**Second-year General Outcomes**

For my second year in the computer science program at Heritage College, I learned to work as a team. A great example of an assignment that taught us a lot would be the HVK assignment in both Systems Analysis and Web Programming 5. In Systems, we learned how to design a whole system in teams. It made us understand the amount of work that goes into just understanding requirements before even starting to code. It also deepened our understanding of how companies work as a team, and the different work methodologies they work with (waterfall, agile). At the end of the semester, we had a presentation to do where we acted like we were the system analysts for a kennel application. Our teachers were our clients and we presented the system we worked on for the whole semester. We answered their questions and made changes to our design according to the suggestions they gave us. The following semester, we had created this kennel application using MVC and the Microsoft Entity Framework. The first two assignments were mostly done alone, but the last two were done in teams. There, we learned how to use a repository and TFS. We used the agile methodology and worked in sprints. Working with people was key, so we had to adapt to our team’s different personalities and work together. We all were pretty limited on time because of all our different courses so we had to organize our agenda pretty well so that we could all work together in an efficient way. During work, we’d have disagreements on things, but we always managed to stay professional, and listen to what the other teammates had to say. After all, it’s impossible to always be right. Values in the Workplace also taught us to be aware of our work environment and be sure to not be exploited at work. One thing I’d very much like to better at would be my time management. Although I said before that we had to make our agendas good so that we could work together, I still feel as though mine is lackluster. I need to be more organized.

**Second-year learning outcomes**

For my second year in the computer science program at Heritage College, we built upon the foundations we had learned last year, and have perfected our craft and learned to work as a team.In our Web 5 assignment, we had to work as a team and work with the Model-View-Controller pattern with the Entity Framework. We also made a database using SQL Server and injected that database into the application we were building. In frst year, we only did the application, but did not have any database in the back-end. With this year, we learned how to work with a database in the background and our web server fetching information from there. Also, we touched upon web security. Last year, we just had to implement simple input checking and checking if the inputs were right and to handle errors, but never had to consider people actively attacking our websites. In our Web 4 assignments, we learned to defend our website against other people and also attacks such as Cross-site scripting, Cross-site forgery, SQL injection and click jacking. We also understand now tools like zap and how it can be used to cause both harm and good depending on the person that uses it. Concepts that were unknown to us, or that we knew the existence of but not how to use them like cookies, sessions, file uploading, became second nature and we used this to make our assignment 3 in Web Programming 4. Json objects and notation are also things that we got used to and now, we can use to store information like we used it in assignment 3 of Web Programming 3, to store movies and their information. Speaking of storing information, in our assignment 2 in Programming III, we also learned to store objects using serialization, which converts an object into a string that we can retrieve later. We used that to save a game of hangman (the word the person was at and how many words were left).