



Web Technologies 213

## Attendance Management Lab Description

The Attendance Manager is a web-based system designed to streamline how class attendance is recorded and accessed. The project simulates a real-world application that involves multiple user roles and responsibilities:

- **Faculty Interns (FIs)** create attendance sessions and mark attendance for students during those sessions.
- **Students** log in to view their own attendance history and track participation across different dates and classes.

By working through this project in stages, students will practice key skills such as:

- Designing and creating relational databases.
- Implementing secure user authentication and role-based access control.
- Building CRUD (Create, Read, Update, Delete) functionality for managing users and attendance.
- Using SQL queries for generating reports and summaries.
- Enhancing usability with client-side interactivity and responsive design.

At the end of the semester, each student will have developed a complete, functional system that integrates all the core concepts of web technologies into a cohesive project.

## Key System Features

- 1) User account creation for all roles - Faculty Intern, Student.
  - 2) Faculty Interns can:
    - create courses
    - add students to courses
    - Create and manage class sessions.
    - Mark attendance
    - approve pending student requests to join courses.
  - 3) Students can:
    - Join a course (pending FI approval).
    - Mark attendance using a code.
    - View daily and course attendance reports.
- 
- 4) Main Web Pages:
    - Login/Sign Up Page
    - Teacher Dashboard (manage courses, add FIs, view reports)
    - FI Dashboard (sessions, approve students, attendance, reports)
    - Student Dashboard (join courses, mark attendance, view reports)
  - 5) Suggested Database Tables:
    - Users: userID, name, email, role, password
    - Courses: courseID, name, teacherID
    - FacultyInterns: fiID, courseID
    - Students: studentID, courseID, status (pending/approved)
    - Sessions: sessionID, courseID, date, code
    - Attendance: attendanceID, sessionID, studentID, status (present/absent)