**Course Syllabus**  
**CIS282: Database Principles and Application**  
**Semester: Spring 2025**  
**Instructor: Dr. John Doe**  
**Email:** [**jdoe@university.edu**](mailto:jdoe@university.edu)  
**Office Hours: Monday & Wednesday, 2:00 PM - 4:00 PM**  
**Class Time: Tuesday & Thursday, 10:00 AM - 11:30 AM**  
**Location: Room 205, Computer Science Building**

**Course Description**

This course provides an in-depth study of database principles, design, and applications. Topics include database models, relational database design, SQL querying, normalization, indexing, transactions, and security. Students will gain hands-on experience designing, implementing, and managing databases using modern database management systems (DBMS).

**Course Objectives**

By the end of this course, students will:

1. Understand database concepts and architecture.
2. Develop skills in designing relational databases.
3. Write and optimize SQL queries.
4. Implement normalization techniques.
5. Learn indexing and transaction management.
6. Understand database security principles.

**Required Textbook**

* "Database Systems: Design, Implementation, and Management" by Coronel & Morris, 13th Edition.

**Course Topics**

1. Introduction to Databases and DBMS
2. The Relational Model
3. SQL Fundamentals
4. Advanced SQL Queries
5. Normalization and Database Design
6. Indexing and Query Optimization
7. Transactions and Concurrency Control
8. Database Security and Integrity
9. NoSQL and Modern Databases
10. Database Administration and Maintenance

**Grading Criteria**

| **Assessment** | **Percentage** |
| --- | --- |
| Assignments | 30% |
| Midterm Exam | 25% |
| Final Project | 30% |
| Participation | 15% |

**Assignments and Exams**

* Weekly assignments will be due every Friday by 11:59 PM.
* The midterm exam will be held in Week 8.
* The final project requires students to design and implement a functional database application.

**Course Policies**

* **Attendance:** Regular attendance is expected. More than three unexcused absences may affect your grade.
* **Late Submissions:** Late assignments will incur a penalty of 10% per day.
* **Academic Integrity:** Plagiarism and cheating will result in disciplinary action.

**Technology Requirements**

* A laptop capable of running MySQL or PostgreSQL.
* Internet access for online course materials.
* A text editor or SQL management tool (e.g., MySQL Workbench, DBeaver).

**Important Dates**

* **First Day of Class:** January 15, 2025
* **Midterm Exam:** March 12, 2025
* **Final Project Due:** May 5, 2025
* **Last Day of Class:** May 8, 2025

**Instructor Contact Information**  
Dr. John Doe  
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Office: Room 310, CS Building  
Office Hours: Monday & Wednesday, 2:00 PM - 4:00 PM

This syllabus is subject to change as necessary throughout the semester.