

Benjamin Engebrecht

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Cumulative Reflection

My time at Iowa State has given me the skills necessary to become a well-rounded engineer. The core engineering classwork provided the foundation to build on with the higher-level classes. As a result, the skills that I have at my disposal run from knowing how to use many types of specialized software to how to code my own.

However, it wasn't always this way. I was not one of those people who knew from day one what they were destined to do. One of the few things I did know when I finished high-school was that I have always enjoyed playing with electrical devices. Ever since I was young, I've helped my grandfather repair old, discarded electronics. Every time we would visit, he would have another project that I could help on. Even though neither he nor I had any formal training on working with circuitry, our repair success rate was high. Each new device that we worked on would have a different problem, which meant that we both were able to sharpen our critical thinking and problem solving skills.

It didn't take too long after I arrived at the university to decide that computer engineering was what I wanted to pursue. My knowledge on electrical systems had plateaued and I was hungry to learn more. Thanks to the help of both professors and professionals, I was able to continue my learning, especially in areas that I hadn't realized needed improvement.

One of these areas was my ability to work in a group. Growing up in a small town with a small high-school meant that the opportunity for group work didn't appear very often. However, at a large university like Iowa State, I've had a class each and every semester that involved completing a task as a group. It initially took some adjustment to become accustomed to group work, but the sheer number of projects that I was involved in helped to hasten that process. As I would come to learn, working in groups is one of the best ways to get things done. In a group, each individual can bring their knowledge to the table and half tackle problems from different directions.

As a result, I learned that engineering isn't simply solving equations, writing code or crossing wires. Each of these things are not exactly difficult, but engineering is all about the process behind them. For example, anyone can write code, but doing so effectively requires a deeper understanding of how that code runs once its compiled. This type of background knowledge was a pervasive theme through my studies. Through this I learned that even a simple problem has multiple unique solutions, and being able to find the best solution requires a comprehensive understanding of the subject.