**Robotics I Module (Due September 29)**

**Major Learning Objectives:**

* The students will be able to discuss how robots are used today in industry, research and in education.
* The students will be able to explain what the different basic components of a robot are and how they perform their function.

This module can be completed on your own or with a partner. You can choose how you wish to complete the tasks (weebly, powerpoint, prezi, etc). **However, I want to see all work put into your OWN words. If you cannot put information in your own words, you do not understand it.**

 The list of tasks to complete this module is as follows:

1. Where does the term **robot** come from? Who is Isaac Asimov and why is he important in the field of robotics?

2. Conduct research on **two** real life uses of robotic applications (healthcare, industrial, law enforcement, drone…). For each example, I would like to see:

* A description of what it is used for
* Pictures or videos
* The importance of the robot (Why do we use a robot instead of a human? How does the robot benefit our society?)

3. Investigate the subsystems used within robotics. Give a description of what each system does and the components that make that system. (I would suggest breaking this work up between group members, learning about your subsystems and then explaining it to others. Here is a helpful resource - <http://curriculum.vexrobotics.com/curriculum/intro-to-robotics/vex-robotics-design-system>)

* Structure
* Motion
* Power
* Sensors
* Logic
* Control

4. **If you have time:** Describe how these subsystems work together to allow a robot to do its intended job.

Robotics I - Grading Rubric

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| --- | --- | --- | --- |
| Task  | 1 | 3 | 5 |
| Mode of Presentation | Information was not presented using any suggested modes and lacked disorganization  | Project had some disorganization or could have been presented using a better mode | Project was laid out neatly and used an appropriate mode to present learning |
| History of Robotics | Students have not completed this task to my satisfaction.  | Students have not fully described the history of the term and importance of Isaac Asimov | Students have included a descriptive history of the term and the importance of Isaac Asimov |
| Research 1 | Students have not completed this task to my satisfaction | Students have missed some components or have not included enough information | Students have included all 3 components and have been very descriptive |
| Research 2 | Students have not completed this task to my satisfaction | Students have missed some components or have not included enough information | Students have included all 3 components and have been very descriptive |
| Subsystems | Students have not completed this task to my satisfaction | Students have missed some subsystems or have clearly copied and pasted material making it difficult to understand if you have little prior knowledge | Students have included all subsystems in their project, have presented the material in their own words and the material is easy to understand |
| BONUS: Integration of subsystems |  |  |  |
| Teacher Comments:  |