

Software Methods and Tools

Fall 2014

Assignment 3

Due on 11:59PM, Tuesday, September 23, 2014

1. (30 points) Create a use case diagram for the course registration system. As described in Assignment 2, there are three types of users: student, instructor, and administrator. Each of them can perform the following tasks:

Student:

- Search a course by department name, by course number, or by the instructor's name.
- Add/drop a course (student's registration information will be updated correspondingly).
- Report a problem to the system administrator if anything goes wrong.

Instructor:

- Edit the syllabus of the course.
- Review the current roster of the course.
- Report a problem.

Administrator:

- Create a new course.
- Delete an existing course.
- Fix the reported problems.

Draw the include, generalization, and extend relationships as needed.

2. (30 points) (1) Create a use case for adding a course in the course registration system. Note that the instructor will be notified if the course becomes full. You must use the use case template provided in the lab tutorial, and fill in every field with relevant details. (2) Draw a sequence diagram for the use case you created. Your diagram must include the following objects: Student, Instructor, Course, Course Catalog. Feel free to include more objects if you think it is necessary.

3. (20 points) Create a state diagram for the Course class in the course registration system. For each state, include state name and activity when applicable. For each transition, include event, guard, and activity when applicable.

Submit everything in a pdf document.