition robot	$5,000	Comp robot & practice robot & field
Travel	$8,000	World Championships Fund
Student need grants	$3,000	
Community outreach	$3,000	School presentations, fairs, etc.
Total	$40,000	

Mentors: Leveraging Experience

Our mentors invest time to train the next generation of engineers and business leaders.

Our Lead mentors are:

Mentor	Expertise	Background
Carlo Calica	Programming	Programming, Various successful start ups
Karl Koenig	Public relations	IEFF Union President
Bud Hayes	Electrical and Mechanical	Electrical engineer, Tektronix, Ask Bud To Do It
Roy Thornley	Automation & Machining	Automation engineer, US Digital
Bob Croucher	Programmer	Programming, Disney
Debby Thornley	Business Mgt.	Risk Management, Vancouver School District
Bruce Whitefield	Mfg. Engineering	Engineering manager, Linear Technology

FIRST teams enable experienced professionals, who would not otherwise be able to help with STEM education, to mentor high school students.

How we measure success

- Success for a FIRST Robotics team is not measured through the team's wins and losses. For us, success is measured in the experience gained by our members.
- When team alumni major in engineering, mathematics, science, or business, then come back to mentor new students during breaks, we know that our team has encouraged students to pursue STEM careers.
- When students have a smile on their face, and are excited about an idea, or are determined to solve a problem.
- When students work alongside teammates and professional mentors
- ***This*** is how we measure success.

Where to learn more

For More information on FIRST and Team 2471, visit:

Team Web site: http://team2471.org/

The web site is built and maintained by Team 2471 students. It has information about team activities, schedules, awards and robots. The site also contains pictures and videos. See the sponsor page for sponsor levels and methods.

FIRST FRC: http://www.usfirst.org/

FIRST's main site. Information on events, game rules and competition season. Videos and descriptions of the FIRST mission for STEM education and Gracious Professionalism

WA FIRST: http://www.firstwa.org/

Information about FIRST activities and teams in the state of Washington.

OR FIRST: https://oregonfirst.org/

Information about FIRST activities and teams in state of Oregon and Portland metro area

The Blue alliance: http://www.thebluealliance.com/

Information on team competitions and standings. Links to videos of robotics competitions.

Look up team 2471.