

Assignment #2

Instructions: Part 1 of this assignment is **individual**, do not work with your classmates on this part, Part 2 will be done in a group. Any evidence of collaboration, copying, cheating, using online help sites like Chegg, CourseHero, etc. for Part 1 will result in a grade of 0 - review the Syllabus for Academic Honesty policies. Refer to the Syllabus for Late Submission Policy.

The assignments in this course are based on a single system – you will build, test, document, create a database for, code, etc. the system in phases, one assignment at a time until you integrate the system later in the end of the semester.

As a reminder, the following is a general description of the system; the requirements for Assignment 2 are after the system overview.

System Overview You will be designing a scheduling system for a university similar to LeopardWeb. The system will allow students, faculty, and an admin (such as the registrar) to add courses, search for courses, print schedules, etc.

Here is a list of the requirements for scheduling system.

- Database of users: the system should work for 100 students, 10 instructors, and 1 admin, however, we will test with fewer.
- Database of courses: this will contain information such as the CRN, course name, times, and instructor.
- Three types of users:
 - student – can register, can see available courses and their own schedule.
 - instructor – can see available courses and their own course roster.
 - admin – can see everything, can edit courses/users/schedules.
- The system should include multiple semesters, print-out of schedule, scheduling preferences.
- The system as a whole and all components must be tested thoroughly.

The base class of the system is **user** with:

- Attributes: first name, last name, ID.
- Methods: set function for each attribute, and a function to print all info for the object.

There will be three derived classes:

- All derived classes must contain any additional attributes and appropriate set/get functions.
- **student** – the student class will have functions that allow them to search courses, add/drop courses, print their schedule.
- **instructor** – the instructor class will have functions that allow them to print their schedule, print their class list, and search for courses.
- **admin** – the admin class will have functions that allow them to add courses to the system, remove courses from the system, add/remove users, add/remove student from a course, search and print rosters and courses.

Assignment 2

In Assignment 2 you will apply the three software process models to the system, and setup and use a repository.

Part 1

We learned three process models (waterfall, incremental development, and integrate and configure). Each describes the timeline and process for the development phase, including high-level design and development tasks. Your job for this assignment is to do a preliminary process model diagram/description using each of the three.

For waterfall, show the beginning-to-end tasks. For incremental, choose what you feel is a starting point of the first iteration, then show what would get added with each phase of incrementation. For integrate and configure, look online for pieces that you could use (databases, user interfaces, etc.) and describe how you would use/integrate/configure them. You should cite anything you find. For each, include a proposed timeline for each stage/iteration.

Part 2

Form a group of up to 3 students – you cannot work alone. The Classlist on Brightspace is available if you want to contact your classmates.

Create a git repository or some version of version control (I assume most will use github). Each team member should add their 3 process models to the repository clearly labeled, for example **Lastname_ModelUsed**. Once each member has uploaded their files, each other team member must checkout their teammates' files, make edits, and then commit.

In the end, each team member will have their own files uploaded, and each file will have been edited by all team members.

Finally, decide on the process model that you will try to use for the semester assignments.

What to submit

Each student will submit a PDF containing:

- general information: your name, assignment number, date.
- a link to your repository containing the models.
- a 1-page summary with:
 - the comments/changes/suggestions you made on your teammate(s) three process models.
 - the comments/changes you received on your models and whether they were accepted, rejected, and why.
 - your choice for the process model that you will be using for the remainder of the semester and why.