

- (1) As mentioned on the course webpage, the grading will be based on the following:

Exam 1 14 points 1.5 hours  
Mid-sem 18 points 2 hours  
Exam 3 15 points 1.5 hours  
End-sem 25 points 3 hours  
Surprise (4 to 6) each is for 3 points and 15 minutes of duration  
Class participation 4 points  
Homework 0 points one to two problems posted after every lecture

After every 10 to 11 lectures, a *major* (non-surprise) exam is scheduled: the schedules of Exam 1 and Exam 3 are mentioned on the course webpage, and the mid-sem and end-sem exams are according to the institute timetable. The schedules of surprise exams are not disclosed beforehand.

There are no surprise exams in elective courses. In place of these, each student has to present a research paper in a duration of 20 minutes. A set of papers are posted two weeks prior to the presentation date, and the student has the option to email his preferences; based on these, a specific paper is assigned to each student. These presentations will not be taken during lecture hours.

Together in homeworks and exams, 60+ problems are introduced. Attempting to solve each of these problems on your own assures bettering understanding of various concepts presented in lectures.

- (2) The syllabus for major exams is comprehensive: (i) the material taught till the scheduled date of that exam, (ii) the additional reading assignments (marked AR on the course webpage), and (iii) homework problems.

In exams, you can use propositions that were proved in class, i.e., without re-proving them. However, if the question is  $\diamond$  marked or seeks to prove starting from basic definitions, you must also prove all the 'relevant' propositions established in classes. The problems in exams, which are from homework, are typically marked with HW.

Every major exam is split into two parts. Part 1's answer script must be returned before receiving Part 2 question paper. For each part, white paper is provided separately. If one has to go out, he can do so only after returning his answer sheet to that part but before collecting the next part's question paper. Between parts, a 10-minute break is provided in Exam 1 and in Exam 3. But for mid-sem and end-sem, there is no official break between these parts.

- (3) The schedule of any surprise exam is not announced in advance. The surprise exams are hoped to ensure students attend lectures while being thorough with the recently taught course material. Unless specified otherwise, the syllabus of any surprise exam consists of material taught in the last three lectures and homework posted after these lectures. Like diamond marked questions in major exams, surprise exams are easy to score.

No white paper is provided to answer surprise exams; students are expected to bring enough A4-sized white paper to all the classes. Additional lectures are arranged to compensate for the lecture time lost in conducting in-class surprise exams.

- (4) Homework has 40+ problems: Typically, within 24-hours after every lecture, a couple of problems are posted as homework. The solutions to these problems are not evaluated, and no weight is associated to homework. Considering homework problems are very close to the material covered in lectures, no solutions are provided; if you cannot solve a problem, you may need clarification with the relevant concepts.

- (5) All exams are closed-book exams. Wherever needed, theorems and formulae required to solve exam problems may be mentioned on the question paper. Since students are distributed into multiple rooms, I won't be able to answer queries during the mid-sem and end-sem exams.
- (6) When a non-trivial error exists in a question given in an exam, that particular problem may not be considered for evaluation. Since errors are unavoidable, students are expected to distribute time across all the questions. If something is missing/incorrect in a problem description, clearly mention the assumption with the solution.
- (7) If an exam cannot be organized (due to unavoidable circumstances), its score is made equal to the weighted average of all the remaining exams.
- (8) There is no credit for devising an algorithm without a formal proof of correctness and analysis. In devising algorithms, unless specified otherwise, assume the word-RAM model of computation; if it is a computational geometry course, assume the real-RAM model of computation. Unless specified otherwise, the algorithm description needs to be at a high level, especially as it is hard to evaluate detailed pseudocodes. Be precise. There is no credit for unnecessarily verbose, i.e., filling pages with no substance.
- (9) In all the exams, negative marking is in place: up to one-third negative mark for every positive mark. Typically, the following lead to negative marks: illogical constructions, incoherent arguments, incorrect proofs, invalid conclusions, misrepresenting an incorrect proof, irrelevant solutions, counterintuitive solutions, proving with examples, proving with a different proof technique to what was asked, incorrect interpretation of an elementary notion, etc. If one is not confident of a solution, he/she may cross off that solution before handing over the copy. The incomplete solutions do not get negative marks, as long as whatever written is coherent and logical. However, zero is the minimum score one can obtain in any exam.
- (10) Students are permitted to enter the classroom for the first five minutes of any exam. Must bring id card; mobiles, watches, and calculators are not allowed in the exam hall. Writing exams with a pencil is prohibited; such answer sheets won't be evaluated, and a score of zero will be awarded.
- (11) After evaluating each exam, the respective scores are emailed.

A video describing a solution to every problem in Exam 1, Mid-sem, and Exam 3 will be posted to MS Stream after the exam.

A student may contact to get his solution sheet re-evaluated within at most a day after receiving back his/her evaluated answer sheet. Any requests made after that duration will be ignored.

- (12) Apart from attending all the lectures, participating in discussions is critical; the class participation score considers this part. This score is given entirely at the instructor's discretion. For example, if a student is observed to have missed multiple lectures, attends most lectures late, or provides counterintuitive solutions in class discussions, that student could be given zero points. Or, a student who poses interesting questions after class hours may be given a high score. Moreover, a student's attitude and behavior are also accounted for. By default, the minimum score for this component is given according to student's rank based on the total marks (while excluding this score).
- (13) The final grade is based on one's performance relative to others in the class, predominantly determined by the clusters defined by marks.

The student who gets the highest marks and an AA grade at the end of grading based on clusters is given an AS (outstanding) grade, provided he scored highest in the final (end-sem) exam and participated very well in class discussions.

- (14) Considering the importance and the coverage of the material, it is worth attending lectures regularly. Besides, each lecture is kept as elementary and accessible as it can be. Typically, the total number of F and DD grades together is made close to the average number of absentees in lectures (ignoring a couple of outliers) unless the performance is better than expected. The status of attendance is published after every major exam.
- (15) The coursework is the same for both crediting and auditing. If auditing, to pass the course, one has to get at least a BC grade.
- (16) Throughout the semester, students are expected to check their email after 8:00 pm every day, including on holidays, with no exceptions.

In emails, I use notations from LaTeX. This software is quite commonly used to write scientific documents, and it takes about 30 minutes to learn its basics.

- (17) It is impossible to focus on the lecture and take a note. Indeed, there is no need to make a note in classes (except maybe for CS101). The specific resources' from which the material is taken are posted on the course webpage immediately after the lecture. And, notes are published after the class if any particular material is not present in the recommended textbooks.
- (18) For clarification of doubts, meet me (in H-005) with a prior appointment (by email). The best time to meet me is immediately after the lecture.
- (19) On request through a class representative, it is always possible to repeat a lecture during extra class hours, such as on weekends. And I did arrange the same whenever such requests come up.
- (20) FAQ: What is the best way to learn the course material?

- (i) Closely follow every lecture.

If you need help understanding, it is typically the case that you are not fluent in either the prerequisites or the earlier lectures.

If several of your classmates also need help following the same lecture, interact with the classrep so that he/she would email me.

- (ii) Before the following lecture, recollect the last lecture material and convince yourself, esp. with all the proofs developed.

After that, read the relevant pages corresponding to that lecture from the suggested resource.

- (iii) Before attending any lecture, solve recently posted homework problems without collaborating with any.

More importantly, only attend a lecture after familiarizing with the material covered in recent classes.