

2014 RobotEx Team Application

Davidson Robotics is looking forward to another great year of BEST Robotics in Fall 2014. Current Davidson students interested in joining RobotEx will apply in the spring. Applications are due May 2, 2014. Incoming freshmen and transfer students will be given an opportunity to apply for membership in the Fall 2014 semester.

RobotEx participates in the BEST Robotics tournament (www.bestinc.org). The BEST tournament requires teams build a robot out of raw materials, submit an engineering document, market their robot and company to potential buyers and engage in spirited and sportsmanlike behavior. Davidson's team has a long history of success and exposes team members to the precision and attitude needed to excel in a competitive workplace.

The team is loosely managed in construction and marketing committees. The construction committee will design, build and test the robot, write the engineering design notebook and work in marketing the robot. Marketing will construct the exhibit booth, marketing presentation and materials, website, create spirit and sportsmanship, and handle all publicity efforts for the team and robot. Members of both committees must be well versed in the technical aspect of the robot.

Participation in a robotics program is a major time commitment. Each committee will meet at least twice a week (one day after school and Saturday) for the first couple of weeks after kick-off, and at least three to five times a week (several days after school and Saturday) when game day is drawing near. It is important that applicants be available to participate in all aspects of the competition. Meeting times and details will be emailed after the team is established. There are only six weeks between kick-off day and competition. Kick-Off is August 28, 2014 and game day is October 11, 2014. The team will meet several times over the summer and for the two or three Saturday's prior to Kick-Off day.

RobotEx requires every team member to have an email address that is checked frequently. All team communication is conducted via email and it is the team member's responsibility to stay informed about team activities. New members are required to have a Google mail (gmail) address. There is a \$25 fee for each team member which should be paid upon acceptance. The fee is required to help offset the large financial burden of running the team.

Applications are due before school May 2, 2014. Applications will not be accepted after the tardy bell has rung. No late applications will be accepted for any reason. Applications are to be turned into the box outside Mr. Fletcher's room (room 125) or inside Mr. Fletcher's room. After applications have been received and evaluated, the promising candidates will be contacted (via email) for interviews with former team members and faculty advisers. Some applicants will be emailed their team status on or before May 10, 2014. If you have any questions, email the team at dhsrobotics@gmail.com. You can also talk to Mr. Fletcher (room 125), Ms. Parker (room 18), or Mr. Brewer (room 114), our faculty sponsors.

Applications will be evaluated based on the applicant's response to the task described below, evaluations from classroom teachers and their willingness and ability to attend team events. Evaluations from classroom teachers will be managed by RobotEx faculty advisors. Scoring rubrics for Application Options 1 & 2 are pages 5 and 6 of this packet.

Task

Design a pragmatic pyramid that fits entirely within a 24 inch cube and weighs less than 24 pounds. Materials used for the pyramid must be found in the 2013 BEST Consumable Kit List or the 2013 BEST Returnable Kit List. You can find this list by googling "BEST 2013 consumable kit list" or "BEST 2013 returnable kit list".

Application Option 1

This response is a document that accurately describes the specified pyramid. Your document should provide sufficient details such that anyone of reasonable intelligence and ability could construct the pyramid with materials and methods specified by the applicant. The quality and presentation of the response will be evaluated, along with the creativity of the design.

Visit www.dhsrobotics.org/appro.html to see examples and ratings of applications from previous years. You might want to include in your response information about:

1. Materials used to make the pyramid.
2. How the pyramid could be constructed.
3. Measurements of the pyramid.

Pictures, sketches, CAD drawings, Google Sketch-Up renderings or other images are helpful in providing instructions for this task. Make certain that the cover sheet on page 4 is attached to your application.

Application Option 2

Submit a pyramid that completes the task along with a paragraph description of your pyramid and its properties. The paragraph should be printed and attached to the cover sheet. It should be sufficient to distinguish your pyramid from others. This application option shows us how skilled you are with tools and what sort of tools you can use; therefore, the quality of the fabrication is the primary consideration when judging. Any cost incurred will not be reimbursed and the amount you spend is not a determining factor in judging your application. Make certain that the cover sheet on page 4 is attached to your paragraph.

Application Option 3

Some applicants have special skills in computer programming, web design and computer aided modeling (SolidWorks or a similar program) that would be better evaluated through a portfolio rather than the pyramid design. Those applicants may submit a portfolio of previous work and have their skills evaluated as such. If you feel your skills would be best evaluated through a portfolio, email your request to dhsrobotics@gmail.com with the subject line "advice" without the quotes before submitting your portfolio. This application type applies to a very small number of applicants.

BEST Robotics Job Opportunities

These are some of the positions that the Davidson BEST Robotics Team has to offer for the 2013 Season. We do not have time to train you in the skills necessary to fulfill the responsibilities for these positions within the season, so some prior knowledge is preferred. In preparing your application you should show some evidence of your knowledge or skill relative to one of these positions.

Inventor (particularly mechanical devices with gears, pulleys, grabbers)

Builder (fluent with the use of tools and techniques for building)

Drafting/Solid Modeling (especially with SolidWorks)

Programmer (C, C++, Java, Unity 3D)

Technical Writer

Video Producer (Adobe products in particular- CS5)

Desktop Publishing/Graphic Design (Adobe products in particular- CS5)

Website Design

Digital Photography

Sales Person (Ability to cold-call with an elevator pitch)

Marketing Strategist

Event Promotion Specialist (Arts and crafts skills are a plus)

Elementary/Middle school outreach specialist

Application Cover Sheet

This is the front page of your application.

Do not include your name on any other pages of your application.

Name: _____

Parent/Guardian Section

I acknowledge that my son or daughter _____ is applying to join the 2014 Robotics Team. I understand that it is a significant time commitment for my child. My son or daughter will be able to arrange transportation to and from the after school and weekend meetings. I understand that my child is required to attend local game day. I understand that power tools are used in the process of fabricating the robot and exhibit booth. My child is allowed to receive safety training and certification to use selected power tools. More information will be provided at the parent meeting.

Parent Signature: _____

Parent Name: _____

Parent Cell Phone Number: _____

Grade: _____

Gender: Male Female

student email address: _____

student cell phone number: _____

cell carrier: _____ (Verizon, AT&T, etc)

Teachers for the 2013 – 2014 school year: _____

Committee Choice: _____ Construction _____ Marketing

Are you interested in a career in science, technology, engineering or mathematics? _____

Career Goal: _____

T-Shirt Size: _____

Application Option 1 Rubric – Document

Applicant Number : _____

Grade level: _____

Presentation – is the document neatly organized, professional in appearance and representative of quality work	1	2	3	4	5
Procedure – steps used in construction are adequately described, easy to follow procedure	2	4	6	8	10
Design Creativity – unique or efficient or creative choice of materials	2	4	6	8	10
Appropriate use of materials – used only specified materials	0		5		10
Pyramid meets size and weight requirements	0		5		10
Quality technical writing – text is appropriate for technical document and usage is proper	1	2	3	4	5
Use of support documentation (pictures, graphs, software, designs)	1	2	3	4	5
Quality/detail of technical drawings (zero points awarded for no drawings)	0	4	6	8	10
Demonstrated special skills & talents that applicant will contribute to team	1	2	3	4	5
Teacher Recommendations	0	10	20	25	30
Score:					<div style="border-bottom: 1px solid black; width: 50px; margin: 0 auto;"></div> 100

Application Option 2 Rubric – Pyramid

Applicant Number: _____

Grade level: _____

Design Creativity –creative choice of materials and design	2	6	8	12	20
Appropriate use of materials – used only specified materials	2	4	6	8	10
Pyramid meets size and weight requirements	0		7		15
Difficulty of methods used in construction	2	4	6	8	10
Quality of Construction	2	4	6	8	10
Demonstrated special skills & talents that applicant will contribute to team	1	2	3	4	5
Teacher Recommendations	0	10	20	25	30
Score:					<div style="border-bottom: 1px solid black; width: 50px; margin: 0 auto;"></div> 100