

2232

DEUS

EX

MACHINA



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# What is FIRST Robotics?

## **Competition Overview:**

FIRST Robotics is an organization that provides STEM challenges for students in grades K-12. Our team competes in the highest level, the *FIRST Robotics Competition*, geared for grades 9-12. This competition is worldwide, with 5,390 teams currently participating. Each year for this event, FIRST reveals a playing field and associated challenges, accompanied by a detailed and lengthy set of rules. Our team then has six weeks to design, build, program, and test a 120 pound, \$4,000 robot. During competition, we work with and against other teams through many rounds of competition.

## **A Valuable Learning Experience:**

FIRST Robotics allows for very a diverse application of skills for a high school student. Students can develop and use skills in the fields of mechanical engineering, electronics, programming, marketing, and business management. These skills are all used together for creative problem solving. Through all of this, a strong sense of communication is developed as well. The reason that these skills can be developed very rapidly through FIRST Robotics is because of the prominence of hands on work, student leadership, and mentorship from community members active in STEM professions. No matter what an individual plans to do in their future, FIRST Robotics builds a skillset that is very hard to obtain elsewhere.

## **Vision Statement:**

The vision of FIRST is "To transform our culture by creating a world where science and technology are celebrated and where young people dream of becoming science and technology leaders." - Dean Kamen, Founder

## **Visit the FIRST Website to Learn More:**

- <http://www.firstinspires.org/robotics/frc>



# About Team 2232 Deus Ex Machina



## Website:

<http://2232frc.github.io/index.html>

## Facebook Page:

<https://www.facebook.com/FRC2232/>

## About our Team:

Our team was created in 2006, and has since participated in nine competitions. Our team name is *Deus Ex Machina* which means “God of Machines” in Greek. This past season we had about twenty students and ten mentors.

## Awards:

- 2008: GM Industrial Design Award
- 2010: Industrial Design Award
- 2011: Judges Award
- 2012: 2<sup>nd</sup> Place State Competition
- 2014: Quality Award
- 2016: Gracious Professionalism Award



# Budget

## Annual Required Expenses:

Item	Cost
Event Registration	\$5,000
Transportation To and From Event	\$1,500
Robot*	\$4,000
Total	\$10,500

\* The maximum allowed cost of the robot as set by the organization of FIRST is \$4,000. In the past, our team has lessened this cost by reusing old parts and minimizing large part purchases. Although this can be achieved, the closer the robot cost is to the limit, the more capable it could be. This year our team would like to be able to come close to the robot cost limit of \$4,000.

## Proposed Additional Expenses for the Coming Season:

Item	Cost
Additional Event Registration	\$4,000
Transportation To and From Additional Event	\$1,500
Improved Manufacturing Methods (Tools)	\$1,200
Extra Set of Robot Electronics	\$1,500
New Laptop for Programming / CAD Modeling	\$1,500
Supply of Common Build Materials	\$1,500
Improved Storage System (Rolling tool chests)	\$800
Total	\$12,000

## Current Annual Budget:

Sponsor	Donation
Pentair	\$10,000
Total	\$10,000

\*Most competitive teams attain more than \$10,000 each year, with some reaching \$50,000 or more.

# Future Goals

Our team's current methods of operation are beginning to limit our potential as we become more skilled in building robots. To raise the ceiling on the quality of our robots, we are looking to make changes in many areas of our team. The following are short explanations of what things we hope to buy, and why they will help us. This can show you why we really need your help.

## **Additional Regional Event and Bussing:**

In the past, our team has attended one regional competition. It would be very beneficial to attend another competition, as many teams do, because it would allow us to use what we learned from one event to prepare the robot and its code for the next. With this extra time, our robot could become one of the most effective in the competition. This would improve our chances of moving on to the national level and winning more awards.

## **Improved Manufacturing Methods:**

Our team's set of tools is worn out and missing some things that we would like to have. In past years we have hand drilled most parts, and spent hours filing holes to make things fit together. If we could purchase better hand and power tools, our robots could become more durable, complex, and precise.

## **Extra Set of Robot Electronics:**

In the past our team has built only one robot each year. This leads to a battle between the mechanical and programming teams, each wanting to work on the robot at the same time. A second set of up-to-date electronics could allow us to give our programming team a simple set of wheels to code with while the mechanical team works with the real robot.

## **Improved Storage System:**

Currently our team stores all of our tools and materials in a small closet that was supposed to be an office space. To allow us to work more efficiently out of this area, we are hoping to purchase a couple of rolling tool chests and other organization systems.

## **Supply of Common Build Materials:**

Instead of buying parts after the design phase, our team would like to buy a supply of common parts before the season. This would allow us to prototype very quickly and begin work on the robot without first waiting for a shipment of parts.

# Sponsorship Rewards

## Level 1 (\$0 - \$499):

- Personal thank you letter
- Invitation to our team's major events
- Appearance in the "Sponsors" section of our team website
- Appearance on all future promotional materials

## Level 2 (\$500 - \$999):

- All perks of a level 1 sponsor
- Appearance on our team t-shirt

## Level 3 (\$1000 - \$4999):

- All perks of a level 2 sponsor
- Appearance on our team robot

## Level 4 (\$5000 - \$9999):

- All perks of a level 3 sponsor
- Appearance on the home page of our team's website
- Appearance on our pit banners

\*The pit is where we work during competition, and its banners can be seen by other team, competition staff, and other visitors.

## Level 5 (\$10,000+):

- All perks of a level 4 sponsor
- A plaque to display at your company, showing the public that you support us

# Contact Information

Our team will stay in touch with all of our sponsors throughout the season. If you would like to sponsor our team, you will be invited to come freely to any of our daily meetings, competitions, and other events to see how you have helped us.

## **Team Leaders:**

Sam Skoglund

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