

Cumulative Reflection

I have really enjoyed my time at ISU and I believe that it has greatly influenced my career plans and problem solving skills. I believe that ISU has successfully prepared me in design systems and processes through the many technical, hands-on courses that I took throughout my college career. For example, one class that I remember being very hands on was my Electronic Circuits and Systems course (EE230). This course required the use of breadboards to build the actual physical circuits based on real-life problems and applications. I found this very helpful to be able to relate the course work and understand how items that we use everyday were originally developed with the circuits we were building. I found this very interesting even though I do not have an interest in hardware; I was still able to enjoy this course because of the engineering applications it provided.

My coursework has helped me formulate and solve engineering problems through many lab activities and hands on experience. This has made a large impact in verifying my interest in being an engineer. When I was younger, I always enjoyed taking things apart to figure out how they worked. Now with the problem solving skills that I have developed at ISU, I am now able to apply those same hardware principles to software systems. I am also able to analyze how they work and even improve those when given the task to do so. This also leads into impactful engineering solutions in a global context. I feel that the requirement of general education courses was a good experience in that it opened my eyes to the rest of the world that can have a large impact on how solutions are developed in the engineering realm.

ISU has prepared me to work in groups through many courses that either involve group software projects, pairing with a partner in lab, along with senior design group work. Group software projects really helped me to work better as a group member rather than trying to do everything myself, if the group works together, much more gets done in a shorter amount of time. Software Design Practices (ComS 309) really helped me in this area since it was a semester long group software design project. This gave me a great group experience before working on a group project at my internships over the summers.

Through my time at ISU, many courses have taught me to keep an open mind, which has allowed me to recognize important contemporary issues in the world. It is important to recognize these issues because they present the newest and latest issues that will need to be solved in industry. These are able to be resolved through engineering problem solving, which I have learned in my coursework.

Professional and ethical responsibilities are extremely important for engineers in industry. Many ethical issues have arisen through history much like the

Ford Pinto gas tank explosion issues. Being professional and ethical in the workplace is important to make sure things are done the correct way and is not a threat to the safety or lives of the world.

In many of my problem solving tasks and class projects, I used a couple resources to successfully complete my work. Many times while working on class projects, I found help from my peers to complete the assignment correctly so I could make sure I was applying the concepts from the course correctly. Working with my peers, we were able to problem solve together in order to come up with a solution to the problem.

During my career at ISU, I was the Chief Engineer at the student-run radio station on campus performing upgrades and repairs on the station equipment. Going into the position, I did not have much background troubleshooting audio equipment but I enjoy learning new things. This made me realize the importance to lifelong learning because there is always something that you have not experienced so far and provides an opportunity to learn something new. I enjoy learning new things in order to broaden my experience.

I have begun to undertake new learning every day to improve my ability to apply my skills to new problems that are presented. I do this by keeping an open mind because you never know what will be coming next. Becoming more experienced at a particular skillset allows me to be even more confident when I am in a position to take risks in a project with the end goal of improving the overall experience. I have improved my abilities by taking on projects that I may not be comfortable with initially, but by the end of the project, I am confident with the new skills I learned from the project.

One example of this was at my internship over the summer of 2015. During that summer, I worked on a project in a language I had never used before the project. I was very confident that I would be able to pick it up quickly, and I did. My second project that I worked on over the summer included creating a dependency tree for a very large software application. I was assigned to the project to see what I could produce. I developed a very useful tool for developers and architects to be able to quickly see a high-level overview of the software dependencies within the larger software project. The project manager was very impressed at the result that I produced, which made me very confident in my ability to learn new skills quickly and effectively.

If I were to do my undergraduate work again, one thing that I would change is the focus and attention that I should have applied in my entry-level courses. Going

through some of my higher-level courses, I wish I would have remembered more of the concepts from those basic classes rather than just going through some of them thinking that I will never actually use this material. I have learned that those concepts that were taught translate well and are very helpful in the higher-level courses. I had to refresh some of those concepts that I ignored in order to be able to apply them to my higher-level courses to be successful.

A second thing I would have changed is procrastinating less on assignments. By putting assignments off to the last minute, there is less time to properly learn the material rather than being able to conceptually apply past skills and knowledge to complete the assignment. Some assignments would have been able to have a better outcome if I had spent more time on them, had I started the assignment earlier than the day before the due date.