

Florida Polytechnic University

CEN 3820 Systems Analysis and Design, Fall 2025

Assignment # 2 (20 points)

Due Date: Friday Sep. 26th, 2025 at 11:59pm.

Instructions:

- This is an individual assignment. Group work or copying is not permitted
 - Answer all questions
 - Put your name on the solution
 - Upload your solution to Canvas before the due date
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1. What are the three main task pattern types? Provide an example of each. (6pts)
 - Dependent Task: A task that can only be initiated after the prior task has been completed. Example: Job openings can only be posted (Task-2) after they have been created (Task-1).
 - Multiple Predecessor Task: A task that can only be initiated after the completion of two or more prior tasks. Example: Only after a structure's design is completed (predecessor-1) and the location is arranged (predecessor-2) can we start building.
 - Multiple Successor Task: Two or more tasks that can be initiated simultaneously and often depend on a predecessor task. Example: Arranging the location and time for holding an exam (task-1) and preparing exam questions (task-2) can be done simultaneously.
2. What is scrum? (5pts)
 - Scrum is a framework of Agile method for managing and completing complex projects. In a scrum session, agile team members play specific roles like product owner, facilitator, development team, users, managers, and stakeholders. Sessions have specific guidelines that emphasize time blocks, interaction, and team-based activities that result in deliverable software. Combining all different ideas from various perspectives, a system is built incrementally, going through multiple adjustments and prototypes.

3. What is an FDD and why would you use one? (5pts)
 - A Functional Decomposition Diagram (FDD) is a top-down representation of a function or process. It shows business functions that are broken down into lower-level functions and processes. FDDs can be used during requirements engineering to model functions and show how they are organized into lower-level processes to make it easier to work around. It helps to make a complex system easier to understand, design, and manage.
4. What is the difference between validation and verification of system requirements? (4pts)
 - Validation and verification of system requirements are concerned with demonstrating that the requirements define the system that the customer really wants. Requirements validation checks if the system actually meets the customer's needs. It involves reviewing user feedback and the business's requirements. Whereas, requirements verification checks if the system is built according to the specifications, design documents, and requirements. It involves reviewing design models, unit tests, and integration tests.