



## MTH 309S: Discrete Mathematics

**Textbook:** Levin's *Discrete Mathematics: An Open Introduction*, available at [discrete.openmathbooks.org/](https://discrete.openmathbooks.org/)

**Content:** The tentative outline is:

- Counting, sequences and induction (Chapters 1 and 2): 2 weeks
- Logic (Chapter 3): 2 weeks
- Graph theory: 3 or 4 weeks.
- Modular arithmetics: remaining weeks.

**Grading policy:**

- Two midterms and a final; the final weighs double. I grade in single blind.
- Makeups will be given only in case of documented medical excuse. Please inform me via email.
- Homework will be assigned in class, also in the form of completing proofs. (You are supposed to keep track of the exercises, I do not keep a list.) We will use one of the following two options: (a) the homework will be submitted as PDF via Blackboard, annotated by a grader, and returned to you via Blackboard, or (2) in case we do not have a grader, I will do a collective solution in class in some extra hours. Either way, handing in the solution is not compulsory: I view homework as a preparation for the midterms.
- Class participation and homework do not influence your grade directly, but they play an important role in determining final grades, especially in borderline cases.
- All students are bound by the Academic Integrity Policy, which is intended to promote and support an atmosphere conducive to learning. Each student's work is to be their own unless express permission is given by the instructor. Additionally, while students are bound by the policy, faculty are also bound to report violations as offered in the policy.
- Follow up to the previous UM-dictated lines: For me cooperation in homework is allowed, as long as you indicate it clearly on top. (e.g. "Solved exercise 2 together with Luigi and discussed the solution of exercise 4 with Mario".) It is not allowed in tests, where the usual UM honor code applies. Personal hint: If at the exam you do not know how to solve an exercise, leave it blank!, you still have a chance to get an A. Copying the solution from any website, instead, results in an F, and departments nowadays have tools to find out.
- My goals/duties as professor are (i) to help you learn by explaining the best way I can, and (ii) to certify to UM and to society that you master this topic. Instead "(iii) to pass all students with an A" is not in the list of goals of the professor. So do not expect me to tell you the test questions in advance. On a personal note, explaining math gives me joy, but you'll have to do the learning part yourselves. For example, the book has exercises; I will also leave some proofs "to the audience" during class: Consider all of this 'free game' for training. (It makes no sense to write in the evaluations "the professor does not give us enough exercises" ...)

### General rules and tips:

- Questions and feedback during class are always very welcome. You are also welcome to send me emails, but for math questions please use office hours. It is not a shame to tell me you have not understood my first explanation - I am always happy to repeat, and most likely if you haven't understood, some other students have not understood either, so your question becomes useful for the whole class. Of course, you might not want to send me emails like "hey, is there any homework due today?", unless you want to let me know that you are not studying. What you might want to do on day 1, instead, is to write down the contact of a couple of classmates, so you can refer these questions to them.
- Attendance to office hours is not compulsory, but recommended. I have seen tremendous progress in people who come to office hours every week (and I grade in single blind, so I didn't intentionally raise their grades). Showing up by the dozen with plenty of questions the day before the test is not efficient; please consider the office hours when you have the first doubts. Plan ahead!
- Tests are designed to cover the material explained in class. As I said above, ; you are expected to keep track of the topics presented. If I never mentioned it in class, it's not going to be on the test (even if it's in the book.) In contrast, what I covered in class but is not in the book, can appear in the test.
- Zoom policy: I don't really have one. If you wish to keep your camera off, that is fine by me.
- I would prefer if you do not use the computer in class, even if the textbook is online. It tends to distract both you and the students sitting behind you. Statistically, the students who attend with a computer tend to get a lower grade. That said, if this is your 'work mode' and you wish to prove me wrong, I do not mind - please sit in the last rows though, so you do not distract other students behind you.
- It happens every now and then that some students find mistakes in my notes. I am happy when this happens and I value corrections a lot!, that's the best way to let me know that you are on top of the subject.
- Any material sent to me should be in PDF format. If you start off your emails with a "Dear Bruno", or if you ask your questions starting with a "Bruno", it is completely fine by me, I don't need to be reminded that I am the professor. Let me know how you would like to be called, if this differs from your first name: it will take me some weeks to remember, because I am forgetful, but at some point I will learn.
- Cell phones and ipads are allowed in class, but must be on silent mode. Same policy for pets, kids, and lovers.

With this, I wish you a lovely Spring semester here at The U!



Bruno Benedetti  
*Associate Professor*