

CSE 16

Applied Discrete Mathematics

Winter 2022

Description:

Introduction to applications of discrete mathematical systems. Topics include sets, functions, relations, graphs, predicate calculus, mathematical proof methods (induction, contraposition, contradiction), counting methods (permutations, combinations), and recurrences. Examples are drawn from computer science and computer engineering. Knowledge of computer programming is useful before taking this course. Students who do not have prior programming experience are strongly recommended to take Computer Science 5C, 5J, or 5P before taking this course.

Prerequisite(s): MATH 19A or MATH 19B or MATH 11B or AM 11B or AM 15B or ECON 11B.

Zoom Lecture: Tuesday & Thursday 11:40am-1:15pm

Link: <https://ucsc.zoom.us/j/93925576049?pwd=ZThQVStoTjUyN2hBWldjU1JaUmltUT09>

Class Webpage: <https://classes.soe.ucsc.edu/cse016/Winter22/>

Instructor: Patrick Tantalo <https://users.soe.ucsc.edu/~ptantalo/>

Zoom Office Hours: Wednesday 10:00am-12:00pm & 2:00pm-4:00pm

Link: <https://ucsc.zoom.us/j/93713480489?pwd=c1NVdE93dWR6STM4SUozTmlhOXordz09>

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Teaching Assistants:

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Course Tutors: TBD

MSI Learning Assistants:

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Required Text:

[BOP] *Book of Proof*

by Richard Hammack (<http://www.people.vcu.edu/~rhammack/BookOfProof/>)

Supplementary Texts:

[ADS] *Applied Discrete Structures*

by Alan Doerr and Kenneth Levasseur (<https://faculty.uml.edu/klevasseur/ads2/>)

[DMOI] *Discrete Mathematics: an Open Introduction*

by Oscar Levin (<http://discretetext.oscarlevin.com/home.php>)

[DMA] *Discrete Mathematics and its Applications*

by Kenneth H. Rosen, 8th edition, McGraw-Hill 2018 (ISBN 978-1259676512)

Coursework:

25% Homework Assignments (7-9): Tuesdays 1/11, 1/18, 1/25, 2/1, 2/8, 2/15, 2/22, 3/1, 3/8
50% Quizzes (5): Thursdays 1/13, 1/27, 2/10, 2/24, 3/10
25% Final Exam: Wednesday, March 16

All scores are rounded to the nearest 10th of a percent. They will not be rounded further. No scores are curved. The following letter grade boundaries will be used to determine your grade in the class.

Grading scale:

A+	98.0% - 100%
A	93.0% - 97.9%
A-	90.0% - 92.9%
B+	88.0% - 89.9%
B	83.0% - 87.9%
B-	80.0% - 82.9%
C+	78.0% - 79.9%
C	70.0% - 77.9%
C-	68.0% - 69.9%
D+	65.0% - 67.9%
D	61.0% - 64.9%
D-	59.0% - 60.9%
F	0% - 58.9%

Accommodations for Students with Disabilities

UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me by email, preferably within the first two weeks of the quarter. I would be happy to meet with you in office hours to discuss how we can ensure your full participation in the course. I encourage all students who may benefit from learning more about DRC services to contact DRC by phone at 831-459-2089 or by email at drc@ucsc.edu. See also <https://drc.ucsc.edu/>.

Academic Honesty:

The Baskin School of Engineering has a zero-tolerance policy for any incident of academic dishonesty. If cheating occurs, consequences may range from getting zero on a particular assignment to failing the course. In addition, every case of academic dishonesty is referred to the students' college Provost, who sets in motion an official disciplinary process. Cheating in any part of the course may lead to failing the course, suspension or dismissal from the Baskin School of Engineering, or from UCSC.

What is cheating? In short, it is presenting someone else's work as your own. This would include collaborating with any person while writing your solutions to homework assignments or quizzes. You may discuss homework problems with fellow students, TAs and tutors, but your collaboration must be at the level of *ideas* only. Legitimate collaboration ends when you "lend", "borrow", or "trade" *written solutions* to problems, or *in any way share in the act of writing your solutions*. If you do collaborate (legitimately) or receive help from anyone, you must credit them by placing their name(s) at the top of your paper. Go to https://www.ue.ucsc.edu/academic_misconduct to see the University's policy on Academic Misconduct.

Important Dates and Information:

Waitlists expire: Wednesday, January 12

Add/Drop/Swap deadline: Monday, January 24

Withdraw from class deadline: Monday, February 14

Enrollment FAQ: <https://registrar.ucsc.edu/faqs/students/enrollment/index.html>

Waitlist FAQ: <https://registrar.ucsc.edu/faqs/students/wait-list/index.html>

Enrollment Videos: <https://orientation.ucsc.edu/next-steps/slug-videos.html#enrollment>

More How-To Videos: <https://orientation.ucsc.edu/summer/how-to-index.html>