01279 MATH-022.-23 Discrete Math, Wtr, 2011

Instructor: Dr. Karl Schaffer   Office phone: 408-864-8214
Class meeting days: Tue/Thu   Office**:** E-23A
Class time 1:30-3:45 PM   Office Hrs: : **Mon/Wed/ 5:30-6:20 PM, Tue/Thu 12:30-1:20 PM**
Classroom: E-36   or by appointment
email: schafferkarl@fhda.edu   De Anza class web site: TBA

Course Content: Elements of discrete mathematics with applictions to computer science. Topics include methods of proof, mathematical induction, logic, sets, relations, graphs, combinatorics, and Boolean algebra. This class demands that you do multi-step problem-solving!

Recommended: Programmable graphing calculator. You may not use computer or cell phone or any electronic device with communication capability during classes or exams; this rule will be strictly enforced.

Text: Discrete Mathematics (5th Edition) by John A. Dossey, Albert D. Otto, Lawrence E. Spence, and Charles Vanden, # Hardcover: 688 pages, Publisher: Addison Wesley
ISBN-10: 0321305159 or ISBN-13: 978-0321305152
We will cover chapters 1-5, 8,9,and appendix A. We will also cover additional material on modular arithmetic and number theory.

Grades: 90-100 A, 80-89 B, 70-79 C, 60-69 D, < 60 F, based on:

20%	**Short quizzes, writing assignments or reports, or in-class assignments**, often to be given during class, though we may be able to use the online quizzes provided by the publisher. These will often involve group work. You may drop your lowest score. These assignments will together constitute the number of points of **one exam**.
20%	**One hour exam, Tue., Jan. 25 (Open book, open notes)**
20%	**One hour exam, Tue., Feb. 22 (Open book, open notes)**
20%	**Homework assignments**. Homework is assigned during each class and must be kept in a loose-leaf binder. Your homework may be checked periodically (usually during exams), and some assignments may be collected for grading. Homework is graded for completion, not correctness. NO LATE HOMEWORK ACCEPTED. EVER!
20%	**Final Exam**: mandatory, comprehensive, given on **Thu., Mar. 24, 1:45-3:45 PM. (Open book, open notes)** There will be no make-ups or early exams. **The final exam will be used to replace one of the two one-hour exams, only if final is higher.**

NO LATE WORK IS ACCEPTED - NO MAKE-UPS. IF YOU MUST MISS ONE MAJOR EXAM, IT WILL BE REPLACED WITH THE FINAL EXAM SCORE, BUT THIS IS NOT A GOOD IDEA! HOMEWORK ASSIGNMENTS MAY BE CHECKED AT ANY TIME, SO KEEP YOUR WORK CURRENT!

Some background on the instructor: Ph.D. and MA in Mathematics from UC Santa Cruz, undergraduate work at University of Chicago and University of Alabama. Grew up in New England and Alabama. Do research in the mathematics of "networks," (graph theory) and am very active in math education for K-12. I am interested in and will use collaborative learning and interdisciplinary learning techniques in the class. I am also a modern dance performer and choreographer, and company I co-direct does shows about math and dance, among other things. For more background on this see www.movespeakspin.org.

Homework from text:

Ch. 1.1 # 7,15,19
Ch. 1.2 # 6,16,18,25,26,31,32
Ch. 1.3 # 1,9,13,14,19,20,25,29
Ch. 1.4 # 9,11,17,23-27,31,32
Ch. 2.1 #1,13,15,17,26,31,33,39
Ch. 2.2 Odd problems #1-19,18,20, 22, 23,29
Ch. 2.3 1,3,5,9,13,18,19,21,32,40,41,42
Ch. 2.4 #1,3,5,9,13,18,19,21,32,40,41,42
Ch. 2.5 # 6,8,12,17,19,26
Ch. 2.6 # 5,16,27,37,43,45,47,48
Ch. 3.1 # 4,5,9,10,20,32,33,39,41,42,47,,48,51
Ch. 3.2 # 1,5,11,19,23
Ch. 3.3 # 1,5,11,15,31-37
Appendix A.1 # 1,7,12,16-18,22,25,29,33,35
Appendix A.2 # 1,9,15,21,30-34
Appendix A.3 # 3,11,15,16,18,20,23,26
Ch. 3.4 # 1,9,11,23,33
Ch. 3.5 # 5,9,15,19,29,31,35,40
Ch. 3.6 # 1,5,9,13,17,29,31,33,35,40,41,44
Ch. 4.1 # 1,7,8,16,18,21,22,24,26,31,35,42,47,48,53,54
Ch. 4.2 #19,23,31-34,40,41,50,52,61,63
Ch. 4.3 # 7,11,13,17
Ch. 4.4 # 4,6,10,11,12,13,20,22,25,2932,34.35(a little difficult)
Ch. 4.5 # 5,11,17,19,24,27,45,63,67,73,77
Ch. 5.1 # 13,18,25,27,32,37
Ch. 5.2 # 5,9 (we will definitely discuss this one in class!), 12,13,15,19,37,39
Ch. 5.3 # 3,25,28,32,33
Ch. 5.4 #13,16,21,30
Ch. 5.5 #5,16,22,28,35,41,45,53,56,64
Ch. 8.1 # 3,9,19,27,28
Ch. 8.2: # 1,3,6,7,15,19,23,34-36
Ch. 8.3: # 3,14,16,19-21,31,33-35
Ch. 8.4: # 3,9,10,15,30,34,36
Ch. 8.5: # 5,9,13,17,26,29-38
Ch. 8.6 #5,9,17,26,29-38
Ch. 9.1 #1,7,18,26,31
Ch. 9.2 # 1,2,5,11,27,34
Ch. 9.3 #1,14,23,25, Skip
Ch. 9.4 # 11,13,15,19,25
Ch. 9.5 # 3,8,13,27,31
Ch. 9.6 # 1,3,11,15,21,27