BIOENGINEER

Degree required
Bachelor's in bioengineering

Average starting salary
$62,000

Subspecialties
Validation engineer, software engineer, mechanical engineer, quality engineer, research associate

THE JOB

Key job characteristics
Depending on your role, you can work hands on in a lab, in a manufacturing facility, or even work from home and travel regionally to customer sites.

Most rewarding part of the job
Working with exceptional coworkers who are focused on improving human health.

Most challenging part of the job
Not being able to work on everything. There are too many opportunities and projects to do in a work week, so not everything will make the cut. Learning how to better prioritize projects is an ongoing challenge.

MISCONCEPTIONS

About bioengineers
That it's all about genetic modifications. Some people picture mad scientists and *Gattaca* when they hear "bioengineer." Though some bioengineers may work in the genetic engineering space, there are so many other applications of bioengineering.

THE SKILLS

Important soft skills
Communication, public speaking skills to present a case study you researched, and being a good team player.

Important lab or hard skills
Experience with regulatory affairs, which is the field that studies scientific documents and government regulations of medical devices and pharmaceuticals. Also having some knowledge of the six sigma approach, wet labs, mechanical or software design projects, and programming and statistics software are all beneficial depending on personal interest.

SOME TIPS

Advice for high school students
Find out what subjects you enjoy and choose a major that will use those subjects. Stick to your major in college even if it is hard for the first couple years because it will be worth it in the end.

Helpful courses to take in high school or college
Biology, chemistry, physiology, advanced mathematics, physics, genetics.

A DAY IN THE LIFE: BIOENGINEER

Every day is different, but here are some of the common activities a bioengineer could do.

Draft a **protocol** for testing requirements for a new product

> pro·to·col
> *A protocol is a document that explains the experiment and gives specific instructions on how to run it*

Spend time in the lab **investigating** an issue seen at a customer site

> For example
> *If a piece of hardware failed, a bioengineer would try to find out why*

Summarize findings from a hands-on investigation and report them to the product support team

Analyze data obtained from experiments and organize into descriptive charts using statistics software like JMP, R, and Minitab

Create a presentation using PowerPoint to describe the results of your design verification study and make recommendations on next steps for the project

Deliver the presentation to project stakeholders such as marketing, product support, development, and manufacturing teams

Reflection questions

- What is something new you learned about this career?
- How does this job work with the other careers in genomics you have learned about?
- How can you use this career insight to help you explore your own passion?
- If you could talk to someone with this job, what would you ask them?
- Is there anyone in your personal network you could connect with to learn more?

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