



Quizzes are 3 Attempts and Exams similar to Quiz Open Book  
HW is not Due

CECS 229, Discrete Structures with Computer Science Applications II, Spring 2021

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**Instructor:** Eunice Kang

**Email:** eunice.kang01@student.csulb.edu

**Office Hours:** Thursday 11:00am-12:00pm

**Class Location:** Online Synchronous

**Course:** CECS 229

**Term:** Spring 2021

**Class Days/Times:** 5560 (Section 01)- Mon/Wed 11:00am-11:50am  
5716 (Section 03)- Mon/Wed 12:00pm-1:15pm

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**Lab Instructor:** Gerardo Lopez

**Email:** gerardo.lopez02@student.csulb.edu

**Office Hours:** Tuesday 11:00am-12:00pm

**Class Days/Times:** 5561 (Section 02)- Mon/Wed 9:30am-10:45am  
5718 (Section 05)- Mon/Wed 3:00pm-4:15pm

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**Lab Instructor:** Bernardo Cobos

**Email:** bernardo.cobos@student.csulb.edu

**Office Hours:** Thursday 1:00pm-2:00pm

**Class Days/Times:** 5717 (Section 04)- Mon/Wed 1:30pm-2:45pm

## Course Description

This is the second course in a two-course sequence in computing applications of discrete structures. Topics include applications of computer arithmetic and matrices in computer systems. Programming assignments in Python will be provided. Topics include:

- Number Theory: divisibility, integer representation, prime numbers, GCDs, congruences
- Basic cryptography
- Fields, vectors and vector spaces
- Solving linear algebraic equations with matrix transformation to echelon form
- Inner product, orthogonalization, eigenvalues, eigenvectors

## Course Lecture

Lectures will be recorded and will be posted on BeachBoard (along with any written notes). However, these notes are usually beneficial only if you attend the lecture.

## Course Lab

Though labs will be occasionally assigned, the lab section will also be used to review lecture material, answer questions you have, and to cover Python.

## Recommended Texts/Readings

K. Rosen, Discrete Mathematics and its Applications, Seventh Edition, McGraw-Hill, 2011, ISBN-13: 978-0073383095

Philip N. Klein, [Coding the Matrix: Linear Algebra through Applications to Computer Science](#), First Edition, Newtonian Press, 2013, ISBN-13: 978-0615880990



### Tentative Course Schedule (Subject to change)

Week	Monday	Wednesday
1	No Class	Syllabus, Divisibility
2	Congruence, Modular Arithmetic	Integer Representations
3	Primes and GCD (pt1)	Primes and GCD (pt2), Solving Congruences
4	Solving Congruences (pt2)	Cryptography
5	Review	Exam1
6	Fields	Vectors (pt1)
7	Vectors (pt2)	Vector Space
8	Matrix Introduction, operations	More Matrices, Equations
9	Dimension	More Dimension
10	Basis	Exam 2
11	Spring Break	Spring Break
12	Gaussian Elimination (pt1)	Gaussian Elimination (pt2)
13	Inner Product	Orthogonalization
14	SVD	SVD
15	Eigenvalue	Eigenvector
16	Review	Review
Final Exam	Monday (5/10/21) 10:15am-12:15pm	

### Course Policies and Requirements

#### Grading Policy

**Homework (0%):** Homework is completely optional. It will not be collected or graded. The solutions to the homework will be available on BeachBoard. However, it is highly recommended that you complete the homework, because the quizzes will be based on these optional assignments.

**Labs (30%):** You will be required to submit your file(s) through BeachBoard by the deadline. If you do not submit the correct files or if you do not submit as instructed, then you will get a zero.



**Quizzes (20%):** Quizzes will be given on a biweekly basis. You will have 24 hours to take these quizzes and three attempts. These quizzes will be based on the homework. No make-up quizzes will be provided.

**Exams (50%):** There will be two midterm exams (15% each) and a final exam (20%). Make-up exams are only provided when there is documented evidence of accident or severe illness.

**Note on regrades:** Any concerns with grading must be brought up within 3 class sessions or two weeks (whichever comes first) of the instructor returning the work.

**Late policy:** Labs are due as indicated on BeachBoard. Late submissions will not be accepted. Please note that there may not be any extra credit opportunities.

### Evaluation Method

Assignment	Weight
First Exam	15%
Second Exam	15%
Final Exam	20%
Labs	30%
Quizzes	20%

### Course Grading Scale (example)

Percent Range	Letter Grade
90 – 100%	A
89 – 80%	B
79 – 70%	C
69 – 65%	D
Below 64%	F

### Plagiarism/Academic Integrity Policy

CSULB College of Engineering has a zero-tolerance policy on cheating. In order to maintain the respect for the intellectual property of others and to ensure fairness to all students, any student caught cheating in the course will be subject to the following:

- First offense: Zero for the work concerned and a letter grade reduction from the final course grade.
- Second offense: Receive an F in the course. Reported to the department for academic dishonesty

### University Withdrawal Policy

If desired, it is the responsibility of the student to withdraw from the course. The deadline to withdraw without a 'W' is February 1, 2021. The deadline to withdraw with a 'W' is April 16, 2021.

### Inform me of Any Accommodations Needed

Any student requesting academic accommodations based on a university verified disability is responsible for contacting the Bob Murphy Access Center (BMAC) at 562-985-5401 or visiting SSC, room 110 during 8am-5pm weekday hours. Please be sure that this is done early in the semester.