

Instructor: Dr. Ching-yu (Austin) Huang**Email:** chuang@kean.edu**Office:** NAAB, Room 235**Website:** <http://www.kean.edu/~chuang>**Phone:** (908) 737-6157**Office Hours:** Monday - Thursday: 9:55–10:55 am; 12:20–2:00 pm; Tuesday, Thursday: 3:20 – 4:00 pm (appointment only)**Class:** Monday, Wednesday (11:00 - 12:15), NAAB, Room 208**Prerequisites:** **CPS 5740 or CPS 3740. Students without prerequisite(s) must withdraw from the class.**

Week	Date		Topic	Reading	Assignment	
1	1/20/2020	Mon	Martin Luther King Holiday		School closed	
	1/22/2020	Wed	Overview		HW #1 start	1
2	1/27/2020	Mon	Introduction, projects	Ch 1	Research start	2
	1/29/2020	Wed	Introduction, visualization in PHP	Ch 1		3
3	2/3/2020	Mon	Getting to Know Your Data, SQL	Ch 2		4
	2/5/2020	Wed	SQL, aggregation and report	Ch 2		5
4	2/10/2020	Mon	Data Processing - text and image	Ch 3		6
	2/12/2020	Wed	Continue, review for midterm #1	Ch 3	HW #1 due by 2/16	7
5	2/17/2020	Mon	President Day Holiday		School closed	
	2/19/2020	Wed	Midterm #1		HW #2 start	8
6	2/24/2020	Mon	Database vs Data Warehouse	Ch 4		9
	2/26/2020	Wed	Data Warehouse and OLAP	Ch 4		10
7	3/2/2020	Mon	Associations and Correlations			11
	3/4/2020	Wed	Mining Frequent Pattern	Ch 6		12
8	3/9/2020	Mon	3/9-15 Spring break		School closed	
	3/11/2020	Wed	3/9-15 Spring break		School closed	
9	3/16/2020	Mon	Mining Frequent Pattern	Ch 6		13
	3/18/2020	Wed	Working on internet data, text		HW #2 due by 3/23	14
10	3/23/2020	Mon	Continue, review for midterm 2		HW #3 start	15
	3/25/2020	Wed	Classification: Basic Concepts	Ch 8		16
11	3/30/2020	Mon	Classification: Basic Concepts	Ch 8		17
	4/1/2020	Wed	Classification: Advanced methods	Ch 9		18
12	4/6/2020	Mon	Midterm #2			19
	4/8/2020	Wed	Cluster Analysis	Ch 10		20
	4/9/2020	Thur	Last day to withdraw with 'W' grade		0% refund	
13	4/13/2020	Mon	Cluster Analysis	Ch 10		21
	4/15/2020	Wed	Outlier Detection	Ch 12	HW #3 due by 4/20	22
14	4/20/2020	Mon	Outlier Detection	Ch 12		23
	4/22/2020	Wed	Working on image data			24
15	4/27/2020	Mon	Data Mining trends and impacts	Ch 13		25
	4/29/2020	Wed	Kean Research Days poster presentation	5/1 last day to submit all missing assignments with late penalty		
16	5/4/2020	Mon	Review for Final, Research presentation			27
	5/6/2020	Wed	Research presentation	Monday schedule		
17	5/11/2020	Mon	Final exam			
	5/13/2020	Tue	Review final exam answers			

Late revision: 1/8/2020

- **Course Description:** This course will expose students to data mining concepts, techniques, and software utilized in the overall process of discovering knowledge within data.
- **Textbook:** Data Mining: Concepts and Techniques, Third Edition by Jiawei Han, Micheline Kamber and Jian Pei, 2012. ISBN: 978-0-12-381479-1.
- **Objectives:** Upon completion of this course, students will be able to:
 - A. Demonstrate an understanding of what knowledge discovery and data mining (KDDM) is.
 - B. Understand the historical perspective of KDDM.
 - C. Expound the differences between KDDM and information access/retrieval.
 - D. Understand KDDM processes, concepts, techniques, algorithms and languages.
 - E. Understand KDDM's applications in business and the sciences.
- **Course Grading:** 2 Midterm (30%), 1 Final Exam (20%), 3 Homework (30%), 1 Research (20%)

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:** 100-94, **A-:** 93-89, **B+:** 88-84, **B:** 83-80, **B-:** 79-76, **C+:** 75-72, **C:** 71-68, **D:** 67-64, below 64 is failing (C or better is needed for CS and IT majors. B- or better is needed for CIS Graduate Program.)
- 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.