

CS 300

Data Structures and Algorithms: Analysis and Design



Course Description

Students will develop code and use non-coding development methodologies in algorithmic design and problem solving. Students will use advanced algorithmic designs to evaluate complex data structures to aid in problem solving.

Competency Projects

The course goals are communicated through three competency statements instead of through course outcomes. Competencies represent the knowledge and skills relevant to your field. Additionally, there is not a single final project like you may have seen in other courses. Instead, there are two smaller projects, tied to the course competencies. Still, the amount of material covered, the level of difficulty, and the workload expectations are all typical of a 300-level course.

Project One (Module Six submission)

Create pseudocode to expand on the program being developed for ABC University.

In this project, you will demonstrate your mastery of the following competencies:

- Apply non-coding development methodologies for outlining an algorithmic design
- Evaluate complex data structures that solve a given problem using advanced algorithmic designs

Project Two (Module Seven submission)

Write code based on the pseudocode you created to develop software for ABC University.

In this project, you will demonstrate your mastery of the following competency:

- Develop code using algorithms and data structures to solve basic programming problems

