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Cpr E 494

Cumulative Reflection Essay

My experience at Iowa State has been very transformative for me. I had only a loose idea of what I wanted to do before coming here, but the coursework put me on a fast track to have what I think will be a very enjoyable career. I've gotten the chance to polish my communication and teamwork skills, knowledge of engineering tools and technology, and most importantly, channel my inner drive to solve problems.

I see my curriculum as about three different phases. There is the first phase of introductory engineering material, which provided a good base for problem solving in general. Then as a Computer Engineer, I have classes in both Computer Engineering/Computer Science as well as Electrical Engineering. Both of those fields are now converging as I head towards my capstone project, the final phase where it all comes together.

The technical coursework in many of the degree-specific classes has all been in preparation for me to be able to solve engineering problems as well as design systems and processes. Along with that, there was a team-based component to many of them. Examples include Introduction to Circuits, Introduction to Embedded Systems, Software Development Practices, Computer Architecture, User Interface Design, Project Management, and Signals & Systems. Furthermore, my Technical Writing class improved my communication and teamwork skills while also giving me a chance to analyze ethical and professional situations.

The most significant area I was able to develop was in self-teaching. We as engineers are lifelong learners, and the constant exposure to new technologies here at Iowa State has taught me the value of being able to educate yourself. When that fails, it is very helpful to have a network of friends you can consult as well as being familiar with your TA and professor. Beyond that, student organizations can be a great way to expand your skills. For example, I am a member of the Game Development Club, which put me on the path to teach myself about game design.

Since we can see an engineer's knowledge is always adapting, we need to be able to handle that change and update our technical skills to fit. I can think of two situations where I had to quickly upgrade my skills to fit a situation. I was fortunate in that the jobs I had through college were technical in nature, something which I value. First, I was a tutor followed by a Supplemental Instruction leader, both in some calculus courses. When taking on these roles, I had to significantly up my presentation and leadership skills to teach my students effectively. After that, I became a web developer for the Office of Admissions here at Iowa State. I had only a little bit of web development experience beforehand in a different language, so I had to adjust to the new technology to be fully productive. This was a great experience where I was able to develop my skills for a professional workplace setting.

The college experience also played a role in my ability to update my skills. As mentioned before, it is very helpful to have a social network within your coursework. I see it as a frame of reference, so you can see how other people are developing their skills and adjust your goals as necessary. I would say I gained as much personal development through college as I did scholarly development.

Overall, I have had an excellent time being a student at Iowa State. If I were able to do it over again, I would try to be more involved in my earlier years. As you get increasingly busy, you realize just how much time you really had in the past. Being more consistent with student organization involvement would be a top priority. That said, I have had a very well-rounded experience and look forward to using these skills in the future.