Capital University of Economics and Business
Overseas Chinese College
Course Syllabus

Principles of database systems

Course Syllabus

SYLLABUS OF MIS241

Semester and Year	2018 Spring (March 4, 2018 - July 20, 2018)
Course Name	Principles of Database Systems
Course Code	MIS241
Course Credits	3
Teaching Hours	48 hours
Prerequisite Course	MIS111
Instructor	Guanyu Liu
Contact Information	Office: Chengming Building 119, Email: liuguanyu@cueb.edu.cn
Learning Centre	TH: 8:00-12:00 诚明楼 119
Time	Y01: 13:30-16:30 pm Thursday Y02: 13:30-16:30 pm Wednesday
Place	Y02 Wednesday B212; Y01 Thursday B312
Textbook	*Database Processing – Fundamentals, Design, and Implementation* ISBN 978-7-04-019245-2 *Database Systems Concept* , Fifth Edition by Abraham Silberschatz , Henry F Korth and S, Sudarshan *ISBN: 978-1-292-00486-0*
Reference Book:	Oracle Database 11g Administration Certified Associate StudyGuide A First Course in Database Systems by Jeffrey Ullman and Jennifer Widom 3rd edition ISBN：978-7-111-24733-3

The textbook and reference book mainly cover the knowledge that instructor introduced in the class, but not limited to these books, students should have the ability to search and expose to the resources to support your study.

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Course Description

This course is for students to obtain principles of database systems. We will focus mainly on relational data models and relational query operations, together with SQL for data definitions and queries. The course will also involve a multi-part project using Oracle 10i. Students undertake a semester project that includes the query design using Oracle 10i.

Student Learning Objectives

At the completion of this unit students will have knowledge and understanding of:

- the major objectives of database technology;
- the relational model for databases and competing models;
- the techniques and tools to design and implement a database suitable for an information system;
- a database retrieval and manipulation language;

Library Source

Various books are available for the students to gain a wider exposure to database knowledge.

Teaching methods

This course consists of lectures, discussions, hands-on projects. Students must be prepared to discuss the assigned chapters during class.

Grade Criterion

Component	Weight	Description
Final Exam	20%	A cumulative final examination will be given based on all of the contents of the class. A minimum of 25% of the exam (5 of the 20%) will consist of questions utilizing the application of critical thinking.
Mid-Term Test	20%	A cumulative midterm test will be given based on all of the contents of the first half of the class. A minimum of 25% of the test (5 of the 20%) will consist of questions utilizing the application of critical thinking.
Homework	20%	Homework problems will be assigned throughout the term, including but not limited to: terminologies, practice exercises, and project assignments
Presentation	20%	Refer to the handouts.
Participation	10%	Individuals will be asked to participate individually in a question and answer 10 times during the semester. Students are required to meet with their teachers every other week. The performances will be counted.
Attendance	10%	Refer to attendance policy listed below
Total	100%	

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Detailed Grade computation

	Before Midterm	After Midterm
Attendance	5%	5%
Participation	5%	5%
Homework	10%	10%
Midterm test	20%	
Presentation		20%
Final exam		20%
Total	40%	60%

Grading policy

A+ 97-100	A 93-96	A- 90–92	B+ 87-89	B 83-86	B- 80–82
C+ 75–79	C 70-74	C- 67–69	D+ 63–66	D 62-60	F 0- 59

Exam Schedule:

- Midterm Test: May 7 – 11, 2018; Final Exam: June 25 - 29, 2018

Assessment of student performance

Self-Study and Reading ability Practice

- Instructor will give out the chapters or the reference books to read and use class hours to have discussion; students should be able to show a proactive attitude and ability for self-study and reading. Knowledge and oral English will be elements of homework or presentation score.

Homework

- Students should finish their homework (except for group projects) by themselves. Copying from others will be treated as cheating. Students' homework scored will be lowered. Students should hand in all assignments promptly and on time. Late assignment will be accepted at the discretion of the instructor (i.e., when the student was ill or had an excused absence). Assignment turned in late without proof of illness or had an excused absence will be reduced in score by 50%.

- Assignment should be printed out. Anything that cannot be read will be marked wrong. Printing requirements are as followed: single space between lines, double space between paragraphs, font size is 12 (maximum). Grammar error can reduce 20% of your score.

Attendance

Attendance in class is required for all students taking courses at the Capital University of Economics and Business Overseas Chinese College.

- Being late for 15 minutes or more is considered an absence.
- Five hours or above of unexcused absences will result in the lowering of the final grade by one grade band (e.g. from C – to D +). Any excused absence must be discussed directly with the teacher.
- 21 class hours of any kind of absences will result in a failing grade (F), but students are welcome to continue attending classes.
- An incomplete grade (I) will be considered in case of medical or family emergencies.
- Students must bring the textbook to class.

Participation

- Students should participate in classes actively**.** Half of participation grade is determined by their presentation in class. They are encouraged to ask questions relevant to the subject and express their own opinions. Every student should respect the ideas, opinions, and questions of their classmates.
- Students should also use office hour to ask questions or talk with the instructor for good communication and effective learning.
- Frequent visiting the instructor and chatting in English during office hours is highly recommended.
- Any misbehavior and non-class related activities in class will result in the lowering of the participation grade, including ringing beepers and **cell phones.**
- All above behaviors will be solely evaluated by the instructor for scoring.

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Topical Course Outline

Week	Topics
1	Syllabus Introduction to DBMS, Data Models, Database Design , Querying
2	**The Relational Databases- Relational Model** ✧ *Details of Fundamental Relational –Algebra*
3	**Details of Additional and extended Relational –Algebra** ✧ *Set-intersection, Join, Division and Aggregate functions*
4	Practice of Relational –Algebra **SQL** *Simple Queries in SQL* ✧ *Queries Involving more than ONE Relation* ✧ *Sub-queries, full Relation Operations*
5	**Qingming Holiday**
6	**SQL** ✧ *Complex Queries* ✧ *Database modification And transaction in SQL*
7	**Advance SQL** ✧ *SQL Data Type* ✧ *Schema Integrity constrains*
8	**Integrity constrains**
9	**Labor Day Holiday**
10	**Midterm test**
11	**Database Design and E-R Model** ✧ E-R Model ✧ Roles in Relationships ✧ Attributes on Relationship
12	**E-R Model Case Study** ✧ Project assignment ✧ Database base design process
13	**Relational Database Design** ✧ Definition of Functional Dependency ✧ Rules about Functional Dependencies
14	**Relational Database Design** ✧ Design of Relational Database Schemas ✧ Decomposition & Dependencies
15	**Trigger and Procedure**
16	Presentation
17	**Final Exam**

Note: The chapters or sections marked with * above may leave for self-study, this is the students' duty to learn and understand, they may also be included in the quizzes or exams.

Teacher's Office Hour

- The instructor's office hour is shown in the front of the office door.
- Students are required to use the instructor's office hour to ask questions or talk with the instructor once at least per week for good communication and effective learning, which is recorded in the students' participation.
- The time can be scheduled by instructors or students, or both.

Study Group：

- Students are encouraged to form the study group in order to help doing the self-study and review the knowledge points, teacher may use group as unit to do the assessment and other study tasks distribution.

Cheating and Plagiarism

Cheating is not tolerated. Any student caught cheating on a quiz; test or exam will be given a mark of zero (0) for the particular work. At the beginning of the semester the definition of plagiarism will be carefully explained, when any thoughts or writings of another person are used, they must be clearly identified (usually one uses quotation marks) and the source notes. **If any student is caught cheating on any homework assignment, the highest score the student can earn in that course is a "C".**

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Important dates:

Spring Semester, 2018 March 4, 2018— July 20, 2018

Mar.4	Registration
Mar.5	Classes Begin
Mar.16	Last Day to Drop or Add a Course
Apr.5	Qingming Festival (tentative)
Apr.20	Spring Sports (tentative)
May 1	Labor Day Holiday (tentative)
May.7 -11	Midterm Tests
May 14-18	Summer School Registration (tentative)
June 18	Duanwu Festival (tentative)
June 25-29	Sophomore and Junior Students' Final Exam
July 2-20	Sophomore and Junior Students' Social Practice
July 16-20	Revision and Final Exam Period
July 23	Summer Vacation Begins

Summer School July 2, 2018—July 20, 2018

May 14	Courses Registration (tentative)
July 2	Summer School Begins
July 20	Summer School Ends

Note: *This syllabus is tentative and may be changed or modified throughout the semester. All students will be notified and a new syllabus will be given.*

Instructor: Guanyu Liu **Department Head: Prof. Jingning Li**