Course Policy: Introduction to Databases

Data Intelligence and Learning (<u>DIAL</u>) Lab

Prof. Jongwuk Lee

Course Information



- ➤ Introduction to Databases (SWE3003-42)
 - ◆ Instructor: Jongwuk Lee (이종욱)
 - ◆ Time: 12:00 13:15 Monday, 13:30 14:45 Wednesday
 - Language: English
 - All lecture materials are written in English.
- > This is a required course for third-year students.
- > Prerequisite
 - Programming basics, data structures, algorithms
 - Computer architecture, operating systems (optional)

Brief Biography



> Contact information

Homepage: http://jongwuklee.weebly.com

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Phone: 031-299-4329

Office: Corporate Collaboration Center 85464



> Office hours

- 13:30 ~ 15:00 every Monday
- For other time slots, please schedule an appointment.

Brief Biography



> Research interests

- Data Mining, Natural Language Processing, Machine Learning
- Lab: Data Intelligence and Learning (DIAL) lab
- Lab page: https://diallab.github.io/



Goals of this Course



How does we use the DBMS and design a relational DB?

- Relational model, ER diagram
- How to use SQL
- Functional dependency, normalization

How does DBMS work internally?

- File organization, Indexing structures
- Transaction processing, concurrency control

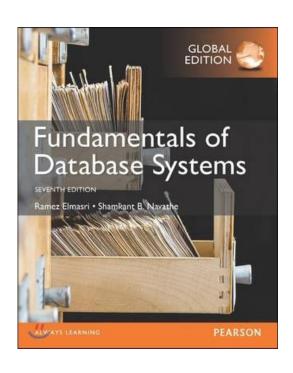
> What is the recent advances in DBMS?

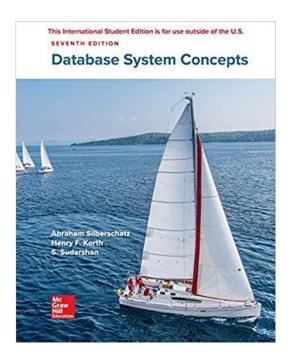
- Distributed DB, Hadoop, NoSQL
- Data mining and machine learning

Textbook



- > Fundamentals of Database Systems (7/E), Ramez Elmasri, Shamkant B. Navathe (Pearson, 2015)
- > Database System Concepts (7/E), Avi Silberschatz, Henry F. Korth, S. Sudarshan (McGrwa-Hill, 2019)



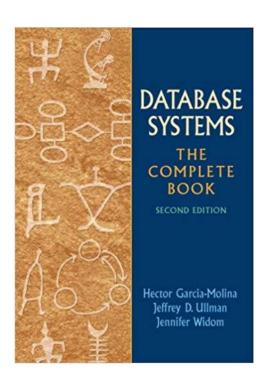


Auxiliary Textbook



- Database Management Systems (3/E) Raghu Ramakrishnan, Johannes Gehrke (McGrwa-Hill, 2002)
- > Database Systems: The Complete Book (2/E), Hector Garcia-Molina, Jeffrey Ullman, Jennifer Widom (Prentice Hall, 2009)





Grading Policy



| Attendance | 10% |
|----------------------|-----|
| Midterm exam | 25% |
| Final exam | 30% |
| Homework & Project | 30% |
| Quiz & Participation | 5% |

Attendance (10%)



- > Attendance: **100** pts **(10%)**
 - 5 per absence, 2.5 per lateness
 - → > 7 absences → grade F unconditionally
 - ◆ Exceptions (학교 기준 참고)
 - 가족이 사망하여 상중인 경우
 - 학교 공식행사, 교육실습, 현장수업, 예비군 행사의 결석 사유
 - 학기 중 취업이 확정되어 출석하지 못하는 경우
 - 기타 학장이 부득이하다고 인정되는 사유가 있는 경우

> For a make-up class, I have no plan this semester.

Exam (55%)



- ➤ Midterm exam (250 pts)
 - Chapter readings, outside readings, and homework assignments from the first seven weeks of class
 - April 12 (Mon)
- > Final exam (300 pts)
 - Might be cumulative, although the most bulk of the exam will cover material from the last seven weeks of class.
 - May 31 (Mon)
- No make-up exam
 - Unconditionally, the grading is F!

Homework + Project (30%)



- > 5 homework (180 pts)
 - Late submission
 - **75%**: 1 day late, **50%**: 2 days late, **25%**: 3 days late
 - **0%**: 4 days and more
- > Cheating is not to be tolerated.
 - Copy other students' work or allow to copy your work.
 - Unconditionally, the final grading is F!

Homework + Project (300 Pts)

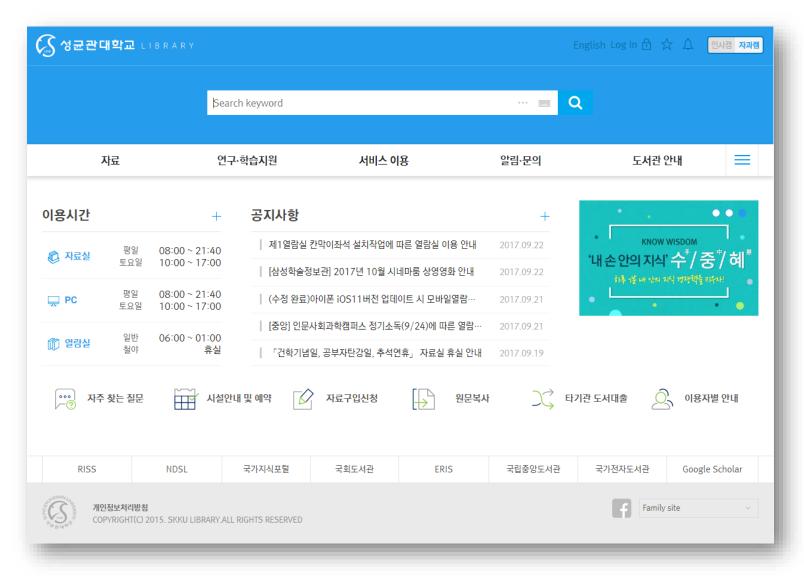


- > DB programming with the Web interface (120 Pts)
 - Include database design and implementation codes.
 - Project presentation and final report

> 3-mins presentation and 2-mins Q&A with TA

Example: SKKU Library System





Example: SKKU Library System



> SKKU Library System

◆ 중앙학술정보관, 삼성학술정보관의 전산시스템

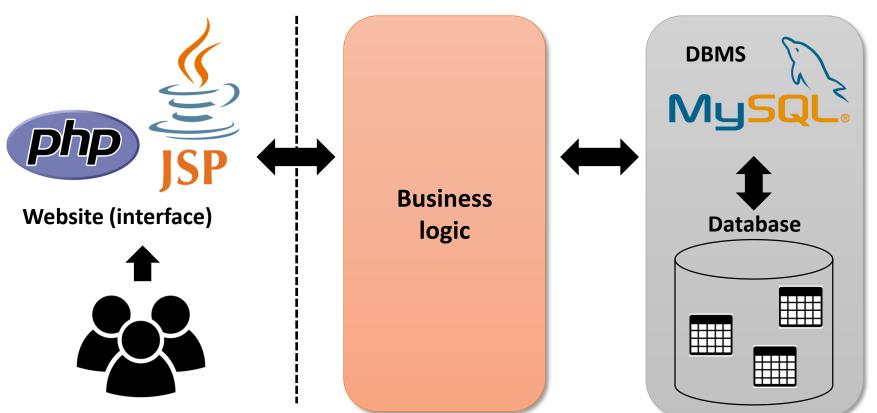
> Main service

- ◆ 도서 검색/대출/반납
 - 도서관에서 보유 중인 도서 목록 중 사용자가 입력한 keyword를 포 함하는 도서의 목록을 뽑아 출력
 - 도서의 상태(대출가능/불가능)와 사용자의 상태(권한, 연체 여부, 대출 가능 권수 초과 여부)등을 고려하여 대출 허가
- ◆ 시설안내 및 예약
 - 열람실 좌석 발권
 - 스터디룸, 세미나룸 등 도서관 내 시설물 예약

Project Architecture



- > Website: Interface for end-users
- > Control: implement business logic
- > DBMS: managing and storing users' data



Quiz (5%)



> Schedule: I will announce it before the quiz.

Closed book and closed notes

No electronic aids or cheat sheets

> Formats

- True/False questions
- Multiple choice questions
- Short answer questions

Classroom Participation



- > Drive the lecture/discussion in this class!
- > Remind me what you are still confusing!
- > Help me quickly remember your names!



Class Etiquette



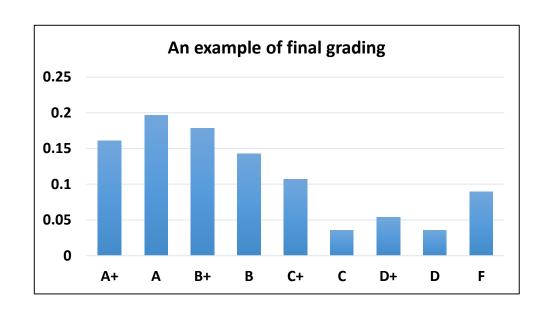
- > Demonstrate respect for your classmates and the instructor.
- > Avoid private conversation during class.
- > Turn off cell phones.
- > Do not sleep in class.



Grading Assessment



- > A+~A: 30%, B+~B: 35%, C+~F: 35%
- > Grading ratios are flexible.
- ➤ If total score < 30%, grading is F!</p>



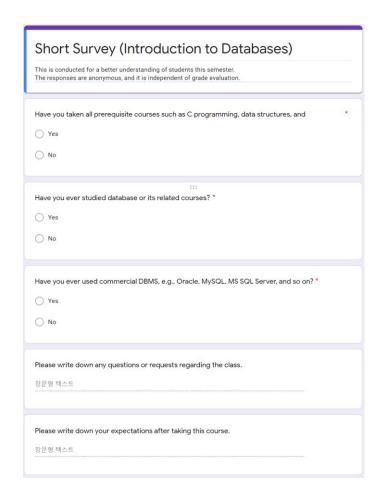


> Grade complaints: No complaints about final grading





- > First week survey: http://bitly.kr/10ho75ov
- > Anonymous feedback: http://bitly.kr/dcV2oRW4



| | l is intended to help students understand the content in class. mous, and the responses are not related to grading evaluation in the semester. |
|-----------|---|
| Please wr | rite down your comments if you have difficulty in understanding some topics/parts in c |
| 장문형 텍스 | <u></u> |
| Please wr | rite down your comments about any complaints or improvements in class. |
| 장문형 텍스 | <u>LE</u> |
| Eggl free | to write down any suggestions for class. |

Q&A



