# 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 started my computer science journey in 2018 when I enrolled in an associate’s degree at Massachusetts Bay Community College. After a year of their program, I took some time off of school and then started again with a Bachelors degree of computer science at Southern New Hampshire University in late 2020. I am now nearing the end of my program here in mid-2025.**

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

**During my time in this program, I have learned how to code in a few of the basic language models, how to create and operate all layers of a full stack, and how to navigate and diagnose network and security systems.**

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

**I aim to demonstrate my ability to program with professionalism and best practices. I also hope to give an overview of the concepts and theories that I have been working with and learning throughout my education journey. Lastly, I hope to show that I can efficiently and effectively solve problems and tasks given to me in regard to computer science related careers.**

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

**I am planning to have a future career in Cybersecurity, Information Technology, or Database. I hope that I can show a basic understanding of the necessary building blocks that these careers require. I will attempt to convey my ability to understand tasks that I am given and my ability to research and problem solve issues that I may not have experience with.**

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

**This assignment will contribute to the specialization I am targeting by helping me create a portfolio which I can show to potential employers in order to improve my chance of achieving an entry-level role in a computer science related field.**

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.
   2. 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
   3. Paste a screenshot of your GitHub Pages home page with your URL clearly showing in the space below.

**A screenshot of a computer

AI-generated content may be incorrect.**

*URL: https://github.com/Meamfred/ePortfolio*

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.

**CS320 Project One**

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 aim to improve this project by targeting in line comments, reorganizing the code to improve readability, and introducing headings to show the author, project name, etc. I plan to add a readme text file and a description of the assignment and the requirements of the assignment.**

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.

**I will demonstrate my skills of testing code to improve usability and accuracy while also improving my professionalism and adherence to best practices.**

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

**I believe that my improvements should fall under enhancement number two. I will elevate the readability and usability of my code in order to help others understand the reasoning behind my formatting and processes.**

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.

**CS320 Project One**

1. **Describe** a practical, well-illustrated **plan** for enhancement in alignment with the category, including a pseudocode or flowchart that illustrates the planned enhancement.

**My plans for the enhancement of this project include improving the processes already contained in the program to increase efficiency and security. I will integrate further options for manipulating the data by the user.**

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.

**I will demonstrate my skills of going above and beyond what is required in the assignment and showcase my ability to increase security and streamline my processes while ensuring the end result follows the requirements given by the assignment prompt.**

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

**I believe that my plan will align with enhancements four and five.**

* 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.

**CS320 Project One**

* + 1. **Describe** a practical, well-illustrated **plan** for enhancement in alignment with the category, including a pseudocode or flowchart that illustrates the planned enhancement.

**For this enhancement, I plan on integrating a database program such as MongoDB or SQL to save the data entered by the user. Currently, the data is only stored in memory, so it is cleared when the program is closed. I want to have a data system that preserves entries after the program has been terminated.**

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.

**My plan will show that I have the ability to work with all the layers in a full stack and database and show my ability to query a database by using a separate program/language.**

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

**I believe that my plan will align with enhancements four and three.**

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 skills that I hope to convey in my code review would be basic coding skills and understanding of conventional coding and professional best practice. I hope to convey understanding of databases, security, and data management.**

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

**In the narratives, I hope to develop my approaches and thought processes while creating and reviewing code while my skills of problem solving and attention to detail will be represented.**

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

**In my professional self-assessment, I will show my ability to take and use criticism and improvement throughout my work compared to the beginning of this course. I plan to be critical of myself to acknowledge my shortcomings and my future plans to rectify or compensate for these drawbacks.**