CECS 229 – Fall 2019 Syllabus
Discrete Structures with Computing Applications II
Instructor: Ali Sharifian

LECTURE:	Section 3 – Mon., Wed. 5:00 pm to 5:50 pm – ECS-302
LABORATORY:	Section 4 – Mon., Wed. 6:00 pm to 7:15 pm – ECS-414
OFFICE HOURS:	Wed. 4:00 pm to 5:00 pm, Thurs. 4:00 pm to 5:00 pm – ECS-528
E-MAIL ADDRESS:	ali.sharifian@csulb.edu
COURSE WEBPAGE:	BeachBoard

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.

CLASS PREREQUISITES
Calculus II (MATH 123) and Discrete Structures with Computing Applications (CECS 228) both with a Grade of "C" or better.

ORGANIZATION
This course has a lab associated with it. The purpose of the lab will be to work on your lab assignments, and go over questions you may have related to the lecture and coursework. There will be lab assignments and those will be collected and graded. Furthermore, reading the textbook is essential, and the expectation is that you read the relevant chapters from the textbook (tentative schedule below).

Exams will only be held on the scheduled exam dates. In other words, absences on those days, unless it's a valid excuse sanctioned by law or the university (e.g. medical reasons), will not be excused and a separate exam date will not be set for the student. In addition, if the student has a valid excuse, evidence or proof may be requested (e.g. doctor's note) and you must provide a notice to the instructor at least two weeks in advance – unless that isn't possible (e.g. last minute medical emergency).

There will be no make-up lab assignments. If you miss a lab assignment, the instructor will not provide a make-up lab assignment or extend the due date for you. Exception is only if you have a valid excuse sanctioned by law or the university (e.g. medical reasons). In addition, if the student has a valid excuse, evidence or proof may be requested (e.g. doctor's note) and you must provide a notice to the instructor at least two weeks in advance – unless that isn't possible (e.g. last minute medical emergency).

When emailing the instructor, you must use your @csulb.edu email account. Otherwise, there is a high likelihood that your email will get caught in the instructor's spam filter and your email may not be read or responded to. It is your responsibility to check and follow-up with the instructor to ensure that your email has been successfully received.

TEXT AND SOFTWARE

Required Textbooks:

- *Discrete Mathematics and its Applications, Seventh Edition* by K. Rosen
    - ISBN: 978-0073383095
- *Coding the Matrix: Linear Algebra through Applications to Computer Science* by P. Klein
    - ISBN: 978-0615880990

Required Software:

- The latest Python release: https://www.python.org/downloads/
- Python IDE, such as PyCharm
- If necessary, links to additional material will be posted on BeachBoard.

LAB

- Labs will be in the form of programming assignments and non-programming assignments.
- Programming assignments will be in Python. Students can work in teams of 2 or 3 for each programming assignment. One representative of each group needs to upload one single zip file of the required items to BeachBoard before the deadline (11:59 pm Pacific Time on the due date). No email submissions will be accepted.
- **Late policy:** Any lab assignment submitted within 24 hours after 11:59 pm of the due date will be accepted, but with a 25% penalty deduction. Any lab assignment submitted past 24 hours after 11:59 pm of the due date will not be accepted. Students should note that the timing of their last submission will be used as the criterion for the penalization.
    - **Note:** The instructor reserves the right to have some lab assignments be due by the end of the day's lab session without any late submissions allowed (i.e. late submissions will get zero credit in that case).

GRADING PLAN

Coursework will be weighted as follows:

1.	Participation	5%
2.	Lab	20%
3.	Midterm 1	25%
4.	Midterm 2	25%
5.	Final Exam	25%

GRADING SCALE

A – 100%-90%
B – 89%-80%
C – 79%-70%
D – 69%-60%
F – 59%-0%

It is at the instructor's discretion on whether to curve the grades. Grades may be curved at the end of the semester, but you can never receive a grade lower than what is indicated in the scale above.

ATTENDANCE

Although not explicitly recorded (except for the first week), attendance is vital for success in this class. In addition, lecture notes will not be posted online. Students are responsible to attend the class and take notes from the materials presented during the lectures. You also need to be present in class in order to participate, take exams, and complete certain lab assignments that are due by the end of the lab session.

PARTICIPATION

A portion of your grade will be based on your participation in class. Each student is encouraged to take an active part in class discussions and activities. Honest and respectful dialogue is expected. Hostility and disrespectful behavior is not acceptable, and will result in a low participation score, up to and including receiving zero participation credit. Furthermore, simply attending class does not count towards participation. Throughout the semester, if you are curious as to how you're doing with your participation grade, you can email the instructor for status.

CHEATING AND PLAGIARISM

Cheating and plagiarism will not be tolerated in this course. Any individual caught cheating on quizzes, homework, lab projects, or the final exam will be punished to the full extent allowed under University regulations. Plagiarism on papers or assignments is not acceptable and work that is plagiarized will not receive credit. Plagiarism is considered cheating. Note: Any time another person's work is used without giving them proper credit, it is considered plagiarism and cheating. At a minimum, any student caught cheating will receive no credit for the work concerned, and will receive a reduction of one letter grade from their final course grade. The official CSULB Policy on Cheating and Plagiarism can be found here: http://catalog.csulb.edu/content.php?catoid=2&navoid=30#cheating-and-plagiarism

To further prevent cheating, during the exams, the instructor reserves the right to move students to different seats in the classroom and ban headwear (such as hats and caps) – unless sanctioned by university policy (e.g. for religious purposes).

DISABILITY OR MEDICAL ACCOMMODATION

Students with a disability or medical restriction who are requesting a classroom accommodation should contact the Bob Murphy Access Center (BMAC) at 562-985-5401 or visit SSC, room 110 during 8AM-5PM weekday hours. BMAC will work with the student to identify a reasonable accommodation in partnership with appropriate academic offices and medical providers. We encourage students to reach out to BMAC as soon as possible.

FOOD AND HOUSING ASSISTANCE

Any student who is facing academic or personal challenges due to difficulty in affording groceries/food and/or lacking a safe and stable living environment is urged to contact the CSULB Student Emergency Intervention & Wellness Program. The website outlining the resources available is www.csulb.edu/basicneeds. Students can also e-mail supportingstudents@csulb.edu or call (562) 985-2038. If comfortable, students may reach out to the professor as they may be able to identify additional resources.

TENTATIVE SCHEDULE (Dates may vary due to holidays and coursework)

Week 1	Rosen, Section 4.1 – Divisibility and Modular Arithmetic
Week 2	Rosen, Section 4.2 – Integer Representations and Algorithms
Week 3	Rosen, Section 4.3 – Primes and Greatest Common Divisors
Week 4	Rosen, Section 4.4 – Solving Congruences Rosen, Section 4.5 – Application of Congruences
Week 5	Rosen, Section 4.6 – Cryptography
Week 6	Midterm #1
Week 7	Klein, Chapter 1 – The Field
Week 8	Klein, Chapter 2 – The Vector
Week 9	Klein, Chapter 3 – The Vector Space
Week 10	Klein, Chapter 4 – The Matrix
Week 11	Midterm #2
Week 12	Klein, Chapter 5 – The Basis Klein, Chapter 6 – Dimension
Week 13	Klein, Chapter 7 – Gaussian Elimination
Week 14	Klein, Chapter 8 – The Inner Product Klein, Chapter 9 – Orthogonalization
Week 15	Klein, Chapter 11 – Singular Value Decomposition Klein, Chapter 12 – The Eigenvector
Finals Week	Final Exam