CPS 3740-01/Spring 2021   **Database Management Systems**   **Dr. Huang**

Instructor: Dr. Ching-yu (Austin) Huang
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Office Hours: https://huang.youcanbook.me/ Tuesday - Thursday: 9:30–10:30 am; 3:30 – 4:30 pm
Class: 01 section: **Tue**, **Thurs** (**11:00 - 12:15 pm**), synchronized ONLINE using Blackboard Live Session
Prerequisites: **CPS 2232**   **Students without prerequisite(s) must withdraw from the class.**

Unit	Date		Topic	Reading	Assignment	
1	1/19/2021	Tue	Overview + Database Intro, setup/test	Ch 1, 2	**Test eve, DB account**	1
	1/21/2021	Thur	Basic SQL - select, create view, **HW 1**	Ch 6	**Start HW 1**	2
2	1/26/2021	Tue	Web, DB, PHP & Linux exercises, **Project**	Ch 2, 29, PHP	**Project start**	3
	1/28/2021	Thur	SELECT, simple join, aggregation, group by, **HW 1**	Ch 6		4
3	2/2/2021	Tue	Web DB Architectures & CGI, PHP, **Project**	Ch 3, 29, PHP		5
	2/4/2021	Thur	SQL: DML, set, subquery, combinations, **HW 1**	Ch 6		6
4	2/9/2021	Tue	Cookie, Web DB, PHP MySQL, **Project**	PHP, MySQL		7
	2/11/2021	Thur	HTML inputs, SQL Injection, error handlings	PHP, MySQL		8
5	2/16/2021	Tue	**Midterm 1**		**Midterm 1**	9
	2/18/2021	Thur	DML, joins - natural, outer, **HW 1**	Ch 6		10
6	2/23/2021	Tue	MySQL Workbench, insert, update, delete			11
	2/25/2021	Thur	Relational Model & Algebra	Ch 4, 5		12
7	3/2/2021	Tue	SQL DDL, CREATE tables, keys, **HW2**	Ch 7		13
	3/4/2021	Thur	CREATE FK, insert, update, delete, cascade, alter	Ch 7	**HW 2 Start, HW 1 due**	14
8	3/9/2021	Tue	CREATE view, updatable view, **team research**	Ch 7	**Team research start**	15
	3/11/2021	Thur	Insert, update, delete in PHP MySQL, **Project**	Ch 6, PHP		16
9	3/16/2021	Tue	Update multiple web items, **Project**	PHP MySQL		17
	3/18/2021	Thur	**Midterm 2**		**Midterm 2**	18
10	3/23/2021	Tue	Review midterm 2 answers, SQL variables	Ch 8		19
	3/25/2021	Thur	**Stored routines, HW 2**	Ch 8		20
11	3/30/2021	Tue	More stored routines, **self-study materials**, **HW 2**	Ch 8		21
	Self-Study		DB System Develop. Lifecycle, Conceptual Design	Ch 10, 11		
	4/1/2021	Thur	**Last day to withdraw with 'W' grade**		**0% refund**	
	4/1/2021	Thur	E-R model & diagram, team research	Ch 12	**Project due**	22
12	4/6/2021	Tue	Database design, forms to ERD & ERD to tables	Ch 17, 18		23
	4/8/2021	Thur	Case study, database design, team research	Ch 16	**HW2 due**	24
13	4/13/2021	Tue	Anomalies, functional dependency, normalization	Ch 14		25
	4/15/2021	Thur	Physical design, HDD vs SSD, indexing, RAID	Ch 18	**Team research due**	26
14	4/20/2021	Tue	Transactions & XAMPP, DCL	Ch 22		27
	4/22/2021	Thur	Review for final		**No late submission!!**	28
15	4/27/2021	Tue	**School follows Friday schedule**	**No class**		
	4/29/2021	Thur	**Final exam**		**Final**	29
16	5/4/2021	Tue	**Review final exam answers**			30

  Late revision: 1/5/2020

- **Content**: Fundamental computing and programming concepts; use of systems software; problem solving; design of algorithms using a high-level, object-oriented programming language.
- **Textbook**: Database Systems: A Practical Approach to Design, Implementation, and Management. Author: Thomas Connelly and Carolyn Begg, **6th edition**. Pearson, 2014. **ISBN-13:** 978-0132943260
- **Objectives**: Upon completion of this course, students will be able to:
  - A. Evaluate the role of databases in computing systems
  - B. Design and build applications using database management systems
  - C. Compare and evaluate diverse database models
  - D. Implement a consistent database
  - E. Explain transaction processing concepts
  - F. Explain relational algebra as a basis for database query languages
- **Course grading**: **2** Midterm (2x180 pts), Final (180 pts), team research (60 pts), **2** Homework (2x100 pts), **1** project (200 pts)

Class Policies:

- **This is a hands-on course. Students are required to bring personal laptop every class.**
- Instructional Methods: lecture with slides, student presentations, class discussions and exercises, and project creations.
- **A**: >=940, **A-**: 939-890, **B+**: 889-840, **B**: 839-800, **B-**: 799-760, **C+**: 759-720, **C**: 719-680, **D**: 679-640, **F**: below 640 (C or better is needed for CS and IT majors.)
- It is students' responsibilities to verify all the scores posted on **the class website** that is announced on the first day of the class.
- **Assignments should be used MySQL connecting through a Linux server that is announced on the first day of the class.**
- Mid-Term Progress information will be provided to students by the instructor via KeanWise.
- No late work will be accepted without permission in advance from the instructor. Late work is penalized.
- No make-up exams are provided without documentation of medical or family emergency. Please arrange your schedule for the next 16 weeks to arrive in class on time and prepared.
- Attendance and participation are required.
- All work turned in under your name must be your own. **No credit will be given for an assignment or homework that is copied – in part or in total – from another person**.
- Exam policy: During class examinations, if a student leaves the classroom for any reason during the exam time, **the exam must be turned in before the student departs, concluding the exam for that student**. The student cannot resume the exam on return later. You may not make or take a phone call, text or access the internet during class or a test.
- **Classes may not be audio or digitally captured**, unless permission has been granted by the instructor for that specific class.
- **Public posting of course materials from this class is prohibited**. Materials presented in the classroom are for the personal use of registered students during the semester only. Homework, programs, and other classwork should not be shared, distributed or publicized in any way, for the protection of other students and in respect of the intellectual property rights of the faculty and copyright owners.

Important University Policies and Information:

- The Kean Academic **Calendar** can be found online at https://www.kean.edu/offices/registrars-office/academic-calendar
- **Tutoring and learning Support services**: http://www.kean.edu/content/tutoring-services
- Students should review the **Student Code of Conduct**, as it discusses expectations of appropriate conduct in the classroom: https://www.kean.edu/KU/Code-of-Conduct
- Students are responsible to review and understand the University Academic Integrity Policy available via the following link: https://www.kean.edu/academic-integrity
- Read Kean **Students Rights and Responsibilities** at https://www.kean.edu/offices/disability-services/rights-and-responsibilities
- Register for the university's **emergency notification system** at https://www.kean.edu/offices/university-police-0/campus-alert
- Students must have a **valid Kean email account**. You can request one at https://www.kean.edu/~ocisweb/forms.htm
- **Title IX**: Title IX of the Education Amendments of 1972 (Title IX) prohibit discrimination on the basis of sex in education programs or activities. Sexual harassment in any form will not be tolerated at Kean University. Sexual harassment by students should be reported to the Office of Affirmative Action Programs, Office of the Vice President for Student Affairs or the Office of Community Standards and Student Conduct immediately. Information about the University's Sexual Misconduct Policy may be found at the following: https://www.kean.edu/offices/policies/sexual-misconduct-policy
- **Americans with Disabilities Statement & Non-Discrimination Statement:**
  Kean University is an affirmative action, equal opportunity institution. Students with documented disabilities who may need special instructional accommodations or who may need special arrangements in the event of an evacuation should notify the instructor as soon as possible, no later than the second week of the term. Students may contact the Office of Disability Services in Downs Hall Room 122 or call 908-737-4910 to discuss special needs.
- **Kean University Non-Discrimination Policy Statement:**
  Kean University is an affirmative action, equal opportunity institution.

Syllabus Updates: **Instructor reserve the right to change the syllabus at any time throughout the semester**. All changes will be announced in class and a new syllabus will be electronically available to all students. If you are enrolled in this class past the add/drop date you are subjected to all rules in this syllabus.