TECH 3740-15/2022 Summer 1   **Database Management Systems**   **Dr. Huang**

Instructor: Dr. Ching-yu (Austin) Huang
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Office Hours: https://huang.youcanbook.me/ Tue, Thur: 3:30:–4:30 pm.
Class: **Tue**, **Thurs** (**5:35 - 9:35 pm**), **location: GLAB 407**
Prerequisites: **CPS 2240 & Math 2110**   **Students without prerequisite(s) must withdraw from the class**.

WK	Date		Topic	Reading	Assignment	Day
1	5/24/22	Tue	Overview + Database Intro, setup, **evaluation**	Ch 1, 2	**Test obi, DB account**	1
	5/24/22	Tue	Basic SQL - select, create view	Ch 6		2
	5/24/22	Tue	Web, DB, PHP & Linux exercises, **Project**	Ch 2, 29, PHP	**Project start**	3
	5/26/22	Thur	SELECT, simple join, aggregation, group by	Ch 6	**Start Lab1**	4
	5/26/22	Thur	Web DB Architectures & CGI, PHP, **Project**	Ch 3, 29, PHP		5
	5/26/22	Thur	SQL: DML, set, subquery, combinations	Ch 6	**Start HW**	6
2	5/31/22	Tue	Cookie, Web DB, PHP MySQL, **Project**	PHP, MySQL		7
	5/31/22	Tue	HTML inputs, SQL Injection, error handlings	PHP, MySQL	**Start Lab 2, Lab1 due**	8
	5/31/22	Tue	DML, joins - natural, outer	Ch 6		9
	6/2/22	Thur	**Midterm 1**		**Midterm 1**	10
	6/2/22	Thur	MySQL Workbench, insert, update, delete			11
	6/2/22	Thur	Relational model & algebra	Ch 4, 5	**Start Lab 3, Lab2 due**	12
3	6/7/22	Tue	SQL DDL, CREATE tables, keys, **team research**	Ch 7	**Start team research**	13
	6/7/22	Tue	CREATE FK, insert, update, delete, cascade, alter	Ch 7		14
	6/7/22	Tue	CREATE view, updatable view	Ch 7		15
	6/9/22	Thur	Insert, update, delete in PHP MySQL, **Project**	Ch 6, PHP	**Start Lab 4, Lab3 due**	16
	6/9/22	Thur	Update multiple web items, image, **Project**	PHP MySQL		17
	6/9/22	Thur	**Midterm 2**		**Midterm 2**	18
4	6/14/22	Tue	Review midterm 2 answers, SQL variables	Ch 8		19
	6/14/22	Tue	**Last day to withdraw with 'W' grade**		**0% refund**	
	6/14/22	Tue	Stored routines, **HW**	Ch 8	**Start Lab 5, Lab4 due**	20
	6/14/22	Tue	More stored routines, **self-study materials** DB System Develop. Lifecycle, Conceptual Design	Ch 8 Ch 10, 11	Self-study	21
	6/16/22	Thur	E-R model & diagram, **team research**	Ch 12		22
	6/16/22	Thur	Database design, forms to ERD & ERD to tables	Ch 17, 18	**Project due**	23
	6/16/22	Thur	Case study, database design, **team research**	Ch 16	**Lab5 due**	24
5	6/21/22	Tue	Anomalies, functional dependency, normalization	Ch 14	**HW due**	25
	6/21/22	Tue	Physical design, HDD vs SSD, indexing, RAID	Ch 18	**Team research due**	26
	6/21/22	Tue	Transactions	Ch 22		27
	6/23/22	Thur	XAMPP, DCL, Review final topics	XAMPP, Ch7	**No late submission!!**	28
	6/23/22	Thur	**Final exam**		**Final**	29
	6/23/22	Thur	XAMPP and backup the project			30

Late revision: 5/18/2022. **For important dates, please consult the Academic Calendar via the following link:**
  https://www.kean.edu/offices/registrars-office/academic-calendar

Content: Fundamental concepts and standards for database management systems; database design; database implementation; storage and performance considerations; application of database management systems.

Course Student Learning Outcomes: Upon completion of this course, the student will be able to:
A. Understand the role of databases in information technology
B. Design and build applications using database management systems
C. Design database using various data models
D. Interact with database using structural query language
E. Build web-based database applications

Instructional Method
For more information about this course and for course materials, go to http://blackboard.kean.edu
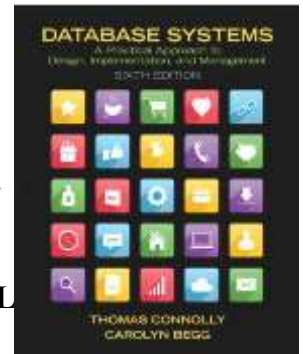
Textbook & Materials
Database Systems: A Practical Approach to Design, Implementation, and Management. 6th edition
Author: Thomas Connelly and Carolyn Begg,
ISBN-13:   978-0-13-2943260-0
Publisher: Pearson/Prentice Hall

Require hardware and Software
- This is a hands-on course. Students are required to bring personal laptop every class.
- Database related free software: MySQL Workbench, XAMPP, MySQL
- Other free software: Putty.exe (Win), terminal (Mac), FileZilla, Sublime
- **Assignments should be implemented on the instructor's application and MySQL that are announced on the first day of the class.**

Open Educational Resources
For more information, please see the Nancy Thompson Library Learning Commons:
http://libguides.kean.edu/OER

Assessment and course grading
The course includes Exams, Labs, Homework and Project, a **total of 1000 points**.
- 3 exams, midterm 1, midterm 2, final (3x170 pts),
- 1 team research (100 pts),
- 1 Homework (120 pts),
- 1 project (150 pts),
- 5 lab exercises (120 pts)

Grading Policy
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.

Technical Requirements:
1. In order for your Blackboard course to function correctly, you will need to disable pop-ups on your Internet browser.
2. Make sure you have Microsoft Office installed on your computer. You may be eligible for a free MS Office Software Student Edition. You are required to create an account and provide a valid Kean University ID to obtain access to the software applications. To start the application process, go to the Office 365 Education website.

Academic Early Alert information will be provided to students by the instructor via KeanWise. Please see the 2020-2021 Undergraduate or Graduate Catalog for more information.

Class Policies:
- Posting of course materials**: Public posting of course materials from this class is prohibited.** Materials presented in the class 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. Kean University's Academic Integrity Policy can be found here: https://www.kean.edu/media/academic-integrity-policy.
- It is students' responsibilities to verify all the scores posted on **the class website** that is announced on the first day of the class.
- 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.

Privacy Statement
  Assuring privacy among faculty and students engaged in online instructional activities helps promote open and robust conversations and mitigates concerns that comments made within the context of the class will be shared beyond the classroom. As such, recordings of instructional activities occurring in online classes may be used solely for internal class purposes by the faculty member and students registered for the course, and only during the period in which the course is offered.

Important University Policies and Information
- All students and faculty should familiarize themselves with the **Cougar Restart Guide** which includes important virtual resources for students by Kean University via the following link: https://www.kean.edu/coronavirus-information/resources-current-prospective-students
- Students are responsible to review and understand the *University Academic Integrity Policy* available via the following link: https://www.kean.edu/academic-integrity
- *Instructors must indicate on the syllabus and/or individual assignment if the use of Kean University academic support services (Tutoring and/or Writing Center) is permitted for take home assignments/exams.*
- Students should review the *Student Code of Conduct*, as it discusses expectations of appropriate conduct in the classroom: https://www.kean.edu/offices/community-standards-and-student-conduct/student-code-conduct
- Students are strongly encouraged to register for the University's emergency notification system (http://www.kean.edu/campusalert) in order to be informed of campus emergencies, weather notices, and other announcements. Kean Ocean students would sign up via the following link: https://ocean.sendwordnow.com/LicensePage.aspx
- All students must have a valid Kean email account. For those who do not already have one, forms are available on-line at https://www.kean.edu/offices/computer-and-information-services/ocis-forms
click on E-mail Account Request Form.

Diversity & Non-Discrimination Statement

Kean University is committed to establishing and maintaining a diverse campus community through inclusive excellence and equal opportunity. Kean's commitment to access and equity is designed to prepare each graduate to not only thrive, but climb higher in a diverse world. As an affirmative action, equal opportunity institution we work to support a campus-wide agenda to foster a community that both values and promotes the diversity and equity of all students, faculty, staff, administrators, and beyond. Kean adheres to the *New Jersey State Policy Prohibiting Discrimination in the Workplace;* for more information on Kean's non-discrimination policy and procedures, and protected categories under the policy, please visit: https://www.kean.edu/offices/affirmative-action.

Americans with Disabilities Statement

Students with documented disabilities who may need instructional accommodations or special arrangements in the event of an evacuation should notify the instructor as soon as possible and no later than the second week of the term. Students may also contact The Office of Accessibility Services by phone at (908) 291-3137 or email accessibilityservices@kean.edu to discuss special needs, accommodations and arrangements.

Title IX

Title IX of the Education Amendments of 1972 (Title IX) prohibits 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.

 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.