

Project Extra Vex Smart Vehicle Rubric



Score: _____/88 points

Documentation [44 points]

Topics/Multiplier		4 points	3 points	2 points	1 point
Professional Appearance	1 x	Includes all required sections, has page numbers and appropriate headings for the different sections.	Includes most required sections, has page numbers and appropriate headings for the different sections.	Does not include all required sections, has page numbers, but headings for the different sections should have been titled better.	Is missing several required sections, has page numbers, but headings for the different sections should have been titled better.
Title Page	1 x	Includes all components required for a complete title page.	Includes 80% or more of the necessary components for a complete title page.	Includes 60% or more of the necessary components for a complete title page.	Includes 50% or more of the necessary components for a complete title page.
Table of Contents	1 x	Includes all major and sub headings and the corresponding page numbers.	Is missing some major and sub headings and the corresponding page numbers.	Is missing many major and sub headings and the corresponding page numbers.	Is missing most major and sub headings and the corresponding page numbers.
Design Brief	1 x	Includes all parts of a design brief organized into one page. Clearly details the design problem and constraints.	Includes all parts of a design brief organized into one page.	Includes most parts of a design brief organized into one page.	Includes some parts of a design brief organized into one page.
Initial Design Solution	1 x	Produces a detailed sketch of initial design concept along with a descriptive paragraph of idea. Sketches are neat and labeled for clear understanding. Major modifications for refinement are clearly explained.	Produces a somewhat detailed description of initial design solution. Includes sketch and paragraph. Sketches are labeled.	A sketch and paragraph description of the initial design concept is included.	A sketch of initial design concept is included.
Sensor & Drivetrain Documentation/ Research	2 x	All needed items included- photos, paragraph descriptions, and research findings (why did you place the sensors where you did and what are they capable of doing.) Please also describe how your drivetrain works	Most necessary items included	Some necessary items included	Few necessary items included
Design Modifications Log	2 x	Photos and/or sketches AND descriptions for <u>every design change</u> you make to your vehicle throughout the process.	Most necessary items included	Some necessary items included	Few necessary items included
Final "How To Guide"	2 x	How to guide is clear and concise. The guide is easy to read and explains, in detail, how a novice can operate the car. It should explain how the car utilizes the various sensors to navigate its environment. It should also detail how the car can accomplish basic tasks such as turning.	Most necessary items included	Some necessary items included	Few necessary items included

Solution Performance [16 points]

Topics/Multiplier		4 points	3 points	2 points	1 point
Requirements	2 x	Fully meets design requirements.	Meets most design requirements and supports the design function.	Meets some requirements but not enough to support the design function.	Does not meet design requirements.
Overall Quality	2 x	Mechanisms are well built, and the chosen parts are appropriate.	Mechanism functions most of the time, and the chosen parts are appropriate.	Mechanism sometimes functions, and the parts are not chosen appropriately.	Mechanism rarely functions, and the parts are not chosen appropriately.

Individual Deliverables [28 points]

Topics/Multiplier		4 points	3 points	2 points	1 point
Design Brief Notes & Team Norms	1 x	A section titled neatly for this project with notes about the key points in design brief clearly included. Team norms & consequences recorded neatly.	A section titled neatly for this project with notes about the key points in design brief included. Team norms recorded neatly.	A section titled for this project with notes about the key points in design brief included. Team norms recorded.	A section titled for this project but missing design brief notes or team norms.
Brainstorming Ideas	1 x	Produces a detailed sketch of at least TWO viable brainstorming ideas. All sketches include labels and descriptions for clear understanding; sketches are neat, signed and dated.	Produces a sketch of at least TWO viable brainstorming ideas. All sketches include labels, are neatly drawn, signed and dated.	Produces sketches of at least one viable brainstorming ideas. Sketch(es) may be difficult to understand from lack of detail or neatness.	Produces sketches of at least one viable brainstorming ideas. Sketch(es) are difficult to understand from lack of detail or neatness.
Final Design	1 x	Two large DETAILED and annotated sketches of your final car design (as it is actually built) showing two different views. Sensors and all relevant parts should be clearly labeled.	Most necessary items included	Some necessary items included	Few necessary items included
Project Log	2 x	Provides a neat and accurate description of tasks completed each day with specific details about personal contributions to the project. Complete sentences used.	Provides an accurate description of tasks completed each day with specific details about personal contributions to the project.	Provides a description of tasks completed each day.	Provides a description of tasks completed in the project.
Conclusion	2 x	All <u>four</u> questions answered thoroughly and thoughtfully with full explanation demonstrating mastery of concepts learned.	All questions answered fully with explanation demonstrating concepts learned.	All questions answered but incorrectly and/or lacking explanation demonstrating concepts learned.	Not all questions answered.