

CSCI 260 Assignment 2. Due 5:00pm 23 September

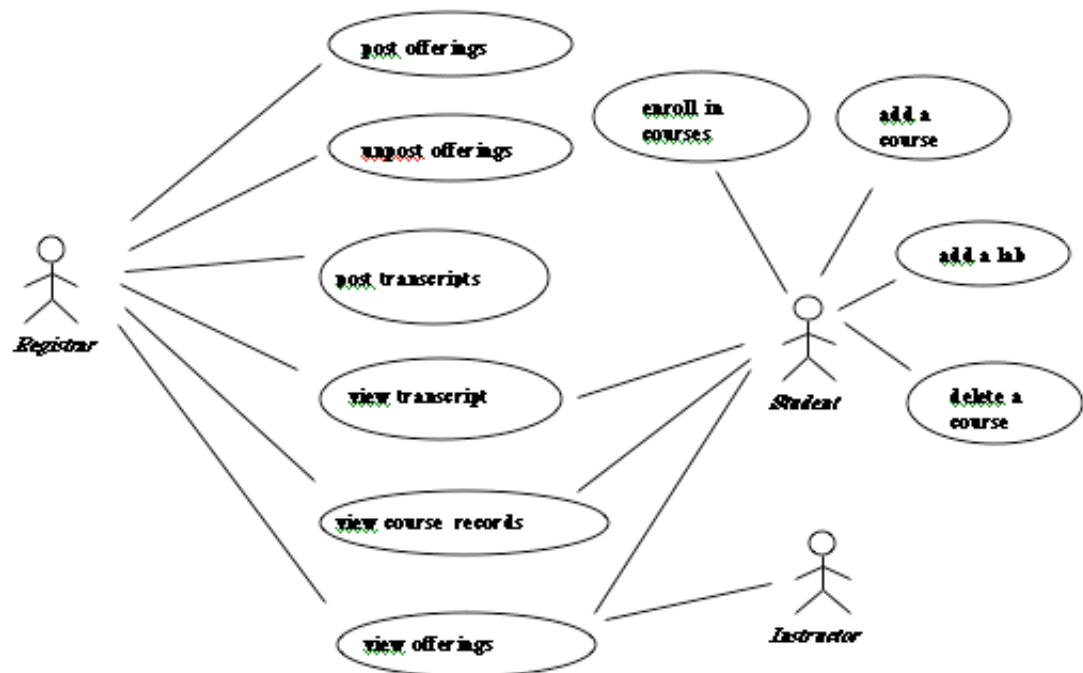
Please do all work for this assignment individually, and feel free to send me e-mail (allen@bowdoin.edu) if you have problems. Please e-mail me your answers as well.

1. Answer the following Exercises in your text.

Chapter 4, Exercises E58, E62b, E63ad, E65, E66 (Use Eclipse/UML for this one), E73a

Chapter 7, Exercises E138, E142b

2. Consider the following refinement of the use case diagram in Figure 4.3 that identifies some of the major activities of *StressFree* users.



Most of the terms in this diagram are self-explanatory, except for “course records.” A course record is a list of courses that a student has already selected. If the student has not begun to register for courses, this list will be empty. Thus, a student may enroll in courses in one or more on-line sessions. His/her course record keeps track of the courses that student had selected at the end of the previous session.

Suppose a student is about to register for courses. Suggest refinements to this use case diagram that will better characterize what that student can do. For example, which use cases can be cast as extensions of other use cases? Which ones are generalizations of others, and which ones are included in other use cases? Redraw this diagram using Eclipse/UML so that it better reflects these refinements.

3. Design a complete use case for each of the following *StressFree* activities. Use the outline form on pages 129-130 as a guide for your design.
 - a. View a course offering.
 - b. Add a course.

In this design, assume that the following information is available in a database:

- **CourseOfferings** - one for each course section, each having a course id, a title, a capacity, a current enrollment, a time slot, an instructor, and prerequisites.
- **Transcripts** - one for each student, each containing the student's id, name, and a list of courses completed and currently enrolled in, and grades for those completed.
- **CourseRecords** - one for each student, each containing the student's id and a list of course sections and their time slots.
- **ClassList** - one for each course section, each having a list of students enrolled in that section.

For examples of this data, refer to the lecture `lec0913.ppt`.

4. Design a GUI in Java that would enable the above use case to take place. Be sure that your GUI design follows the twelve usability principles outlined on pages 262-269.

Using Eclipse/UML to draw a Use Case Diagram

Drawing diagrams with Eclipse/UML can save you lots of time once you get used to these tools. Here's a short tutorial on drawing a Use Case Diagram.

1. Start Eclipse with **workspace260** like you did in Assignment 1.
2. Create a new project **Asst2** using the **Project** menu.
3. Create a new package **Asst2** inside that project.
4. Create a new use case diagram **Asst2.uud** inside that package.
5. Use the toolbar at the top of the window to insert actors, use cases, and relationships between them.