

**Data Structures and Algorithms**  
 Fall 2024  
**Preliminary and Subject to Change**

Faculty:  
 Paul Pham,  
 Richard Weiss, [WeissR@evergreen.edu](mailto:WeissR@evergreen.edu)

This 12-credit program is intended to help you gain the technical knowledge and skills required to understand, analyze, modify, and build complex software systems. Data structures and algorithms are the fundamental building blocks for creating these systems. Through this program you will deepen your understanding of computing systems, both in theory and practice. The work will provide prerequisite knowledge for Evergreen's advanced computer science programs.

This program will be coordinated with **Introduction to Cybersecurity**, a 4-credit course that is offered in the same quarter.

The program content will be organized around several interwoven themes. The Data Structures and Algorithms theme will cover linear and non-linear data structures, including important algorithms and analyses of their complexity. The Programming theme will focus on object-oriented programming and parallel computing. Cracking the coding interviews will be organized around computer systems and preparing for getting a job or graduate school in computer science. Parallel and Distributed Computing will integrate the concept of parallelism both hardware and software.

Our preliminary weekly schedule is:

	Monday	Tuesday	Wednesday	Thursday	Friday
10:00 - 11:00	Data Structures	Algorithms		Data Structures	
11:00 - 12:00		Software Engineering			
12:00 - 1:00	break	break		Forest Walk	
1:00 - 2:00	Data Structures (Lab)	Parallel and Distributed Computing (Lab)		Lab	cybersecurity
2:00 - 3:00	Cracking the Coding interview (Lab)				
3:00 - 5:00					

Textbooks:

*Cracking the coding interview*, by Gayle McDowell, 6<sup>th</sup> edition ([AMAZON link](#))  
*Dive Into Systems*, by Suzanne Matthews et al. (online at [diveintosystems.org](http://diveintosystems.org))

Our typical outline of the credit breakdown for the fall quarter is:

- 4 credits Cracking the Coding Interviews + Algorithms
- 4 credits Data Structures
- 4 credits Parallel Programming

- 4 credits Introduction to Cybersecurity