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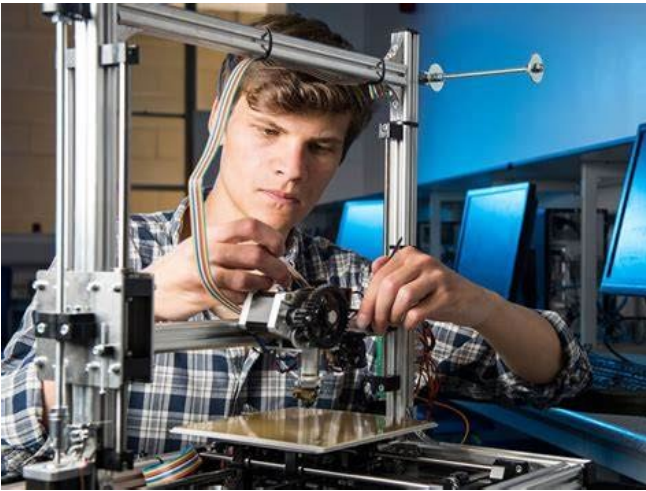


COAST 2 COAST
ROBOTICS

Creativity Solves Problems

(The Mechanical Engineer)

Why we chose the Job



We chose the STEM job “mechanical engineer” because of the impact they make. Mechanical Engineers design, build and test all types of mechanical devices. They create power-producing machines like electric generators and engines.

For example, during the hotter months, we need air-conditioning. Did you know that mechanical engineers designed this machine? Without the help of these engineers, life would be different. Visualize life without machines that are power-producing! The world would be significantly different!

Businesses were able to operate more quickly and intelligently because of mechanical engineering. With a ton of creativity, mechanical engineers solve problems. The imagination of engineers impacts daily life, so we chose the STEM job of a mechanical engineer.



The Engineering Design Process

What you probably don't know is mechanical engineering includes the engineering design process. From the picture to the right, the engineering design process is: defining the problem, imagining, planning, creating, and improving.



First, they might have to define the problem in the machine. For example, the machine might not be reusable. While brainstorming, they have to create multiple solutions, in case some do not work. Also, they have to choose the "most promising" solution. Here is the fun part, experimenting! They could try the "most promising" solution. How they might figure it out is research or common sense. If that solution does not work, they will have to try again, and again. At the end of the process, they will come up with a solution and an explanation.

A mechanical engineer's job relies on this trustworthy process. It is also the reason why we have many mechanical items.

How A Mechanical Engineer's Process Compares to Our Process

The engineering design process used by mechanical engineers is very similar to the process our team uses to build our robot.

For example, our team's problem was that the expansion arm couldn't have a motor. The expansion arm was going to be motorized until our team noticed that there could only be six

motors. It was a tough choice between taking out one of the other motors in our robot or not using a motor at all. Our team chose to not have a motor at all for the expansion. We used our creativity to change the expansion. We changed the stand-offs to axles. Furthermore, we kept testing and changing continually until we found the perfect solution. Testing the robot on the field helped us find the mistake and immediately fix it. Something both our team and mechanical engineers have is creativity.

We both use our imaginations to solve problems, in our case, the Slapshot competition. VEX robotics inspires us to have future STEM-related careers and pursue them.



Works Cited

"How Exactly does Engineering Impact Society? | GET." *Gloucestershire Engineering Training*, <https://get-trained.org/latest-news/how-exactly-does-engineering-impact-society>. Accessed 11 January 2023.

"What does a mechanical engineer do?" *CareerExplorer*, <https://www.careerexplorer.com/careers/mechanical-engineer/#what-does-a-mechanical-engineer-do>. Accessed 11 January 2023.

The Engineering Design Process Image:

<https://th.bing.com/th/id/R.192802b51ef3646ce58df441545a80e7?rik=K6MrhHbl4MGY3g&pid=ImgRaw&r=0>

How they compare to us Image:

<https://media.istockphoto.com/photos/engineer-picture-id895816278>

Why we chose the Job Image:

<https://www.edarabia.com/wp-content/uploads/2017/07/bachelor-science-mechanical-engineering-156770.jpg>

