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APC Assignment 2

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* **Waterfall Model**
  + Requirements:
    - Each user must have a WIT ID
    - Each user must either be a student, instructor, or admin
    - Goal is for the database to work for 100+ users
    - Must contain course information
    - Must be able to view schedule and access the
    - Must have a GUI
  + System Design
    - An interactive interface to display the necessary functions the user needs
    - Students can view their schedules and register, etc…
    - Instructors can see available courses and so on…
    - Admin has access to see everything
  + Implementation
    - Using OOP classes to create the user database
    - Code(s) written in C++, Python, and Java
    - Inherited classes
    - Tested the functions by calling them in Driver code
    - Tested the attributes by calling the first and last name, and ID
  + Integration & Testing
    1. Test the code by creating instances in the Driver file
    2. Calling the functions to see which one works and which ones don’t
    3. Transforming the code into a GUI with a user-friendly interface rather than viewing from the terminal
    4. Adding a database or importing from a list of 100 students, 10 instructors, and one admin to find bugs
    5. Reiterating through steps 1-5 to find more bus and debug
  + Operation and Maintenance
    - Put code under stress test to see where the bugs are
    - Try to organize code using OOP approaches so that we can practice encapsulation since this is a database with sensitive information
      * Try to make methods private and inaccessible
    - Update small and minor things such as variables, loops, conditional statements