Inclass 6

Wednesday, 29 September 2021 3:06 PM

L06Exerc...
ASUDM...

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Name: (2) _____ **Student#:** (2) _____ **Date:** 29 Sep 2021

COMP 3111: Software Engineering

Lecture 6 Exercise: ASU Course Registration—Domain Model

At the beginning of each term, students may request a course catalogue containing a list of course offerings needed for the term.

classes: Student, CourseOffering

associations:

attributes:

generalizations:

Information about each course, such as instructor, department, and prerequisites are included to help students make informed decisions.

classes: Course, Instructor, Department

associations:

attributes: Course IsPrerequisisteFor Course, Instructor teaches CourseOffering, Department Offers Course

generalizations:

The new system will allow students to select four course offerings for the coming term.

classes:

associations: Student EnrollsIn CourseOffering

attributes:

generalizations:

In addition, each student will indicate two alternative choices in case a course offering becomes filled or is canceled.

classes:

associations: Students HasAlternative CourseOffering

attributes:

generalizations:

No course offering will have more than forty students or fewer than ten students.

classes:

associations:

attributes:

generalizations:

A course offering with fewer than ten students will be canceled.

classes:

associations:

attributes:

generalizations:

Once the registration process is completed for a student, the registration system sends information to the billing system so the student can be billed for the term.

classes:

associations:

attributes:

generalizations:

Instructors must be able to access the online system to indicate which courses they will be teaching, and to see which students signed up for their course offerings.

classes:

associations: Instructor Teaches CourseOffering

attributes:

generalizations:

For each term, there is a period of time that students can change their schedule. Students must be able to access the system during this time to add or drop course.

classes:

associations:

attributes:

generalizations:

Name: (1) _____ **Student#:** (1) _____ **Lec. sec.:** _____

Name: (2) _____ **Student#:** (2) _____ **Date:** _____

COMP 3111: Software Engineering

Lecture 6 Exercise: ASU Course Registration—Domain Model

1. On the accompanying worksheet containing the problem statement, identify all the classes, attributes, association classes, associations, generalizations and multiplicity constraints that are relevant to include in the domain model for the new system. *(Only those that are explicitly given in or implied by the requirements statement should be included.)*

2. In the space below construct a class diagram showing how the classes identified in (1) are related by associations, aggregations/ compositions and generalizations. Show the *most likely multiplicities for all associations*, making reasonable assumptions where necessary. If a multiplicity cannot be inferred from the requirements statement or common real-world domain knowledge, then indicate this with a "?".

Do not show the attributes of the classes in the class diagram.