# CS 499 Module One Assignment Template

Complete this template by replacing the bracketed text with the relevant information.

1. **Self-Introduction:** Address all of the following questions to introduce yourself.
   1. How long have you been in the Computer Science program?

**I have been in the Computer Science program at SNHU for a little under 2 years, to finish up my bachelor’s degree.**

* 1. What have you learned while in the program? List three of the most important concepts or skills you have learned.

**Object-Oriented Programming which has helped me design modular and scalable applications. Data structures and algorithms, which has helped me solve problems efficiently and understand computational trade offs. SDLC including AGILE practices which has helped prepare me for real world Software project management.**

* 1. Discuss the specific skills you aim to demonstrate through your enhancements to reach each of the course outcomes.

**I aim to demonstrate proficiency in system design, problem solving, and the ability to apply my knowledge to these enchancements.**

* 1. How do the specific skills you will demonstrate align with your career plans related to your degree?

**These skills align well with my career plans of becoming a professional software developer. Strong programming and problem solving skills will be essential in my career as well as working in a structured development environment will also be crucial to my success as a developer, and these enchancements will allow me to show that off.**

* 1. How does this contribute to the specialization you are targeting for your career?

**This will allow me to show off my specialization in software development, that shows I can build efficiently and create user focused applications. The more that I use these skills, the better they become, and inevitably help further my own career.**

1. **ePortfolio Set Up:**
   1. Submit a **screen capture** of your ePortfolio GitHub Pages home page that clearly shows your URL.
      1. You already have a repository in GitHub where you uploaded projects in previous courses. Your ePortfolio will reside in GitHub but can link to work at other sites, such as Bitbucket.

A screenshot of a computer

AI-generated content may be incorrect.

* 1. Use the GitHub Pages link in the Resource section for directions on:
     1. How to create your GitHub website and publish code to GitHub Pages
     2. Issues, such as adding links to other sites
  2. Paste a screenshot of your GitHub Pages home page with your URL clearly showing in the space below.

**A screen shot of a computer

AI-generated content may be incorrect.**

1. **Enhancement Plan:** 
   1. **Category One:** Software Engineering and Design
      1. **Select an** **artifact** that is **aligned with** **the** software engineering and design **category** and explain its origin. Submit a file containing the code for the artifact you choose with your enhancement plan.

**[Insert your answer here.]**

Note: Your artifact may be work from the following courses:

* IT 145: Foundation in Application Development
* CS 250: Software Development Lifecycle
* CS 260: Data Structures and Algorithms
* IT 315: Object Oriented Analysis and Design
* CS 320: Software Testing, Automation, and Quality Assurance
* CS 330: Computational Graphics and Visualization
* CS 340: Advanced Programming Concepts
* CS 350: Emerging Systems Architectures and Technologies
* CS 360: Mobile Architecture and Programming
* IT 365: Operating Environments
* IT 380: Cybersecurity and Information Assurance
* CS 405: Secure Coding
* CS 410: Reverse Software engineering
* IT 340: Network and Telecommunication Management
* IT 380: Cybersecurity and Information Assurance
  + 1. **Describe** a practical, well-illustrated **plan** for enhancement in alignment with the category, including a pseudocode or flowchart that illustrates the planned enhancement.

**I plan on using the final project from CS-320, and fully implementing a small set of data, and then allow the user to make inputs for some CRUD functionality. While also implementing a README file for this program. I will also recreate the Program inside of C++.**

* + - * 1. **Port over to C++**
        2. **creating a user interface**
        3. **implementing a small set of Data to store, and perform CRUD functions.**
        4. **Create a README on how to use the program.**

For this category of enhancement, consider improving a piece of software, transferring a project into a different language, reverse engineering a piece of software for a different operating system, or expanding a project’s complexity. These are just recommendations. Consider being creative and proposing an alternative enhancement to your instructor.

Think about what additions to include to complete the enhancement criteria in this category. Since one example option is to port to a new language, that is the kind of scale that is expected. This does not mean you need to port to a new language but instead have an equivalent scale of enhancement. Underlying expectations of any enhancement include fixing errors, debugging, and cleaning up comments, but these are not enhancements themselves.

* + 1. Explain how the planned enhancement will **demonstrate** specific **skills** and align with course outcomes.
       1. Identify and describe the specific skills you will demonstrate that align with the course outcome.

**This will allow me to demonstrate how I can build software in a different language entirely. This is a great way to demonstrate a way to design the new system, and solve any problems that may arise.**

* + - 1. Select one or more of the course outcomes below that your enhancement will align with.

1. Design and evaluate computing solutions that solve a given problem using algorithmic principles and computer science practices and standards appropriate to its solution while managing the trade-offs involved in design choices.
2. Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals.

Course Outcomes:

1. Employ strategies for building collaborative environments that enable diverse audiences to support organizational decision-making in the field of computer science.
2. Design, develop, and deliver professional-quality oral, written, and visual communications that are coherent, technically sound, and appropriately adapted to specific audiences and contexts.
3. Design and evaluate computing solutions that solve a given problem using algorithmic principles and computer science practices and standards appropriate to its solution while managing the trade-offs involved in design choices.
4. Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals.
5. Develop a security mindset that anticipates adversarial exploits in software architecture and designs to expose potential vulnerabilities, mitigate design flaws, and ensure privacy and enhanced security of data and resources.
   1. **Category Two:** Algorithms and Data Structures
6. **Select an artifact** that is **aligned with the** algorithms and data structures **category** and explain its origin. Submit a file containing the code for the artifact you choose with your enhancement plan. You may choose work from the courses listed under Category One.

**This will again be my final project from CS-320, with the implementation of the data structures used to store information that can then be used to perform CRUD.**

1. **Describe** a practical, well-illustrated **plan** for enhancement in alignment with the category, including a pseudocode or flowchart that illustrates the planned enhancement.
   * + - 1. **Port over to C++**
         2. **creating a user interface**
         3. **implementing a small set of Data to store, and perform CRUD functions.**
         4. **Create a README on how to use the program.**

For this category of enhancement, consider improving the efficiency of a project or expanding the complexity of the use of data structures and algorithms for your artifact. These are just recommendations. Consider being creative and proposing an alternative enhancement to your instructor. Note: You only need to choose one type of enhancement per category.

Think about what additions to include to complete the enhancement criteria in this category. Since one example option is to port to a new language, that is the kind of scale that is expected. Perhaps you might increase the efficiency and time complexity of an algorithm in an application and detail the logic of the increased time complexity. Remember, you do not need to port to a new language but instead have an equivalent scale of enhancement. Underlying expectations of any enhancement include fixing errors, debugging, and cleaning up comments, but these are not enhancements themselves.

1. Explain how the planned enhancement will **demonstrate** specific **skills** and align with course outcomes.
   1. Identify and describe the specific skills you will demonstrate to align with the course outcome.

**Again Building/designing software that will also be secure in capturing elements of a users input in order to build an efficient and secure program**

* 1. Select one or more of the course outcomes listed under Category One that your enhancement will align with.

**1.** Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals.

**2.** Develop a security mindset that anticipates adversarial exploits in software architecture and designs to expose potential vulnerabilities, mitigate design flaws, and ensure privacy and enhanced security of data and resources.

* 1. **Category Three: Databases**
     1. **Select an artifact** that is **aligned with the** databases **category** and explain its origin. Submit a file containing the code for the artifact you choose with your enhancement plan. You may choose work from the courses listed under Category One.

**I chose the final project of CS-340 and will integrate the systems on my computer, and then update the dashboard to include better search functionality, and overall UI improvements.**

* + 1. **Describe** a practical, well-illustrated **plan** for enhancement in alignment with the category, including a pseudocode or flowchart that illustrates the planned enhancement.
       - 1. **Migrate the project over to my machine fully.**
         2. **Include new and improved filter visibility.**
         3. **Then work on improving the overall UI**

For this category of enhancement, consider adding more advanced concepts of MySQL, incorporating data mining, creating a MongoDB interface with HTML/JavaScript, or building a full stack with a different programming language for your artifact. These are just recommendations; consider being creative and proposing an alternative enhancement to your instructor. Note: You only need to choose one type of enhancement per category.

Think about what additions to include to complete the enhancement criteria in this category. Since one example option is to port to a new language, that is the kind of scale that is expected. Perhaps you might increase the efficiency and time complexity of an algorithm in an application and detail the logic of the increased time complexity. Remember, you do not need to port to a new language but instead have an equivalent scale of enhancement. Underlying expectations of any enhancement include fixing errors, debugging, and cleaning up comments, but these are not enhancements themselves.

* + 1. Explain how the planned enhancement will **demonstrate** specific **skills** and align with course outcomes.
       1. Identify and describe the specific skills you will demonstrate that align with the course outcome.

**Revising and improving the dashboard and database demonstrating my ability to improve upon works that have already been completed.**

* + - 1. Select one or more of the course outcomes listed under Category One that your enhancement will align with.

**Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing**

**practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals**

**Design and evaluate computing solutions that solve a given problem using algorithmic principles and**

**computer science practices and standards appropriate to its solution, while managing the trade-offs**

**involved in design choices**

1. **ePortfolio Overall Skill Set**
   1. Accurately describe the **skill set** to be illustrated by the **ePortfolio** **overall**.
      1. Skills and outcomes planned to be illustrated in the code review

**The code review will highlight my proficiency in writing, clean, efficient, and well documented code. The outcomes that I expect will be the proper use of Object-oriented principles, and the implementation of algorithms and data structures.**

* + 1. Skills and outcomes planned to be illustrated in the narratives

**The narrative sections will highlight my ability to analyze problems, design solutions and reflect on my learning process. My narratives will orchestrate my skills involving critical thinking, design planning, and will connect my knowledge to real world applications.**

* + 1. Skills and outcomes planned to be illustrated in the professional self-assessment

**My own professional self assessment will describe my growth in my professional skills like communication, ethical responsibility, and time management. It will also reflect on how I have applied feedback from previous projects, set my own career goals, and how I have continued to improve both technically and tactfully throughout my time at SNHU.**