**ISM 6124 – Advanced Information Systems Analysis and Design**

# Fall Semester 2021

**ICASE Assignment**

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**Scenario: Online Course Registration System**

USF's Online Access Student Information System (OASIS) is the student record system which manages all student related records such as application, transcripts, immunization, personal details, financial aid, tuition fees record and Course registration details of the students. We are going to design a student course registration system which will be used for course registration and management during the start of each semester. The system will allow students to add/drop the courses and it should allow the staff to approve or permit students to get enrolled in the courses.

The system will be accessed by students, staff, and professors. Students will have limited access only to add or drop them from the course. Staff have admin access to add or drop any student from the course and can update other details like seating capacity. Professors will have access to approve or decline the request of students to join the course.

**Assumptions**

1. There is a dedicated database to store the student details, Class registration record.
2. The system is accessed by students, staff, and professors
3. Students have limited access only to add or drop the course.
4. Staff have admin access to add or drop any student from the course.
5. Staff updates the seating capacity.
6. Professors have access to approve or decline the request of students to join the course.

We will draw 3 different diagrams. For each diagram, we have considered different scenario for online course registration details, which will give us different ideas about designing the system

**Use Case Diagram:**

A Use Case Diagram in the UML is a type of behavioral diagram defined by and created from a Use-case analysis. Its purpose is to present a graphical overview of the functionality provided by a system in terms of actors, their goals (represented as use cases), and any dependencies between those use cases

**There are 3 actors in this diagram 1) Student 2) Staff 3) Professor**

* **Staff**: can register students for classes, can view and alter class registration record of students and professor
* **Student**: can search, add or drop any class of his/her choice
* **Professor**: can approve or reject students registered for a class

Diagram

Description automatically generated

**Class Diagram:**

A class diagram in the UML is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, and the relationships between the classes

Entities of Class Diagram are as follows:

**Student:**

**Description:** Student log in to the system using USF NetID. System fetches data from the actor’s (student) USF account (OASIS) and automatically fill up the basic information such as: Name, UID, Address, Contact Information, Course Information etc. After logging in student need to add the course or drop already registered course.

**Attributes** studentid, firstname, lastname, address, dateofbirth, phone, email, coursename

**Methods:** addClass(), delClass(), updateClassSchedule()

**Staff:**

**Description:** Staff log in to the system using USF NetID. System fetches data from the actor’s (student, Professor) USF account (OASIS) and automatically fill up the basic information such as: Name, UID, Address, Contact Information, Course Information etc. After logging in staff need to check the class schedule record of every student and professor

**Attributes** Staffid, firstname, lastname, address, phone, email

**Methods:** addClass(), delClass(), updateClassSchedule(), updateProfessorSchedule(), getStudentInfo(), updateStudentInfo()

**Professor:**

**Description:** Professor log in to the system using USF NetID. System fetches data from the actor’s (student, Professor) USF account (OASIS) and automatically fill up the basic information such as: Name, UID, Address, Contact Information, Course Information etc. After logging in professor need to check the class schedule record of every class

Professor updates the class schedule, accommodate required number of students in the class. Rejects after requirement is met. Closes registration once requirement is met.

**Attributes** professorid, firstname, lastname, address, phone, email, classTime, courses

**Methods:** aproveClass(), delClass(), updateClassSchedule(), updateProfessorSchedule()

**Courses Information:**

**Description:** Classes are visible only until required number of students register for it. Classes are online or offline or hybrid.

**Attributes:** CourseID, CourseName, Type(online/Offline/Hybrid), Schedule

**Methods:** UpdateCourseSchedule(), AddCourseName(), DelCourseName()

**Registration:**

Description: courses will be registered by students and approved by professors. Registration can be updated by staff from one type to another on request.

**Attributes:** login(),registration(), displayCourse(), addCourse(), dropCourse(), viewRegisteredCourses(), viewCourseOfferingRoster(), selectCoursetoTeach() , createNewCourse(), modifyCourse(, removeCourse()

Diagram

Description automatically generated

**State Chart Diagram:** We will be looking at simple scenario about the process of Online Course Registration System.

Below are the steps for Online Course Registration System.

1. Student logs in with NetID/StudentID
2. Basic info is fetched and displayed to student
3. Students register the course or drops course
4. Staff updates student record
5. Professor adds or drops a student from course
6. System updates the courses
7. Student pays the course fee
8. System updates the student record
9. Student gets registration confirmation.

Diagram

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