2019 Engineering Overview for Middle School Teams

Weighted Grade: Formatting: 15% / Content: 85%

Formatting

1. Font size, type, and spacing (2%)

Black Text with 11 / 12 Point Font; with Arial, Verdana, or Calibri Typeface; and 1.5 Line Spacing

2%	0%
All requirements met	All requirements not met

2. Standard English Grammar and Conventions (2%)

Designate on the title page whether English is the first language of the majority of team members. This is a formal presentation to adults, use language appropriate to this audience.

2%	1%	0%
Standard English grammar and conventions used throughout	A few sections are lacking in standard English grammar and conventions	There is a noticeable lack of standard English grammar and conventions

3. Spelling (2%)

2%	1%	0%
0-2 words misspelled	3 - 4 words misspelled	5 or more words misspelled

4. Punctuation (2%)

2%	1%	0%
0-2 incorrect or missing punctuation marks	3 - 4 incorrect or missing punctuation marks	5 or more incorrect or missing punctuation marks

5. Headings (2%)

2%	1%	0%
Headings are used effectively to organize the report	Headings used somewhat effectively to organize the report	Headings not used or are ineffective in organizing the report

6. Proofreader (5%)

Have a proofreader read your report before you submit. The proofreader **cannot** be a member of your team.

5%	0%
Name and signature of proofreader on title page	Name and/or signature of proofreader is missing

<u>Content</u>

1. Title Page (5%)

Including:
- School Name
- Robot Name
- Team Members (first names only)
- Coach Name
- Division Playing
- Challenge Playing
- Statement: English is (or is not) the first language of the majority of team members
- Name and signature of your proofreader

5%	0%
All information is included.	Some information is missing.

2. Abstract Page(s) (20%)

Summarize what you did. Points will be given based on:
- The inclusion of all information requested,
- Whether the information is related logically and clearly
- The use of concrete details and
- The use of precise language

Write a section on each of the following:
- The problem you were trying to solve
- The reason you were trying to solve it
- What you did to get your results
- What you learned
- Any real-world context for what you did

20%	10%	0%
All information is included.	Most information is included.	Important information is missing.
Writing is logical and easy to understand.	Most of the writing is logical and easy to understand.	Much of the writing is not logical or easy to understand.
Concrete details are included in most paragraphs.	Concrete details are included in some paragraphs.	Concrete details are generally not included.
Precise language is used throughout.	Precise language is sometimes used.	Precise language is rarely used.

3. Programming Page (20%)

Points will be given based on these considerations:
- Inclusion of all information
- Clearly organized ideas
- Precise language
- Clear sequencing of steps
- Concrete details
- Explanations illustrated - with examples of code that didn't work, examples of code that did work, diagrams, graphs, tables or pictures, etc., when appropriate.

Answer the following:
- Which task (e.g. navigating a "T" turn, locating a candle or ….) presented the biggest programming problem for your team?
- How did you solve this problem?
- What did you learn from this dilemma?

20%	10%	0%
All information is included.	Most information is included.	Important information is missing.
Ideas are clearly organized.	Ideas are sometimes clearly organized.	In general, ideas are not clearly organized.
Precise language is used throughout.	Precise language is sometimes used.	Precise language is rarely used.
Steps are clearly sequenced.	Steps are sometimes clearly sequenced.	Steps are rarely clearly sequenced.
Concrete details are provided when appropriate.	Concrete details are sometimes provided when appropriate.	Concrete details are rarely provided when appropriate.
Explanations are illustrated when appropriate.	Explanations are sometimes illustrated when appropriate.	Explanations are rarely illustrated when appropriate.

4. Robot Photo Page(s) (5%)

Include 2 photos of your robot:
- Clear front view photo, labeled with description (e.g. Front view showing …) Include a ruler in the front view picture for size reference.
- Clear side view photo, labeled with description (e.g. Side view showing …). Include a ruler in the side view photo for size reference.

5%	0%
Both photos, with labels and ruler included	One or more photos or labels or rulers is (are) missing.

5. Mechanical & Electrical Page (20%)

Using complete sentences, provide:
- The name of the platform you used (e.g. Arduino, Vex, Lego, etc.)
- A photo of the locomotion system on your robot (e.g. wheels or treads, gearing and motor)
- Maximum speed of the robot
- Provide a photo **and** explain how you modified your robot for the challenge you were competing in, e.g. extinguishing system for Fire Fighting, ball delivery system for Line Following, additions to hold the "knight" for Jousting, the addition of a servo motor for a-MAZE-ing, etc.
- What is the power source? Why did you choose this power source? How long can the power source operate? What factors determine how long it can operate?

20%	0%
All information is included and complete sentences used throughout	Some information is missing and/or some answers are not given in complete sentences

6. Teamwork Page (15%)

Using complete sentences, answer:
- How did you recruit the members of your team?
- How did you adapt to overcome obstacles you faced?
- What changes would you make next time?

15%	0%
All information is included and complete sentences used throughout	Some information is missing and/or some answers are not given in complete sentences