



North South University

Department of Electrical and Computer Engineering

CSE327 - Software Engineering

Midterm

Total Marks - 30,

Submission deadline: 9:00pm 11th August 2021 (Dhaka, BD time)

Name:	
Student ID:	
Section:	
Date:	

There are three questions in this exam. All three questions are based on the following case study.

Case Study

A school wants to automate their attendance taking. Attendance will be taken via a web interface. Each teacher can log in to the system and see a list of classes they are teaching. The teacher can choose one of those classes and be presented with a list of students who are enrolled in that class. The teacher can then set the attendance status of the students (present/absent) and submit the form, which should update the attendance record of the class for that time.

A teacher may be the assigned teacher of more than one class for a given teaching period. Only the principal can set, or change, the assigned teacher during the teaching period. Once a teaching period finishes, the status of the attendance records must become 'archived'. During the teaching period each attendance record must have a status of 'active'.

Guardians can check the attendance record of their wards online. This however is limited to only the current active attendance data. If 'archived' records are to be accessed, a special request must be lodged online, which the principal can then approve if she/he wishes. If such a request is approved, then the parents are notified and then can then use the special link sent with the notification to access the archived records only once.

A student's attendance record across all courses he/she is taking must be summarized and presented to the principal on a weekly basis where student's missing more than 50% of the

classes have to be highlighted. The parents of these students should also be notified via email, unless a prior exemption was given (by the principal). Only the principal can record such prior exemptions for students to deal with exceptional circumstances. These exemptions are only valid for a range of dates that has to be set by the principal when the exemption record is created.

Questions: (Each question is worth 10 marks)

1. Draw the UML Use Case diagram for the software mentioned in the case study.
2. Write an expanded use case for “Creating an attendance exemption record for a student”
3. Draw a high level UML Class Diagram depicting your design for the Model classes of the system.