

Com S 362
Fall 2002

Name: _____

Object-Oriented Analysis and Design
Exam 2 on Requirements Analysis

This test has 6 questions and pages numbered 1 through 6.

Reminders

This test is open book and notes. However, it is to be done individually and you are not to exchange or share materials with other students during the test.

If you need more space, use the back of a page. Note when you do that on the front.

This test is timed. We will not grade your test if you try to take more than the time allowed. Therefore, before you begin, please take a moment to look over the entire test so that you can budget your time.

For diagrams and programs, clarity is important; if your diagrams or programs are sloppy and hard to read, you will lose points. Correct syntax also makes some difference.

1. (5 points) Suppose you and your company's programmers have lots of experience with object-oriented analysis, design, and programming techniques. Your company has the option to take on one of the following two projects, both of which promise equal profits:
 - (a) A system to manage communications between sales representatives and marketing of a growing company, for which the customers aren't sure of the exact requirements.
 - (b) Development of a second-generation inventory control system for a warehouse, for which the customers are very sure of their requirements.

Which one of these two would be best for your company to bid on in terms of best using your company's talents in object-oriented analysis, design, and programming, assuming that it can only bid on one? Answer either project or the other (not both), and give a brief explanation.

2. (12 points) Consider the University's on-line course registration system (AccessPlus). For each of the following descriptions, you are to decide whether it satisfies the elementary business process (EBP) guidelines. Write "yes" or "no" (but not both) and give a brief description of why this does or does not follow the EBP guidelines.

- (a) Cancel a course without changing the schedules of the students registered for the course.

- (b) Drop a course from a student's schedule for a given semester.

- (c) Look up a student's library fines, to be sure that the student can register.

3. (10 points) Briefly describe one *non-functional* requirement for the University's on-line class registration system (AccessPlus).
4. (13 points) Consider the University's on-line class registration system (AccessPlus). Using the brief format, write a use case titled "Add a Class," which would involve a student interacting with the the system directly. Assume that the student has an existing class schedule to which they wish to add a class, that the semester has not started yet. Assume that the class has more than one section, and that at least one of these sections does not conflict with the student's schedule, and that the student meets all other requirements for successfully adding the class.
- Be sure your use case is written in an essential, UI-free style. You only need to consider the "happy path."

5. (25 points) Consider again the University's on-line class registration system (AccessPlus). Using the casual format, write a use case titled "Change Sections," which would involve a student interacting with the the system directly. In the main success scenario, assume that the student has an existing class schedule in which they wish to change sections (i.e., drop the section they are in and add another section of the same course). Assume that the semester has not started yet.

To save time, in addition to the main success scenario, just write two alternate scenarios. These should describe what happens if: (a) the student is not registered for the class that they want to change sections in, and (b) there are no other sections of the class that are not full.

Be sure your use case is written in an essential, UI-free style.

6. (40 points) Consider again the University's on-line class registration system (AccessPlus). Using the fully-dressed format, write a use case titled "Register for a Semester," which would involve a student interacting with the the system directly. In the main success scenario, assume that the student has no existing class schedule, and that they will register for several classes. Assume that the semester has not started yet. Assume billing for classes is handled separately (in a different use case).

To save time, in addition to the main success scenario, , just write one alternate scenario, which describes what happens if the student is not allowed to register because they have unpaid bills. Also, you can leave the "Technology and Data Variations List" section empty. You can consider failures and recovery to be an open issue.

Be sure your use case is written in an essential, UI-free style.

There is more space for your answer on the next page.

