

Sean Doran

November 6, 2019

SE494

SE494 Cumulative Reflection

1. Ways ISU has prepared me:
 - a. Design systems or processes?
 - i. I have learned several sets of standards and diagrams to create effective processes. In addition, I have learned the best ways to design systems and how to verify compatibility with existing systems.
 - b. Formulate and solve engineering problems?
 - i. The courses I have completed have taught me skills in order to solve simple and complex engineering problems. These range from mathematical formulas to ethical and financial engineering problems.
 - c. Impact of engineering solutions in a global context?
 - i. When looking at how engineering solutions solve a certain problem, it is important to think of the overall impact on a global scale. Sometimes a solution will work perfectly in the US, but have complications in other countries.
 - d. Considering ethical implications?

- i. Each engineering solution has ethical pro's and con's. For example, a hot topic right now is Automation and Artificial Intelligence. This will cause ethical implications with the similarity to human interaction.
- 2. How has ISU prepared me to:
 - a. Work in Groups?
 - i. Many of my recent software assignments include group work. These are important skills to learn for real-world development. Many companies work in an agile type team. This work structure allows for efficient and effective software development.
 - b. Recognize contemporary issues?
 - i. A great example of a contemporary issue, would be the lack of knowledge about green and renewable engineering solutions. I now understand the problem and the ethical implications with the existing solutions provided.
 - c. Understand professional responsibilities?
 - i. I can easily understand the workflow and different tasks required to complete an assignment. In addition, these professional responsibilities relate to problems and solutions outside of the engineering world.
- 3. In order to complete the class projects, I would research existing solutions to a similar problem. I would use this information to attempt and create a more efficient solution. I use research outlets such as library database websites, and other professional software engineers.

4. The ability to research companies and jobs thru Engineering Career Services has allowed me to complete two or three internships and receive several full-time offers with competitive pay-rates. The career fairs are a great way to network for future opportunities and learn about my options in the software field.
5. Have I started to undertake new learning to improve my skills? I have started to develop skills for new software languages outside of coursework. In addition, I participate in coding challenges and other competitions to better understand the skills of other students. Finally, I apply engineering ideas to simple everyday problems, such as time management and work management.
6. If I was to redo my undergraduate work, what would I change? I wish the courses offered had more up-to-date information. For example, many companies use Javascript and similar frameworks to build applications. Many of the courses at ISU focus on Java, which is a dying programming language. Finally, I wish I had more opportunities to work with mobile applications, as the software field is moving towards mobile first design.