SAN DIEGO MIRAMAR COLLEGE

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CISC 246 – Discrete Mathematics for Computer Science

(Fully online)

Spring 2019, CRN 30009, 3 Units

12-WEEK SESSION: KEY DATES

Feb 25, 2019	Start Date
Mar 4, 2019	Deadline to Drop with Refund
Mar 11, 2019	Add/Drop deadline; Deadline to drop classes with no "W" recorded
Mar 25 - Mar 30	Spring Break
Apr 22, 2019	Withdrawal Deadline. The last day to withdraw from classes and receive a "W". No drops accepted after this date. Thereafter, a student must receive a letter grade.
May 25, 2019	End Date

Instructor: Alex Stiller-Shulman

Email: astiller@sdccd.edu

Office: M107-O

Office Hours: Mondays 1 - 2 PM
Tuesdays 12 -2 PM
Thursdays 12 -2 PM
Fridays 12:30 - 3:30 PM

Course Description:[1]

This course is a continuation of discrete mathematics to include concepts and techniques used in computer science and related disciplines. Topics include theory of graphs, trees, boolean algebra, probability theory, and modeling computation. This course is intended for transfer students planning to major in computer science.

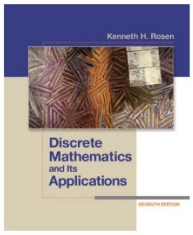
Prerequisite: MATH 245 with a grade of "C" or better, or equivalent

TRANSFER APPLICABILITY: Associate Degree Credit & transfer to CSU CSU General Education IGETC UC Transfer Course List

Official Student Learning Outcomes:

1. Define graph terminology and illustrate types of graphs.
2. Solve graph theory problems including the existence of Euler and Hamilton circuits and paths; shortest-path problems; and graph coloring.
3. Define tree terminology and identify applications of trees in computer science.
4. Perform tree traversal techniques and find spanning trees and minimum spanning trees.
5. Formulate the sum-of-products expansion and product-of-sums expansion of a boolean function and give examples of functionally complete sets of operators.
6. Find a simplified boolean function and use logic gates to construct the corresponding circuit.
7. Evaluate probabilities using a variety of computational methods.
8. Construct computer languages and grammars.
9. Construct finite-state machines with output and finite-state automata.
10. Define regular sets and show how languages can be recognized by finite-state automata and Turing
11. machines.

Text:	Title: Discrete Mathematics and Its Applications Edition: 7th Edition Author: Rosen Publisher: McGraw Hill ISBN: 978-0-07-741893-9



Online Environments:

This course uses the following online learning environments:

1) BlackBoard Learn 9.1 – a learning management system provided by San Diego Community College District. Blackboard technical support is available to students 24/7/365.

Helpdesk phone: 1-866-271-8794

Helpdesk website: https://www.sdccdonline.net/help

2) McGraw Hill Connect (linked from Blackboard)

Evaluation:

Evaluation for this course will be based on multiple measures of performance including, but not limited to, in-class activities, homework, quizzes, and exams. Final grades are calculated as follows:

90% - 100%	=	A
80% - 89%	=	B
70% - 79%	=	C
60% - 69%	=	D
Less than 60%	=	F

LearnSmart Modules (in Blackboard)	12 @ 100 points each	1200 points
Quizzes (in Blackboard)	12 @ 100 points each	1200 points
Total		**2400 points**

[1] Thanks to Hau Nguyen for creating and sharing the original syllabus on which this syllabus is based.

Assignments and Late Work:	Policy Regarding Late or Incomplete Work There is no process for "making up" course activities such as quizzes, trainings, exams and assignments, except in case of documented extreme hardship. Approval of any alternative activities is at the discretion of the instructor. Activities are set up online to not be accessible after their due date. Incomplete work will either be rejected or will lead to a reduction of the grade for that assignment relative to the amount of information missing. Submissions not uploaded on time will be either rejected or penalized for late submission in the form of a reduction in grade. Submissions more than 1 week late will be rejected and/or receive no points. (Note: Submit early. Last- minute submission attempts may be rejected or penalized for late submission due to a difference between your computer clock being a few minutes slower than the Blackboard Learn 9.1 server clock. This does not constitute a valid excuse for missing a submission deadline.)
Attendance and Participation:	It is the student's responsibility to drop all classes in which he/she is no longer attending or participating. It is the instructor's discretion to withdraw a student after the add/drop deadline due to excessive absences. Students who remain enrolled in a class beyond the published withdrawal deadline, as stated in the class schedule, will receive an evaluative letter grade in this class. This is a 3-unit class, which generally translates to about 10-14 hours per week. Actual student lab time will vary from student to student. Each of us have unique questions, experiences, and input to share. Please participate on the discussion boards—we will all gain more from an interactive class.
Incomplete Grade:	Students seeking an "Incomplete" grade must consult with the instructor in person no later than the week prior to the last week of class. Incompletes will only be considered for unforeseeable emergency or other unforeseeable justifiable reasons at the end of the term, and only upon agreement of clear conditions for completing coursework. Incompletes are rarely granted and only if the unforeseeable emergency or other unforeseeable justifiable reason occurs after the date for dropping the class. Students must be passing the class at the time of requesting an incomplete grade. Additionally, I will request students to sign a contract showing all work that needs to be completed and completion dates for missing work. NOTE: Work, vacation, family concerns, class schedules, time management problems, and other normal issues students encounter will not qualify for incomplete grades.

DISABILITY ACCOMMODATIONS:

I have made every effort to make this course accessible to all students, including students with disabilities. If you encounter a problem accessing anything in this course, please contact me immediately by email and also contact the college's Disability Support Programs and Services (DSPS) Office.

FREQUENCY AND TIMELINESS OF INSTRUCTOR-INITIATED CONTACT:

Unless told otherwise, my goal is to respond to student questions with 24 business hours of receipt of a question or information request. My goal for homework grading is to have assignments graded within one week of the submission due date. You should receive frequent messages throughout the week via Blackboard Announcements. If you are not receiving these, please check to make sure your email address is correct, and if incorrect, notify me so that we can resolve with the help desk.

LIBRARY RESOURCES:

I strongly encourage you to take advantage of library resources. There is an open student computer lab in the library if you need to work on a computer. More information regarding the library may be found at their webpage: http://www.sdmiramar.edu/library/about

INDEPENDENT LEARNING CENTER (ILC):

The ILC is another open student computer lab for students enrolled in a credit course. The ILC is located in the LLRC on the first floor, room L-104. More information can be found at http://www.sdmiramar.edu/academics/ilc.

COLLEGE SUPPORT SERVICES (TUTORING):

The Academic Success Center (ASC) provides free one-on-one tutoring on a variety of subjects as well as many other services. The ASC is in L-101, at the southwest corner of the Library/LRC building.
For more information and hours, please call (619) 388-7852 or visit the website at http://www1.sdmiramar.edu/academics/place.

The Miramar English Center, located in L-104, has Graduate students (Instructional Apprentices), peer tutors, and faculty who work with students one-on-one to provide individualized and guided feedback on assignments for English, ESOL and English Basic Skills classes. For more information, please visit the website at http://www.miramarenglishcenter.com/about.html.

PLAGIARISM AND ETHICS POLICY:

Students are expected to be honest and ethical at all times in the pursuit of academic goals. Students who are found to be in violation of Administrative Procedure 3100.3 Honest Academic Conduct, will receive a grade of zero on the assignment, quiz, or exam in question and may be referred for disciplinary action in accordance with Administrative Procedure 3100.2, Student Disciplinary Procedures.

Each student agrees to the following statements of student behavior:

- Interact professionally, do not behave disruptively, and do only course-related activities in class.
- I agree that I, and only I, will be the one completing and submitting class materials (homework, quizzes, exams, written projects, etc.) in my name.
- I agree that I will not directly copy or plagiarize material from books, publications, the Internet, other students' work, or any other source. I am familiar with, and I agree not to violate, copyright laws.

- I agree that any projects submitted for this class have been prepared for this class only and have not been, and never will be, submitted for any other class at Miramar or any other school.
- I agree that, unless approved by the instructor, I will not share answers to homework assignments, quizzes, exams, or any other course material with fellow classmates.
- I acknowledge that failure to comply with any of the above statements may result in failure of an assignment, removal from the course, failure in the course, and disciplinary action deemed appropriate by the procedures set forth by the San Diego Community College District.

STUDENT CODE OF CONDUCT:

Students are expected to adhere to the Student Code of Conduct at all times.

The Student Code of Conduct can be found in Board of Trustees Policy, BP 3100, Student Rights, Responsibilities, Campus Safety and Administrative Due Process posted on the District website:
http://www.sdccd.edu/public/district/policies/index.shtml.

SUSTAINABILITY:

The Environmental Stewardship Subcommittee has suggested including the following statement in this syllabus:

Miramar College is committed to sustainability on campus and in our classrooms. To minimize the use of paper resources, please consider whether a document may be shared digitally rather than printed. When a document must be printed, decrease the default setting on your margins to 0.8" and print on both sides of the paper. Please utilize the recycle bins by depositing all plastics (#1-7), paper, cans, and cardboard in them. You are encouraged to bring reusable drink containers to school (and fill them at the water dispensers located around campus) rather than disposable plastic bottles. Thank you for considering your role in keeping the campus environment clean and conserving resources in your academic life.

Tentative Schedule of Topics:

Week	Start	Topics	Sections	Assignments (Due on McGraw Hill Connect via Blackboard at 11:59pm on End date)	End
1	02/25/2019	Chapter 1. The Foundations: Logic and Proofs	1.1 - 1.8	---	03/03/2019
2	03/04/2019	Chapter 2. Basic Structures: Sets, Functions, Sequences, Sums, and Matrices	2.1 - 2.4, 2.6	Chapter 1 LearnSmart Module, Chapter 1 Quiz; Chapter 2 LearnSmart Module; Chapter 2 Quiz	03/10/2019
3	03/11/2019	Chapter 3. Algorithms	3.1 - 3.3	Chapter 3 LearnSmart Module; Chapter 3 Quiz	03/17/2019
4	03/18/2019	Chapter 4. Number Theory and Cryptography	4.1 - 4.4	Chapter 4 LearnSmart Module; Chapter 4 Quiz	03/24/2019
----	03/25/2019	SPRING BREAK			03/31/2019
5	04/01/2019	Chapter 5. Induction and Recursion	5.1 - 5.3	Chapter 5 LearnSmart Module; Chapter 5 Quiz	04/07/2019
6	04/08/2019	Chapter 6. Counting	6.1 - 6.3	Chapter 6 LearnSmart Module; Chapter 6 Quiz	04/14/2019
7	04/15/2019	Chapter 7. Discrete Probability	7.1 - 7.3	Chapter 7 LearnSmart Module; Chapter 7 Quiz	04/21/2019
8	04/22/2019	Chapter 9. Relations	9.1, 9.3, 9.5	Chapter 9 LearnSmart Module; Chapter 9 Quiz	04/28/2019
9	04/29/2019	Chapter 10. Graphs	10.1 - 10.5	Chapter 10 LearnSmart Module; Chapter 10 Quiz	05/05/2019
10	05/06/2019	Chapter 11. Trees	11.1	Chapter 11 LearnSmart Module; Chapter 11 Quiz	05/12/2019
11	05/13/2019	Chapter 12. Boolean Algebra	12.1 - 12.4	Chapter 12 LearnSmart Module; Chapter 12 Quiz	05/19/2019
12	05/20/2019	Chapter 13. Modeling Computation	13.1 - 13.5	Chapter 13 LearnSmart Module; Chapter 13 Quiz	05/25/2019