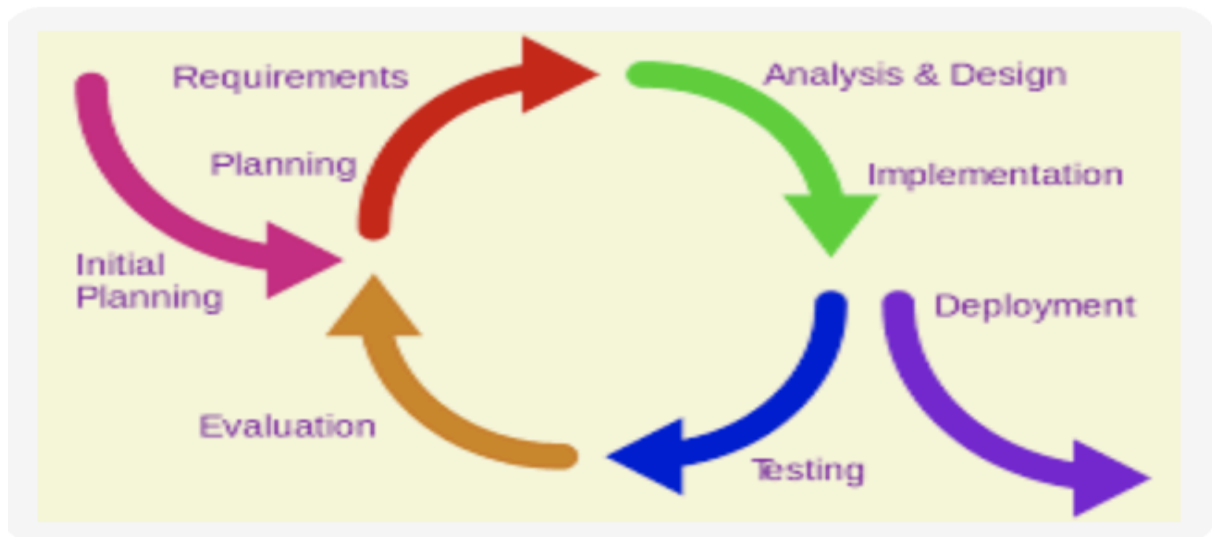


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STEM Careers: Aerospace Engineering

“Overall, since 1990, employment in STEM occupations has grown [79%—increasing from 9.7 million to 17.3 million](#)”. (Via [Pew Research Center](#), January, 2018). In all of the STEM careers, the career which represents the engineering process really well is the career of aerospace engineering. This is why we chose the career of aerospace engineer as the topic for this paper, among some other reasons. One of these is the fact that aerospace engineering involves all of the aspects of STEM. This is because aerospace engineers start out their job by realizing what problems need to be fixed and what is currently needed in the world of technology and science, which defines the problem, a crucial part of the engineering process. The next step in an aerospace engineer’s job is doing research into what the latest astrophysics and space events papers are saying, which is doing background research and helping specify requirements for the thing they are working on.



During the next phase of an aerospace engineer’s journey creating something that can help the technology and space exploration world is brainstorming with their current information to evaluate a solution to the problem or criteria they are trying to

achieve, which is another crucial step in the engineering process. With this new solution, the aerospace engineers will test out their solution in a lot of different ways to see if a newly created prototype will work, and then go onto the next step in the engineering process: communicating and/or using their results. Except if the prototype does not work or only partially meets the requirements, in which they will go back and come up with a new or slightly different solution.



Speaking of the engineering process, a lot of the ways aerospace engineers apply the engineering process to their profession actually matches a lot to what my team does when we are working. This is because, just like aerospace engineers, my team starts out by researching what the game is about and what the rules are for the game, which relates to the aerospace engineers who start out by defining the problem and what they need to do. My team also relates to the aerospace engineers in applying the rest of the engineering process to their work. However, the methods of aerospace engineering do vary to my team in some ways though. One of these ways being the topic of what they do in the first place, with aerospace engineers focusing on engineering things for aircraft, spacecraft and satellites but my team focusing more on a robot for robotics competitions.



On the topic of careers and robotics, I would say that robotics has helped me a lot to prepare for a future career. One of the main ways it has helped me is to teach me the engineering process, and this is because it helps with almost any problem you have. Whether it be fixing a car or just writing an informative essay, the steps of the engineering process will help in fixing a problem. Another way robotics has helped me prepare for a future career in the engineering field is showing me different STEM topics and what they are about. For example, robotics has shown me a lot of the technology aspect of STEM, which shows just what the things we create can help us accomplish in our day to day lives.

TITLE Decision Matrix PROJECT Intake Type

Continued from page _____

The Side-Wheel Intake System Was Chosen. 6

Rate the degree to which a team met each product requirement. Calculate the total rating for each prototype and identify the one with the highest rating.

- 4 - Completely met the requirement
- 3 - Mostly met the requirement
- 2 - Somewhat met the requirement
- 1 - Addressed the requirement, but met it poorly
- 0 - Did not address the requirement

Design Ideas	Criteria and Constraints					Total
	speed	durability	Ability to accurately intake			
Side wheel intake	4	3	3			10
Top wheel intake	3	3	3			9
Conveyer Belt	2	2	3			7

Continued to page _____

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PROPRIETARY INFORMATION

In this paper, I have shown many examples of what aerospace engineers do and how they do it, but many questions may still be unanswered. So, for more information on this topic and for what information I used when making this paper, I used NASA's

page on aerospace engineering ([Aerospace Engineering](#)) and an article on the engineering process, which can be found here: [The Engineering Process](#).