

# OCOSTA 4-H WILD ROBOTOCATS



TEAM 3787



## Ocosta 4-H Wild Robotocats Team# 3787 Business Plan

**Executive Summary:** In FIRST Robotics you undergo stages that lead to the outcome of a constructed robot, learning about science, technology, engineering, and math (STEM) along the way. The Ocosta 4-H Wild Robotocats (FRC Team# 3787) participates in FIRST Robotics to supplement the education of students in a local public school district that contains limited STEM based classes and vocational electives. The students learn about the concepts of STEM, each other as people, and have fun while participating. This program sets out to build a new robot each year to fulfill new objectives for competition. The team designs a model and builds this robot in a six week time period. The students must be very involved and dedicated in the entire process to achieve its goals. Students can learn computer programming, mechanical engineering, marketing, production, entrepreneurship, and other technology related skills. The team obtains funds by grants, donations, and fundraisers like community garage sales, light bulb sales, and booths at many different events. Being a part of robotics isn't to be taken lightly, commitment and dedication are very important. The team offers students important vocational skills, providing a foundation for the building block of their lives.

**Mission Statement:** To produce a positive foundation encouraging teamwork, self confidence, and ingenuity through mentorship incorporating Science, Technology, Engineering, and Math (STEM)

**Objectives:** To provide exciting and rewarding education while designing and building a working robot to be used in FRC competitions, embracing STEM and teaching entrepreneurship skills along the way.

Building a working robot in six weeks is very challenging and pushes the members of the team to work efficiently in a complex and fast pace. With the limited time frame, students must learn to responsibly juggle school and other activities while also being part of the team. Having a working robot means more than just being able to compete at a competition, it also means that time and hard work has truly paid off.

Learning is an important part in a person's life. As teenagers the main focus is school. Being a member of the team means that students can learn more outside of the school classroom. The team offers what is not available in the local high school curriculum. The students receive more hands on experience. The opportunities for the students are limitless; the team helps open doors for these students.

**Who We Are:** Team 3787 is a group of people who have come together as visionaries for the future. We are a diverse group with many abilities and strengths. By combining these attributes we can learn from each other. Our abilities and strengths consist of an aptitude for business, engineering, graphic design, marketing, mechanical design, and programming. Team members don't just settle on one specific department, working as a team helps the students grow and be more versatile. If a question comes up, the team is

supportive and helps students to troubleshoot collectively. The skills taught will help the future of the students and the future of the world as well, because it applies to what they will do with their lives as they grow by giving them a strong foundation to build from. The team continues to grow and evolve but it's ideals are always in the forefront, helping students to better themselves and the other's around them.

**History:** In the first year, the Wild Robotocats started with a large number of students, but quickly decreased in size to around 10 members due to scheduling conflicts with sports and other activities. The facility was in the U.S. Coast Guard housing district in a small garage that they allowed the team to use. The marketing and programming teams were at a Mentor's house nearby. The garage had no heat and little space to work around the robot. There was no storage space for parts so they were kept in stacked boxes and totes. The marketing team designed brochures and teeshirts. The build team built a robot with a defensive strategy and it did its job very well. The team placed 9th in regional competition, earning the Highest Seeded Rookie Award.

The second year's build site was at a mentor's house, with a dimly lit and with minimally heated shop. The marketing team was in the house while the build team was in the shop. The shop had no bathroom, so students were going back and forth to use the bathroom in the house and to get snacks. Throughout the season the team held 1520 students. The robot was built as an offensive robot but the team suffered major technical and programming during competition and was unable to fully compete. The marketing team designed a website, brochure, PowerPoint, and made many presentations to local businesses and the community.

## **Organization Structure**

Engineering: Practical application and implementation of mechanical productions, using the sciences of tools and modern construction materials

Design: The drafting of an architectural diagram to be used as building instructions.

Build: Physical application of engineered designs

Programming: Write and apply instructions to a computerized apparatus

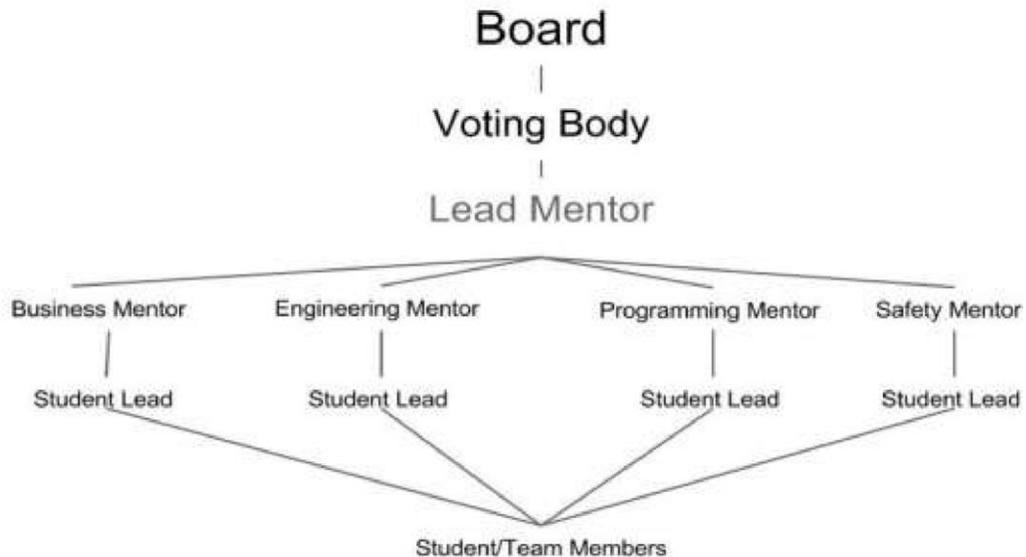
Entrepreneurship: A subset of fields of business and commerce, it comprises of a number of tasks and processes generally aiming at expanding and implementing growth opportunities.

Marketing: Promoting the team and all things associated with the team.

Public Outreach: Inform the public about the team and it's objectives to gain community support, sponsorships, partnerships, and other potential ventures

Spirit: Character, enthusiasm, and pride of the team towards each other and all other people that we affiliate with

### **Club Personnel**



### **Roles and Responsibilities:**

**Board:** Cabinet that controls finances, makes executive decisions, and keeps records of meeting notes, minutes. The board serves as the executive administration of the team.

**Mentors:** Aid students in reaching their goals, help students gain self confidence, ensures all students receive an opportunity to learn, acts as a role model for the students, encourages teamwork, acts as a moderator to facilitate in problem solving.

**Lead Mentor:** Communicates with other mentors to ensure they are in compliance with the task at hand, the lead mentor is ideal for procuring information or assistance that the other mentors/students on the team might need.

**Business Mentor:** Serves as mentor for entrepreneurship activities. Helps the students coordinate their efforts to spread the word about robotics. Oversees Spirit related events and activities.

**Engineering mentor:** Mentor concepts of engineering, also includes mentoring in software programming

Safety Mentor: Ensures safety in workplaces, teaches everyone in using equipment properly, wearing safety equipment, encourages a clean and organized work area, keeps first aid kit stocked, oversees student safety leader, and encourages safety

**Voting Members:** Registered heads of the Ocosta 4-H Wild Robotcats (mentors, students)

**Student Body:** All students participate to learn the objectives of the team.

Lead Student: This person associates with all groups of the team, provides assistance in what is needed or required at any given time, Encourages team to stay on task and prioritize tasks at hand.

Student Engineering Lead: This person is in charge of ensuring the engineering and construction of the robot, and is aware of all priorities associated with the construction.

Student Programming Lead: This person delegates and guarantees that all objectives and issues are ascertained in compliance with the necessary programing that is needed.

Student Marketing Lead: This person ensures that the marketing tasks, priorities and aspects are addressed and prioritized and accomplished.

Student Safety Lead: Ensures that all safety protocols and equipment is used in accordance to proper guidelines. This would include ensuring the wearing of safety glasses, knowing how to utilize a first aid kit, and bringing safety hazards to the mentors attention.

**Supporters:** Individuals who provide assistance to the team, to expand the growth of the team and improve the team's learning experience through many different ways. These ways possibly include promotion and recognition of the team, food, supplies, technical support, as well as small donations.

**Year-round Activities:**



## Student Participation

The team is open to all students, because everyone should have the chance to better themselves and learn for their future.

## Competition Attendance Requirements

Competition Attendance Requirements: 30 work hours  
 10 hours in diverse departments  
 6 hours community service Completion of safety course Recommendation from:

Lead mentor and two student leaders or Mentor and three student leaders

## Requirements for the Student Leaders

### Student Leader Requirements:

60 work hours

15 work hours in diverse departments

6 community service hours

Completion of safety course

Recommendation from:

Lead mentor or other mentors

Extenuating Circumstances: In the extreme case of serious illness or injury, failure to meet work requirements, the lead mentor can make an exception.

### Facilities:

The team utilizes a 2184 square foot facility generously provided by a supporter. The shop is well lit and has enough space for all divisions to work together in one place, encouraging cohesiveness between team departments. The shop also has enough storage space for keeping inventory. The building has a building section which contains tools, and equipment to build the robot. In another room, there are two tables set up for programming and the electronics. There is a large white board for ideas, brainstorming, and staying organized. The shop also contains a bathroom so the team is not running back and forth from a house to the shop compared to previous years.

### Finance Summary:

**Total Income:** \$27,111

Grants: \$22,000

Donations: \$2,215

Fundraisers: \$2,896

**Total Expenses:** \$18,637

Competition Registration: \$6,000

Robot: \$2,000

Total Tools/equipment: \$1,155

Computers/Electronics" \$3,299

Marketing: 1,855

Housing: \$1,321

Transportation: \$545

Food: \$1,700

Education: \$312

Team Building: \$1,200

Community Outreach: \$250

**Goals:**

## Team Goals:

- Teach/learn about STEM
- Use and improve teamwork
- Have fun

## Engineering Goals: Build a dependable robot

- Better ourselves (students) in construction and design
- Advancing in CAD

## Marketing Goals:

- To introduce the community to robotics
- Fundraise money to build the robot
- Improve our business skills and grant writing

## Community Outreach Goals: Get

- school more involved,
- Educate community about robotics

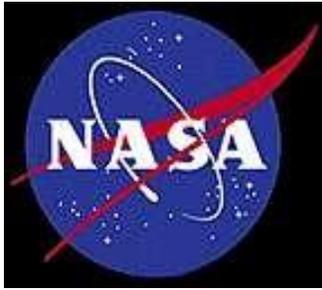
**Future Growth:**

- Grow student base

- More involved with community

- Increase assets (tools, equipment, inventory, computers, software, etc.) Obtain mentors with specific abilities (CAD, Programming)

**Partners and Sponsors:** NASA, 4-H, JCPenney, Bezos Family Foundation, Office of Superintendent of Public Instruction, Grays Harbor Foundation, Cynsea's MaryaLee Quilting and Embroidery, Community Donations



# Grays Harbor Community Foundation

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