



## Hankuk University of Foreign Studies

### 2024 Summer Session

### CSC 310 Introduction to Database Systems

#### Course Outline

**Course Code: CSC 310**

**Instructor: Dr. Suman Saha**

**Home Institution: Pennsylvania State University**

**Office Hours: By Appointment**

**Email: szs339@psu.edu**

**Credit: 4**

**Class Hours:**

This course will have 52 class hours, including 32 lecture hours, professor 8 office hours, 8-hour TA discussion sessions, 4-hour review sessions.

**Course Description:**

This course introduces database systems and their approach as a mechanism to model the real world. The course covers data models (relational, entity-relationship), database design, query languages (SQL), indexing, query processing (joins, sorting, aggregation, optimization), normalization and XML

**Required Course Materials:**

- Fundamentals of Database Systems, Addison-Wesley, 5<sup>th</sup> edition by Ramez Elmasri and Shamkant Navathe



**Grading:**

Category	Percentage
Homework	30%
Project	20%
Midterm	20%
Final Exam	30%

**Grading System (1 ~ 100)**

A+ : 96 - 100	A : 91 - 95
B+ : 86 - 90	B : 81 - 85
C+ : 76 - 80	C : 71 - 75
D+ : 66 - 70	D : 60 - 65
F : 0 - 59	
Pa : Pass	Fa : Fail

**Course Schedule**

**WEEK 1**

- Session 1: Entity-Relationship (ER) Model
- Session 2: The Structure of the Relational Data Model
- Session 3: Relational Algebra and Relational Calculus
- Session 4: Relational Algebra and Relational Calculus (Continue)

(Homework 1 and Project 1<sup>st</sup> Part)

**WEEK 2**

- Session 1: Functional Dependencies and Normalization
- Session 2: Functional Dependencies and Normalization (Continue)



- Session 3: ER-to-Relational Data Model
- Session 4: Midterm Exam and Project 2<sup>nd</sup> Part

### WEEK 3

- Session 1: SQL
- Session 2: SQL (Continue)
- Session 3: Graphical User Interfaces
- Session 4: Embedded SQL

(Homework 2 and Project 3<sup>rd</sup> Part)

### WEEK 4

- Session 1: Object Relational Databases
- Session 2: Object Relational Databases and XML
- Session 3: XML and Active Databases
- Session 4: Final Exam Project 4<sup>th</sup> Part

