Course Syllabus
Mathematics 2200, Section 01, Fall 2019
Discrete Mathematics

Professor: Priyam Patel
Office: JWB 205
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Class Hours: TTh, 12:25-1:45PM, CSC 25

Office Hours: W, 10:30AM-12:30 PM, JWB 205


Prerequisites: C or better in one of Math 1220, 1250, 1260, 1270, 1311, 1320, 1321, 2210, or AP Calc BC score of 5.

Course description: This is a course on the fundamentals of discrete mathematics. It includes an introduction to proofs and rigorous analytic thinking; students will learn how to understand and write short proofs. We will introduce basic elements of mathematics such as fundamentals of logic, sets and relations, functions, number theory, modular arithmetic, and counting. Math 2200 provides a good foundation for higher mathematics or computer science courses.

Our Class Culture: We will model our class based on the axioms proposed by Federico Ardila:

Axiom 1 Mathematical talent is distributed equally among different groups, irrespective of geographic, demographic, and economic boundaries.

Axiom 2 Everyone can have joyful, meaningful, and empowering mathematical experiences.

Axiom 3 Mathematics is a powerful, malleable tool that can be shaped and used differently by various communities to serve their needs.

Axiom 4 Every student deserves to be treated with dignity and respect.
Grading Policy: The grades will be calculated as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Weekly Problem Sets</td>
<td>20%</td>
</tr>
<tr>
<td>Midterm exams</td>
<td>50%</td>
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<tr>
<td>Final Exam</td>
<td>30%</td>
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Grades (Evaluation and criteria): Final letter grades will be determined by overall percentage as follows:

- **A** 93% – 100%
- **A-** 90% – 92%
- **B+** 87% – 89%
- **B** 83% – 86%
- **B-** 80% – 82%
- **C+** 77% – 79%
- **C** 73% – 76%
- **C-** 70% – 72%
- **D+** 67% – 69%
- **D** 63% – 66%
- **D-** 60% – 62%
- **E** 0% – 59%

**Approach:** Before class you should read the assigned sections from the textbook. In class I will review and highlight material that you have read about. I will avoid lecturing as much as possible, preferring to devote most of our meeting time to making sure you understand the material and working through some more challenging problems together. After each class, you should be ready to tackle the relevant problems from the weekly problem set.

**Class Meetings:** Students are expected to attend and actively participate in class. I am expected to make class worth attending. Participation in class involves:

- being present in class (physically and mentally),
- coming to class prepared and on time,
- asking questions when appropriate,
- making positive contributions to group discussions, and
- working effectively and respectfully with other students.

If your participation or non-participation causes problems for other students, I will invite you to visit office hours to discuss the issue.

**Weekly Problem Sets:** Weekly problem sets are due every Thursday at the beginning of class. Weekly problem sets will comprise 20% of your overall grade. If you know \LaTeX{} or want to learn it, you are welcome to type your solutions. Handwriting is equally acceptable. I will not accept late assignments, but I will drop the homework with the lowest score.

Since learning to communicate mathematics clearly is an important part of this course, the homework will be graded on both accuracy and clarity. You are welcome to work together to solve the homework problems, but you must each write up your own solutions individually. I recommend that you attempt each problem on your own, meet up with a classmate or two to compare approaches, and then prepare a solution set on your own. Copying homework solutions from another student is plagiarism and will result in serious consequences (see the section on cheating below). Remember that exams will hold all students equally responsible understanding the material.

**Exams:** There will be two midterm exams throughout the semester, and a final exam. The exams are closed-book, with no calculators.

1. Thursday, September 19, 12:25-1:45PM : Midterm 1
2. Thursday, October 31, 12:25-1:45PM : Midterm 2
3. Thursday, December 12, 10:30AM-12:30PM : Final

Absence from an exam will be excused only if you can provide verifiable and convincing evidence that you have a significant illness or serious family crisis that will prevent you from attending. Except under extremely unusual circumstances, you must inform me in advance of the missed test. **It is your responsibility to promptly inform me about a missed exam. I reserve the right to not excuse your absence from an exam if I think your excuse is not valid or if you contact me more than one week after the missed test.**
Tutoring: The Rushing Math Center offers free drop-in tutoring, a computer lab, and study areas for undergraduates. The Rushing Student Center is adjacent to the LCB and JWB.

Classroom Etiquette: Please turn off your cell phones while you are in class. I do not allow laptops in class. I will expect respectful behavior in my classroom. If I think that your behavior is disrespectful or distracting, I will ask you to leave the class.

Cheating: If you cheat on any homework or exam, I will give you a grade of zero for that work. This includes plagiarizing another student’s homework solutions. Depending on the severity of the cheating, I may decide to fail you from the class. In all cases, I will report the incident to the Dean of Students, and to the International Students Office in the case of an international student.

Webpage: All information concerning this class will be posted on the Canvas webpage of the class. Any important information will be given in class and on the Canvas webpage. You are responsible for checking the webpage on a regular basis (you can have the communication from Canvas forwarded to your email address).

University Policies
1. The Americans with Disabilities Act. The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

2. University Safety Statement. The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.

3. Addressing Sexual Misconduct. Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran’s status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

4. Undocumented Student Support Statement. Immigration is a complex phenomenon with broad impact—those who are directly affected by it, as well as those who are indirectly affected by their relationships with family members, friends, and loved ones. If your immigration status presents obstacles to engaging in specific activities or fulfilling specific course criteria, confidential arrangements may be requested from the Dream Center. Arrangements with the Dream Center will not jeopardize your student status, your financial aid, or any other part of your residence. The Dream Center offers a wide range of resources to support undocumented students (with and without DACA) as well as students from mixed-status families. To learn more, please contact the Dream Center at 801.213.3697 or visit dream.utah.edu.

Disclaimer: If I do any modification to this syllabus, I will let you know in class and update the webpage.