

CMSC 250 Discrete Structures Spring 2009

1 Prerequisites and description

Prerequisites: C or better in CMSC 131, and MATH 141

Credits: 4 credits

Fundamental mathematical concepts related to computer science, including finite and infinite sets, relations, functions, and propositional logic. Introduction to other techniques, modeling and solving problems in computer science. Introduction to permutations, combinations, graphs, and trees with selected applications.

2 Textbook and class webpage

Text: Discrete Mathematics with Applications, Susanna Epp, Brooks/Cole–Thomson Learning

Webpage: www.cs.umd.edu/class/spring2009/cmssc250

Certain course materials will be made available on the class webpage, and important announcements may also be made there, so students are responsible for visiting the class webpage frequently. The class webpage is at the URL above.

3 Contact information

3.1 Email contact

Although our email addresses are provided below, we will generally be unable to provide long explanations about the course material via email; these are more appropriate for class discussion or personal communication. In particular, most types of detailed questions about the homeworks usually cannot be answered adequately via email. Personal communication, preferably in office hours, is the best means of contacting us, as we will always be able to devote more attention and to give a much more detailed reply to any issue which is discussed in person.

3.2 Instructor contact information

Sections 0101 and 0102

Instructor: Yiannis Aloimonos

Office: 4475 A. V. Williams

Contact info: 405–1743, yiannis@cs.umd.edu(*)

Office hours: To Be Announced

(*) See Section 3.1 above regarding email.

Office hours also by appointment.

3.3 Teaching assistants

Ran Liu (ranliu@cs.umd.edu)

Angela Song-ie Noh (angela@cs.umd.edu)

Office Hours: TBA

4 Course topics

1. Propositional logic, circuits, and predicate logic (Chapters 1 and 2), approx. 4 weeks
2. Elementary number theory (Chapter 3), approx. 2 weeks
3. Summations, recurrences, and mathematical induction (Chapter 4), approx. 21 weeks
4. Sets, Venn diagrams, Cartesian products, powersets (Chapter 5), approx. 11 weeks
5. Counting and combinations (Chapter 6), approx. 2 weeks
6. Functions and the pigeonhole principle (Chapter 7), approx. 11 weeks
7. Relations, reflexivity, symmetry, and transitivity (Chapter 10), approx. 1 week
8. Graph theory (Chapter 11), approx. 1/2 week

5 Policies

Students are responsible for all material covered and announcements, policies, and deadlines discussed in lecture and discussion section, even if they were not in class to hear the information. Besides the policies in this syllabus, various University policies may apply to students during the semester. Various policies which may be relevant appear in the Undergraduate Catalog at www.umd.edu/catalog. If you experience difficulty during the semester keeping up with the academic demands of your courses, you may consider contacting the Learning Assistance Service in 2201 Shoemaker Building at (301) 314-7693. Their educational counselors can help with time management issues, reading, note-taking, and exam preparation skills.

6 Grading

Any request for reconsideration of the grading on any coursework must be submitted within one week of its return, or it can not be considered. Exam regrading requests must be made in writing. If you feel a mistake was made in grading any homework question, please attach a sheet of paper to the homework and write no more than three sentences specifically describing what you feel the grading problem is, and give it to your TA within a week. The instructional staff may regrade the entirety of any coursework submitted for regrading. Final course grades will be curved as necessary, based on each student's total numeric score for all coursework at the end of the semester.

6.1 Weights

Coursework will count toward the final grade according to the following percentages:

Homework: assigned weekly 15% (equally weighted)

Quizzes: weekly in discussion section 15% (equally weighted)

Midterms: three midterms 40% (equally weighted)

Final: will be comprehensive 30%

6.2 Exams

Exams will be held during lecture. Excused absences for exams are discussed below.

Anticipated exam dates:

- Exam #1: Wednesday, March 3
- Exam #2: Wednesday, April 7
- Exam #3: Monday, May 3
- Final: TBA

The midterm dates may need to be changed if the pace of lecture coverage requires it, or for other reasons, such as for example if the University is closed due to weather and as a result the necessary material hasn't been covered in class before the scheduled exam date. However, the final exam date and time are fixed. The final exam will be rescheduled only for students having another final at exactly the same time, or for students with more than three final exams scheduled on the same day (or if the University changes the final exam schedule). Any such arrangement must be discussed with the instructor at least 2 weeks in advance.

6.3 Quizzes

Quizzes will be given most Mondays during discussion section, unless announced otherwise. Unless you have an excused absence (see below), to receive credit you must take a quiz during your own discussion section time.

6.4 Homework

Homework will be handed out in discussion section most Wednesdays and collected the following Wednesday. Homework is due at the beginning of the discussion section that you are registered for, on Wednesday as indicated on the homework assignment. ("In the beginning" means that it must be turned in within the first 15 minutes of discussion.) If you are later than this to your discussion section, without an excused absence (described below), your homework will not be accepted. Homeworks are only accepted in person in class—homeworks given to another TA, left in anyone's mailbox, etc., will not be accepted. Turning in a homework anytime after your own discussion section time without valid documentation will result in no credit for that homework.

You must work alone on your homework, and homework answers must be written legibly, single-sided on your own lined paper, or typed, with the answers clearly labeled and in sequential order as assigned. You must write your name, your university ID number, the name of your TA and the time of your discussion section in the upper right-hand corner of your homework. Staple all the pages together, and be sure that your name appears on every sheet.

6.5 Worksheets

Worksheets will contain practice problems to be done during discussion section, usually on Mondays. These worksheets are in-class exercises in preparation for the next quiz and will not be collected or graded, and they will only be available in person during the discussion section the day they are done.

6.6 Excused absences

Students are responsible for all material covered, and all announcements, deadlines, policies, etc., discussed in lecture and discussion section, regardless of whether they were in class to hear the information or not. It's understood that students may occasionally have to miss class for various reasons, but email and office hours are not intended as a replacement for class attendance. If you must miss class (whether for an excused absence or not) you should get the notes from a classmate who was there. The TAs can answer questions about the material after you have gotten the notes, but they may not attend lecture and cannot explain what you missed unless you have first gotten notes.

Reasons for missing coursework such as illness, religious observance, participation in required university activities, or family or personal emergency (such as a serious automobile accident or close relative's funeral) will be considered to justify an excused absence. However, students requesting an excused absence for any reason must apply in writing and must furnish documentary support (including the phone number of a contact person) for the assertion that the absence qualifies as an excused absence.

For an absence due to medical reasons, for example, documentation would be from a health care professional who treated you. For medical absences the documentation must include the phone number of the health care professional and must explicitly indicate the exact dates or times of incapacitation due to illness. The dates of incapacitation must include the date of the missed coursework. Self-documentation of illness is not sufficient support to excuse an absence. If you become ill, keep in mind that the University Health Center will not provide medical documentation.

It is the University's policy to provide accommodations for students with religious observances conflicting with coursework, but it is the student's responsibility to inform one of the instructors in advance of intended religious observances.

Written notice must be provided immediately in order for an absence to be excused, and if a known conflict exists with one of the tentative midterm dates appearing above, notice must be given soon after receiving this syllabus.

Excused absences will not be given unless documentation as described is provided. Also, immediate notice is required as early as possible of the reason for any missed coursework— in advance unless impossible— otherwise a student may not receive an excused absence. An excused absence will not be granted after performing coursework, for instance, you cannot take an exam and then claim to have been ill. A student who might miss an exam for any reason other than those mentioned above must contact one of the instructors in advance to discuss the circumstances. The instructors are not under obligation to offer a substitute assignment or to give a student a makeup assessment unless the failure to perform was due to an excused absence. When a student has an excused absence:

- **For an exam:** A combined makeup exam may be given at the same time to any students who have excused absences for the regular administration of the exam. Students missing an exam for an excused reason must contact one of the

instructors as soon as possible so arrangements when the makeup exam is to be taken can be made.

- **For a homework:** Students unable to turn in a homework due to an excused absence will be given a short extension (such as an extra day in typical cases); contact one of the instructors as soon as possible in such cases for appropriate arrangements to be discussed.

- **For a quiz:** There will be no makeups for missed quizzes— with an excused absence the score for a missed quiz will be counted by averaging the student's scores for the other quizzes.

6.7 Students with disabilities

Students with disabilities who have been certified by Disability Support Services as needing any type of special accommodations should see their instructor as soon as possible, during the schedule adjustment period. All arrangements for exam accommodations as a result of disability must be made and arranged with your instructor at least three business days prior to the exam date, or accommodations can not be made.

7 Academic integrity

The Campus Senate has adopted a policy asking students to include the following statement on each examination or assignment in every course: "I pledge on my honor that I have not given or received any unauthorized assistance on this examination (or assignment)." Consequently, you will be requested to include this pledge on each exam and homework.

You are permitted to discuss what the homework problems are asking with your classmates, but your solutions must strictly be your own work (other than any help from the instructional staff). Any evidence of cooperation on homework assignments, on quizzes or exams, or use of unauthorized materials while taking a quiz or exam, or other possible violations of the Honor Code, will be submitted to the Student Honor Council, which could result in an XF for the course, suspension, or expulsion. If you have any question about whether a particular situation would be an academic integrity violation then consult with one of the instructors in advance. Should you have difficulty with the coursework you should see the teaching assistants in office hours, not solicit help from anyone else in violation of academic integrity rules. It is the responsibility, under the honor policy, of anyone who suspects an incident of academic dishonesty has occurred to report it to their instructor, or directly to the Honor Council. Every semester our department has discovered a number of students attempting to cheat on their coursework, in violation of academic integrity requirements. Students' academic careers have been significantly affected by a decision to cheat. Think about whether you want to join them before contemplating cheating, or before helping a friend to cheat. Students are welcome and encouraged to study and compare or discuss their homework, quiz, and exam answers with any others after they are graded.