UNIVERSITY OF NOTRE DAME

Syllabus

Discrete Mathematics

Spring 2024

This course is an introduction to the branch of mathematics known as *computer science*. The objective is to cultivate in you, the reader, the maturity, skills, and knowledge requisite of an academic as inspired by the *history* and *tradition* of the field of computer science. This will involve a basic working proficiency with the languages of the *first-order logic* and *axiomatic set theory* as well a development of the *art of proof-writing*.

1 *Calendar*

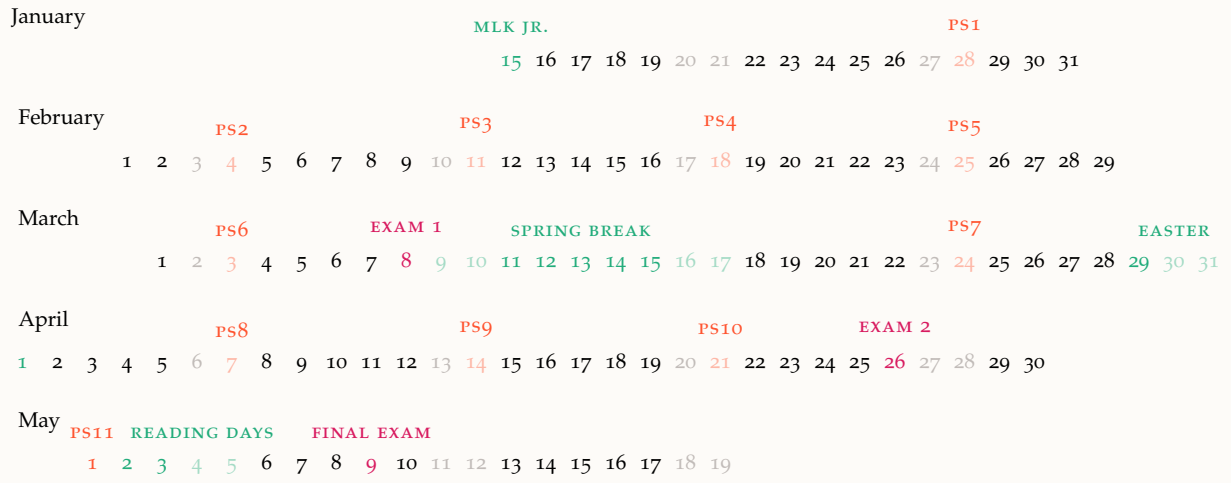

Fig. 1: Important dates for the semester.

2 *Personnel*

Daniel Gonzalez Cedre	Instructor	dgonza26@nd.edu	Thu.	4:00 pm	8:00 pm	215 DeBartolo Hall
			04/04/2024	4:00 pm	8:00 pm	306 DeBartolo Hall
			AND BY APPOINTMENT			
Aydin Wells	Grad. TA	awells24@nd.edu	Mon.	4:00 pm	5:30 pm	356B Fitzpatrick Hall
			Tue.	3:00 pm	4:30 pm	356B Fitzpatrick Hall
Helena Berens	Undr. TA	hberens@nd.edu				
Max Graves	Undr. TA	mgraves4@nd.edu				
Celeste Mannel	Undr. TA	cmannel@nd.edu				
Norah Swatland	Undr. TA	nswatlan@nd.edu	Wed.	5:00 pm	7:00 pm	306 DeBartolo Hall

Tab. 1: Contact information and office hours for the instructor and TAs.

3 Assignments

Problem Sets	Sun.	11:59 pm		Gradescope
Lectures	Mon. Wed. Fri.	11:30 am	12:20 pm	116 DeBartolo Hall
Recitations[1]	Thu.	4:00 pm	8:00 pm	215 DeBartolo Hall[2]
Exam 1	03/08/2024	11:30 am	12:20 pm	116 DeBartolo Hall
Exam 2	04/26/2024	11:30 am	12:20 pm	116 DeBartolo Hall
Final	05/09/2024	4:15 pm	6:15 pm	116 DeBartolo Hall

Tab. 2: Assignment and lecture schedule.

[1] *Recitations* are *entirely optional.* These are extended sessions where the instructor will be available to answer course-related questions and go over problems.

[2] Except on 04/04/2014, where recitation will take place in 306 DeBartolo Hall.

Problem Sets

There will be roughly 11 graded problem sets throughout the semester. *The lowest 2 out of these 11 will be dropped.* Problem sets will be assigned every week and due on Sundays at midnight one week later.[2] *Late work will receive zero points* and there will be *no makeups for missed assignments.* Solutions will be posted to Canvas on each assignment's due date.

[2] Problem sets should be submitted on Gradescope (*cf.*, subsection 5.2).

Exams

There will be two midterm exams and a cummulative final exam. You will be permitted two (midterms) or four (final) sheets of *handwritten*[3] notes. Make-up exams will be handled case-by-case. *If the final exam grade is greater than either midterm grade, the final replaces the lower grade.*

[3] *Notes must be written by hand using pen or pencil on standard 8.5×11 or A4 paper.*

4 Grading

Fig. 2: Final grades are rounded up.

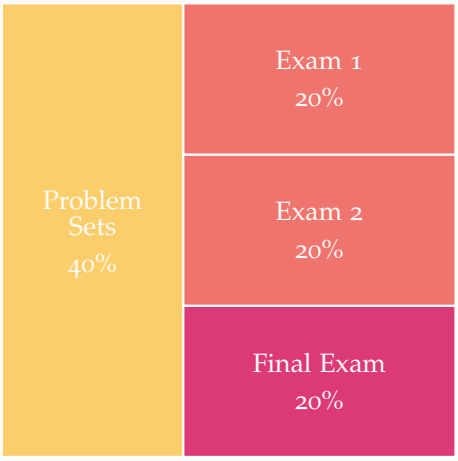

Fig. 3: Breakdown of grades by assignment. Recall that the lowest 2 problem sets are dropped, and the final replaces a lower exam grade.

5 *Resources*

Website

https://daniel-gonzalez-cedre.github.io/teaching is the website for the course, where you will be able to find lecture notes, problem sets, and the syllabus. All of this material will also be mirrored on Canvas, but updates will be pushed to this website first and most frequently.

There is no required textbook for this class; instead, the instructor is preparing *lecture notes* that will be continually updated throughout the semester. If you'd like other books, we highly recommend these *with the understanding that the presentation of the material might differ substantially.*

Fig. 4: We can also recommend *the introduction and first chapter* of Jech's *Set Theory* for a nice overview of the axioms.

Slack

A Slack channel named #2024_spring_discrete-math has been set up for the class on nd-cse.slack.com. This will be the easiest and fastest way to contact the instructor and TAs, and we encourage you all to use Slack to communicate with us and with each other.

Gradescope

All problem sets will be submitted through Gradescope, where the instructor and TAs will post grades and provide feedback.

Canvas

In addition to the lecture notes, syllabus, and problem sets that can be found on the course website, the Canvas page will also host solution sets and lecture recordings. *Video and audio for all lectures will be recorded and posted to Canvas through Pantopto.*

6 Honor Code

	Colleagues	Resources	Solutions
Consulting	ALLOWED	ALLOWED	FORBIDDEN
Copying	FORBIDDEN	CITE	FORBIDDEN

Tab. 3: The rules of engagement.

"As a member of the Notre Dame community, I acknowledge that it is my responsibility to learn and abide by principles of intellectual honesty and academic integrity, and therefore I will not participate in or tolerate academic dishonesty."

7 Accommodations

Students with Disabilities

The policy and practice of the University of Notre Dame provides reasonable accommodations for students with properly documented disabilities. Students who have questions about SBAS[1] or who have, or think they may have, a disability are invited to contact SBAS for a confidential discussion in the Sara Bea Center for Student Accessibility Services or by phone at (574)-631-7157.

Visit https://supportandcare.nd.edu/ for more information about disability accommodations.

[1] Sara Bea Accessibility Services

Mental Health

If you are having mental health issues that are interfering with your ability to function in this course, please reach out to the instructor or the UCC[2] so that we can help you. The UCC provides *cost-free* and *confidential* mental health services to help you manage personal challenges that may threaten your emotional or academic well-being.

For more information about the University Counseling Center, please visit https://ucc.nd.edu.

[2] University Counseling Center

Academic Support

You are encouraged to visit with your Department Director of Undergraduate Studies (DUS) or your academic advisor for personalized assistance. Located in 204 Cushing Hall, engineering advisors are available to support your academic and professional goals, to provide guidance for effective study habits, and to connect you to resources across campus. In addition, the Academically Collaborative Engineering Spaces (ACES) Program offers *study rooms* and *small group tutoring* services for select courses.

For more details, see your director of undergraduate studies or academic advisor.

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