

Administrativa

Lecture 0

Akshar Varma

3rd July, 2023

CS3000 Algorithms and Data

Logistics and Links

Textbooks and references

Assessment Policies

Recommended tools

1. Logistics and Links

Times and Location

- **Location:** Richards 165
- **Dates:** [3rd July – 17 August] 2023

	Mon	Tue	Wed	Thu	
0950 – 1130	✓	✓	✓	✓	Lectures
1140 – 1245	Akshar OH	✓	Akshar OH	✓	Recitations

Staff	Name	Office Hours	Location
Instructor	Akshar Varma	MW; 1130–1300	Richards 165
Teaching Assistant	Nolan Lemery	TBD	TBD
Teaching Assistant	Ankit Ramakrishnan	TBD	TBD

- Canvas will be the focal point which links to other places.
 - Use Piazza for discussions, questions, random musings (somewhat relevant to Algo).
 - Post on Piazza before emailing TAs and instructor. (Audience of 40 vs. 4)
 - Get help quicker and more efficiently from classmates, the TA, and instructor.
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- If you have not been added (to Canvas), please contact me and I will fix it.
You should be able to join Piazza+Gradescope from there.

Link to course webpage:

<https://aksharvarma.org/CS3000-2023-Summer-2/>

All this content will be copied to Canvas anyway.



2. Textbooks and references

Textbooks and references

Abbreviation	Name	Authors
[KT]	Algorithm Design	Kleinberg and Tardos
[DPV]	Algorithms	Dasgupta, Papadimitriou, Vazirani
[JE]	Algorithms	Jeff Erickson
[CLRS]	Introduction to Algorithms	Cormen, Leiserson, Rivest, Stein
[LLM]	Mathematics for Computer Science (2018)	Lehman, Leighton, and Meyer

3. Assessment Policies

Assessment Approach

- Each problem's solution is one of:
 - {unsatisfactory, somewhat satisfactory, almost/nearly satisfactory, completely satisfactory}
 - in letter grades these are roughly: {F/D, C, B, A}
 - numerically, there are: {0, 2, 3, 4}
 - simpler problems only use {unsatisfactory, satisfactory} or {0, 4}.
- Only care about how satisfactorily the solution:
meet correctness+clarity standards/problem specific requirements.
- Grade for a quiz/PS, etc.: slight variation on averaging (specified each time).
- Averaging gets grade for quizzes, grade for problem sets, etc.
- Finally, a weighted average gives course grade.

Grade Letter and Numerical Equivalents

A+	4.333	Outstandingly Satisfactory
A	4.000	Completely Satisfactory
A-	3.667	
B+	3.333	
B	3.000	Nearly Satisfactory
B-	2.667	
C+	2.333	
C	2.000	Somewhat Satisfactory
C-	1.667	
D+	1.333	
D	1.000	Unsatisfactory
D-	0.667	
F	0.000	Failure/(Very) Unsatisfactory

Course Grade Summary

5 Problem Sets	35%	lowest score dropped out of 6 PSeS
6 Quizzes	15%	lowest score dropped out of 7 quizzes
1 Midterm Exam	15%	open notes
1 Final Exam	30%	open notes
Participation	5%	scribe notes and <i>collaboration problems</i>
Total	100%	

Problem Set Policy

- Submit all problem sets, as a PDF typeset in \LaTeX on Gradescope.
- You can be up to 24 hours late.
First 3 times, no penalty. Then drop a grade point/letter (3.45 \rightarrow 2.45).
- Attempt problems by yourself first.
- Collaboration on homework problems is fine (with students in this class).
- Discussion of ideas/strategies (but not solutions themselves) is highly encouraged.
- In all cases, you **must write up your own solutions, in your own words** and list all collaborators!
- **Finding solutions** to homework problems **by any other means is strictly prohibited.**

Exams and Quiz Policy

- Both exams will be open notes.
 - Two A4/US letter paper sheets \implies 4 pages/sides.
 - 3 pages will be instructor provided (with input from all of you).
 - The last page is individual's choice.
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- 7 quizzes (best 6 graded), on Gradescope, 15-30 minutes long.
 - Most likely 5 problems: 3 multiple choice, 2 short answer.
 - Each is correct or incorrect. Grade determined based on how many correct.
A if $\geq 5/5$, B if $\geq 4/5$, C if $\geq 3/5$, D if $\geq 2/5$, F if $\leq 1/5$.

- When the solution is not clear or unknown, we often see tedious attempts.
- Long (incorrect) essays filled with keywords/buzzwords → *unsatisfactory*.
- Instead, do this:
 1. In your own words explain what the problem asks for.
 2. What do you know to solve?
 3. What is causing you to get stuck? Where is the difficulty?
 4. What would you need to know to proceed?
- This (if written clearly) → *somewhat satisfactory*.

Other Logistics and Miscellany

- Classroom environment
 - Please, please, ask questions and answer questions in lectures, office hours, recitations, and on the discussion forum.
 - Participate in the iterate–introspect–improve loop; even when unsure of correctness.
 - Activities that do not disrupt other are generally okay. Examples include (if quiet): being late, eating, using devices, etc.
 - Be civil. Respect everyone. *Be excellent to each other.*
- Academic integrity:
 - Basically, don't cheat/copy from anyone/anywhere/anything.
 - Honor system for the most part.
- Accessibility and DRC
 - If any part of the course is inaccessible for any reason, let me know so I can fix it.
 - Those who need accommodations from DRC, please email me as soon as possible.

4. Recommended tools

- LaTeX has a learning curve but *absolutely worth it*.
- Most academic technical publications are in LaTeX.
- Even otherwise, few tools allow the flexibility, control and reproducibility that LaTeX does. (These slides are written using \LaTeX .)
- Find LaTeX resources on the webpage.

- Essentially: <https://missing.csail.mit.edu/>
- Lecture on Version Control (Git → Magit).
- Lecture on Editors (Emacs is my choice, but (Neo)Vim is nice too).
- Metaprogramming (Make, Makefiles).