CSE 2353 FALL 2017
DISCRETE COMPUTATIONAL STRUCTURES

Dr. Theodore Manikas
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Course will be on Canvas: https://www.smu.edu/OIT/Services/Canvas

Office hours: Tu, Th, 9:30 – 10:45 am, or by appointment. The best way to contact me is by e-mail - please include “CSE2353” in the Subject Line of your e-mail for prompt response.


Lecture: Tu, Th 8:00 – 9:20 AM
Room: Caruth Hall, Room 147

CATALOG DESCRIPTION
Logic, proofs, partially ordered sets, and algebraic structures. Introduction to graph theory and combinatorics. Applications of these structures to various areas of computer science.

PREREQUISITES
C- or better in CSE 1341.

COURSE OBJECTIVES
The focus of this course is on mathematical principles central to computer science including sets, logic, and proofs. Students will learn how to apply the concepts of discrete mathematics to computer science problems.

WEB SITE
During the semester, course announcements, homework solutions, and other pertinent information will be posted on the course web site (Canvas). Students are responsible for keeping up to date with all posted information.

GRADING
Exam 1 30%
Exam 2 30%
Exam 3 30%
Homework 10%
HOMEWORK
For each homework assignment, there will be both assigned and unassigned problems from the textbook. The assigned problems must be completed and submitted. The unassigned problems are not to be submitted, but students are responsible for knowing how to solve these problems. The unassigned problems have solutions in the back of the textbook.

Homework is due by 11:59 pm on the due date - late homework assignments will not be accepted. Homework assignments must be submitted using Canvas.

All material submitted by students is to be their own work. Plagiarism will not be tolerated. All students are expected to be familiar with and follow the SMU honor code policy: http://www.smu.edu/StudentAffairs/StudentLife/StudentHandbook/HonorCode

- Students may discuss homework problems and approaches with each other, but must solve the problems and write up their solutions independently. It is an honor code violation to present as your own the material that is not your own.
- Students found cheating will receive an automatic grade of 0 on that assignment. A second violation will result in a report to the Honor Council.

EXAMS
No collaboration is allowed during exams. All exams are closed book, closed notes with one exception. You are allowed to bring a single 8.5”x11” sheet of paper to each exam with whatever notes you chose to write on the sheet. Note sheets must contain your name and be submitted with the exam.

There will be no makeup examinations: a missed examination will result in 0% unless a valid and documented excuse is presented. If possible, students should provide such documentation before the examination date. In any event, notification must be provided within two (2) class periods following the missed examination. In the case of a legitimate excuse for missing an examination, an alternative for making up this portion of total grade will be provided to the student.
MATERIAL COVERED (TENTATIVE)
In general, we will cover the text chapters shown below. The depth of coverage will vary depending on the material for each chapter and on time constraints.

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<th>Chapter</th>
<th>Topic</th>
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<td>Speaking Mathematically</td>
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<td>2</td>
<td>The Logic of Compound Statements</td>
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<td>The Logic of Quantified Statements</td>
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<td>4</td>
<td>Elementary Number Theory and Methods of Proof</td>
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<td>5</td>
<td>Sequence, Mathematical Induction, and Recursion</td>
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<td>Set Theory</td>
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<td>Functions</td>
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<td>Relations</td>
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<td>10</td>
<td>Graphs and Trees</td>
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<td>Analysis of Algorithm Efficiency</td>
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COURSE SCHEDULE

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<tr>
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<tr>
<td>8/22/2017</td>
<td>Tuesday</td>
<td>FIRST LECTURE</td>
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<td>9/21/2017</td>
<td>Thursday</td>
<td>EXAM 1</td>
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<td>10/10/2017</td>
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<td>11/23/2017</td>
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<td>11/30/2017</td>
<td>Thursday</td>
<td>EXAM 3</td>
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DISABILITY ACCOMMODATIONS
Students needing academic accommodations for a disability must first register with Disability Accommodations & Success Strategies (DASS). Students can call 214-768-1470 or visit http://www.smu.edu/Provost/ALEC/DASS to begin the process. Once registered, students should then schedule an appointment with the professor as early in the semester as possible, present a DASS Accommodation Letter, and make appropriate arrangements. Please note that accommodations are not retroactive and require advance notice to implement.

RELIGIOUS OBSERVANCE
Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the semester, and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence. (See University Policy No. 1.9.)
EXCUSED ABSENCES FOR UNIVERSITY EXTRACURRICULAR ACTIVITIES

Students participating in an officially sanctioned, scheduled University extracurricular activity should be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with the instructor prior to any missed scheduled examination or other missed assignment for making up the work. (University Undergraduate Catalog)

STUDENT LEARNING OUTCOMES

ABET CAC (Computer Science):

(a) An ability to apply knowledge of computing and mathematics appropriate to the program’s student outcomes and to the discipline

(i) An ability to use current techniques, skills, and tools necessary for computing practice.

ABET EAC (Computer Engineering):

(a) An ability to apply knowledge of mathematics, science, and engineering

(k) An ability to use current techniques, skills, and tools necessary for engineering practice.

UC 2012/2016: Proficiencies and Experiences/Quantitative Reasoning:

1. Students will be able to develop quantitative models as related to the course subject matter.

2. Students will be able to assess the strengths and limitations of quantitative models and methods.

3. Students will be able to formulate structured and logical arguments.

UC 2012: Pillars/Philosophical/Religious/Ethical Inquiry (Level 1):

1. Students will be able to describe and explain some of the general features and principal theoretical methods of one of the fields of philosophy, religious studies, or ethics.