2016 OVERVIEW Rules, Deadlines and Rubrics

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Challenge Overview:

For the 2016 Challenge, each team is to design and fabricate an 'assembly' robot. The robot will assemble provided fasteners (bolts, washers, and nuts) and collect the assembled product in a controlled/organized method.

Teams:

- Teams may represent a school, a club or youth group.
- Teams will have at least four (4) high school aged youth members.
- Teachers and adult mentors (upon availability) may only act in an advisory role.
- A team field trip to a sponsor manufacturing facility or mentor facility is strongly encouraged (upon availability).

Deadlines: submitted to teams@oxfordroboticschallenge.com

- Friday, September 30, 2016
  Team name & participating student names

- Friday, October 21, 2016
  Team photo, photo release forms, team media form with quotes

- Tuesday, November 15, 2016 by 4pm Written report

Deadline: Uploaded on You Tube (see instructions on pages 9 & 10)

- Tuesday, November 15, 2016 by 4pm Final video

Skillful design and programming will ensure the robot can *efficiently* complete the repetitive task on its own without the assistance of the team members.

OIYRC's goal this year is full participation from each team. ***Each team MUST be at the challenge with a functioning robot in order to keep the Mindstorm EV3 kit.***

The kits are generously provided by our sponsors. Each team will be provided with the name of their sponsor. Teams are expected to learn about their sponsor and proudly exhibit their sponsor's name on their display.

All teams will be provided with a mentor (upon availability) to advise and assist the team throughout the process. These mentors volunteer their time to provide mentoring. Mentors may also provide opportunities for plant tours to view robots in an industrial environment.

Challenge Rules:

1. Only the Lego Mindstorms EV3 kit provided may be used to build the robot. Use of extra materials or parts are not allowed in the robot.

2. The use of glue, tape wire, etc. is prohibited in the fabrication of the robot. No parts may be cut, drilled or otherwise modified.

3. Robots will be manually loaded with all bolts, nuts, and washers prior to starting.

4. The team will be given 2 opportunities to run the robot through the assembly process. The team will choose which run they wish to use.

5. The entire assembly process should be automatic except for the loading of the fasteners.

6. Fasteners must remain fully assembled at the end of the cycle to be counted as a finished product.

7. The assembly process will be timed; the robot will be judged for its time efficiency. The team with the highest score will be awarded Platinum Level achievement. In the event of a tied score, the most efficient robot (i.e., with the fastest time to complete the task) will be awarded Platinum Level.

8. **Operation Scoring Calculation:** Points for successfully assembled products will be as follows:

Assembly Description	Points Awarded for Assembly
Washer assembled onto a bolt	1 Point
Nut assembled onto a bolt	2 Points
Washer and nut assembled onto a bolt	4 Points

9. Additional operational points (maximum of 2) may be awarded for supplementary features incorporated into the robot design (e.g., lock out safety circuit, assembled fasteners are counted by the EV3 on its screen or by sound, assembled features are neatly organized at the end of the cycle, etc.)

10. The team must document their project from start to finish in a written report and presentation. In addition, they must submit a final maximum 10 minute video outlining the struggles and achievements encountered in the process. The final functioning robot should be shown completing the task. Refer to the written report, video, and presentation rubrics provided for judging criteria. Instructions for submitting the written report and the final video will be found on the OIYRC website and must be submitted by 4:00pm on Tuesday, November 15, 2016.

11. Each team must be present with their robot at Goff Hall for the Challenge on Tuesday, November 22, 2016.

12. **Overall Scoring Calculation:** The final overall score will be as follows:

Challenge Component	**Possible Score**
Operation	/50
Presentation	/30
Video	/10
Written Report	/10
Final Score	**/100**

All questions regarding tech support (i.e., the robot and/or the challenge) should be directed to both William Van Vliet and Glenn Raake at techsupport@oxfordroboticschallenge.com

OPERATION RUBRIC:

Bronze Level	Silver Level	Gold Level
Total points awarded for assembled products (1-6 points) **_____Points**	**Total points awarded for assembled products (7-10 points)** **_____Points**	**Total points awarded for assembled products (11-20 points)** **_____Points**
Time taken to assemble all products without human assistance **Time: _____**	Time taken to assemble all products without human assistance **Time: _____**	Time taken to assemble all products without human assistance **Time: _____**
Additional supplementary robot feature #1 (e.g., lockout safety circuit) _____ (Description) **Yes (1) / No (0)**	Additional supplementary robot feature #1 (e.g., lockout safety circuit) _____ (Description) **Yes (1) / No (0)**	Additional supplementary robot feature #1 (e.g., lockout safety circuit) _____ (Description) **Yes (1) / No (0)**
Additional supplementary robot feature #2 _____ (Description) **Yes (1) / No (0)**	Additional supplementary robot feature #2 _____ (Description) **Yes (1) / No (0)**	Additional supplementary robot feature #2 _____ (Description) **Yes (1) / No (0)**
Total Score _____ **(Maximum 8)**	**Total Score** _____ **(Maximum 12)**	**Total Score** _____ **(Maximum 22)**

Instructions to Judges:

Write **Team Name** at top of sheet

1. Evaluate robot operation using criteria stated above.
2. Time the operation using a stop watch, record the time on the sheet.
3. Identify the resulting scoring level and calculate Operation Final Score
4. Circle **B** (Bronze) or **S** (Silver) or **G** (Gold) at top of page
5. Write any special remarks below:
6. Thank Team for effort, move to next table

Operation Final Score = ____ / 50

(Above Total Score) / 22 x 50

PRESENTATION RUBRIC:

	Bronze Level	Silver Level	Gold Level
Oral Presentation	Default level. Presentation is made but lacks preparation and direction. Important details are missing Time runs over 5 minute limit.	Well prepared presentation is well organized and includes: -introduction of team members -sponsor info and mentor info (upon availability) -clear explanation of robot operation	Presentation is polished and smooth. Three or more team members participate in the presentation.
/20	**2 4 6 8 10**	**12 14 16**	**17 18 19 20**
Robot Display	Robot kit is present in its entirety. Table is organized with minimal information or display	Display is well designed with poster and graphics. Sponsor name and logo is identified	As in silver level plus photos used to 'tell the story' behind the project
/10	**1 2 3 4 5**	**6 7 8**	**9 10**

Instructions to Judges:

1. Write **Team Name** at top of sheet
2. Evaluate team report against the stated criteria
3. Underline each achieved criteria
4. Identify the resulting scoring level
5. Circle **B** (Bronze) or **S** (Silver) or **G** (Gold) at top of page
6. Calculate Presentation Final Score.
7. Write any special remarks below:
8. Thank Team for effort, move to next table

Presentation Final Score = ____ /30

VIDEO RUBRIC:

	Bronze Level	Silver Level	Gold Level
Video Submission	Video includes two of the following: -complete team -operation of robot -simple to follow -no gimmicks -only necessary info -under ten minutes	Video is clear and includes four of the following: -complete team -operation of robot -simple to follow -no gimmicks -only necessary info -under ten minutes	Video is clear and includes all of the following: -complete team -operation of robot -simple to follow -no gimmicks -only necessary info -under ten minutes
/10	**1 2 3 4 5**	**6 7 8**	**9 10**

Instructions to Judges:

1. Write **Team Name** at top of sheet
2. Evaluate team report against the stated criteria
3. Underline each achieved criteria
4. Identify the resulting scoring level
5. Circle **B** (Bronze) or **S** (Silver) or **G** (Gold) at top of page
6. Calculate Video Final Score
7. Write any special remarks below:

Video Final Score = ____ /10

WRITTEN REPORT RUBRIC:

	Bronze Level	Silver Level	Gold Level
Written Report	Basic written report only	Detailed written report Including: -mentor profile (upon availability) -sponsor info -concept diagrams -program script	As in silver level with superior report detail and professional formatting. Report is well organized and attractive.
/10	**1 2 3 4 5**	**6 7 8**	**9 10**

Instructions to Judges:

1. Write **Team Name** at top of sheet
2. Evaluate team report against the stated criteria
3. Underline each achieved criteria
4. Identify the resulting scoring level
5. Circle **B** (Bronze) or **S** (Silver) or **G** (Gold) at top of page
6. Calculate Written Report Final Score
7. Write any special remarks below

Written Report Final Score = ___ /10

WRITTEN: deadline by 4pm on November 15, 2016

Save your written report with your school name and team name.
Submit written presentation to teams@oxfordroboticschallenge.com

VIDEO: deadline by 4pm on November 15, 2016

High scoring teams create a video that:

1. Shows the robot in action, repeating the process;
2. Use precise language to describe what we are seeing;
3. Include the entire team in the video; Avoid the use of "gimmicks" such as overly intrusive music, graphics, or video tricks;
4. Keep it simple and to the point. You'll be judged on how well it "communicates" to the viewer.
5. Videos should be no more than 10 minutes in length.
6. Upload it or deliver it by **4pm on November 15, 2016** or it cannot be judged.

Instructions on submitting your video to our YouTube account for judging:

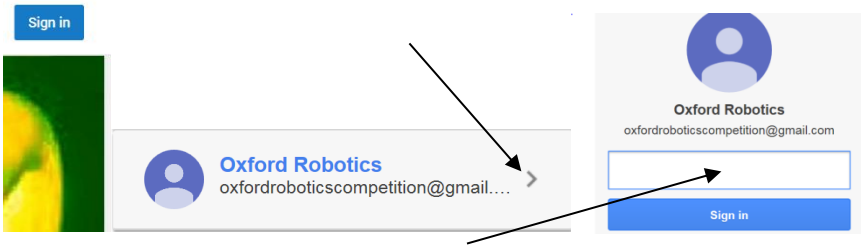
1. Name your video with your school name and team name. Save it.

2. Click here: http://www.youtube.com/user/OxfordRoboticsChalle

3. See upper right screen, click "Sign In"; then

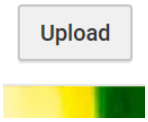
4. You may be asked to use an existing Google account. CAUTION: do not use any other account. **Click "Add An Account**" to use the "Oxford Robotics" Account

5. If your screen says "Oxford Robotics" Click on the right ">" to enter Sign in with the email account oxfordroboticscompetition@gmail.com

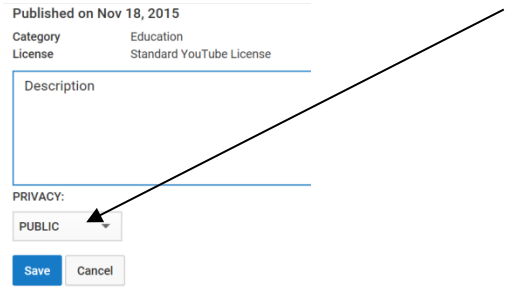


6. Password is: 2roboticsoxford#2 (Please don't share)

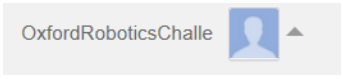
7. Click on “upload” at the top. REMEMBER to allow enough time for upload.



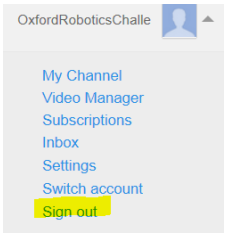
8. Please remember to make your video public.



9. Remember to log out when upload is completed. Screens may look different depending on the operating system. Click on:



10. From the drop down list, click “sign out”:



11. If you have trouble uploading to YouTube please contact us by email for assistance at video@oxfordroboticschallenge.com