Instructor: Luca Spolaor, Office: AP&M 5111

Office Hours: M 3-5PM

Textbook: *An Introduction to Mathematical Reasoning: numbers, sets, and functions*, by Peter J. Eccles

Website of the course: [My page](#) and [Gradescope](#)

Email: lspolaor@ucsd.edu

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TA: Tai-Hsuan Chung, Office: AP&M 5412

Discussion Sessions:

- Tuesday, 5:00p-5:50p, Room: AP&M B402A
- Tuesday, 6:00p-6:50p, Room: AP&M B402A

Office hours: Th 1-2p and F 3-5pm

Email: t2chung@ucsd.edu

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**Goal and Policy**

**Aim and content:** The goal of this class is to learn the basics of the mathematical language and reasoning, and apply it to write rigorous mathematical proofs. The main topics will be: quantifiers, induction, negation, proof by contradiction, naive set theory, equivalence relations, and epsilon-delta proofs. Required of all departmental majors.

**Lecture:** Attending the lecture, though not mandatory, is a fundamental part of the course: you are responsible for the material presented in the lecture whether or not it is discussed in the textbook. You should expect questions on the exams that will test your understanding of concepts discussed in the lecture.

**Reading:** Reading the sections of the textbook corresponding to the assigned homework exercises is considered part of the homework assignment; you are responsible for material in the assigned reading whether or not it is discussed in the lecture. It will be expected that you read the assigned material in advance of each lecture.
Lecture notes: I will try to post my handwritten notes after each class on Canvas, however they will not be a substitute for the books. Moreover they may contain errors or typos, use them at your own risk.

Homeworks, Exams and Grades

Problem Sets: There will be 8 homeworks.

- Psets will be posted on Wednesday on my page and on Gradescope.
- Psets should be uploaded on Gradescope by the following Wednesday at 12pm.
- Late homeworks will not be accepted, however your cumulative homework grade will be based on the best 7 of the 8.
- You can work on the problems with your classmates, but you have to write down your own version. Copying from other’s solutions is not accepted and is considered cheating.
- You are responsible for your handwriting, typewritten solutions are encouraged.
- Consulting solutions to problem sets of previous semesters or internet solutions is considered cheating.
- A good portion of the midterms and exam will be based on the weekly problem sets. So it is extremely important for you to make sure that you understand each one of them.
- Grading of Psets: Each Pset will be worth 20 points. For every Pset at most 3 problems will be graded, chosen randomly. However writing a solution to a problem which will not be graded is worth 1 point. See the following two examples:

Example 1. Suppose Pset 1 contains 5 exercises and I randomly chose problems 1, 3, 4 to be graded. Then you get 2 points for writing the solutions to problems 2, 5 which will not be graded, and the remaining 18 points will be distributed equally among problems 1, 3, 4 (so 6 points each) which will be graded normally (and so you don’t get points for just doing them).

Example 2. Suppose Pset 3 contains 3 exercises, then all 3 will be graded and the sum of their points will be 20. In this case just doing them does not automatically award you any point.

Exams: There will be two one-hour in-class midterms and a Final exam, on the following dates:

- **Midterm 1:** Wednesday 10/23/2019, 9:00a-9:50a, Room: WLH 2204
- **Midterm 2:** Wednesday 11/20/2019, 9:00a-9:50a, Room: WLH 2204
- **Final:** Wednesday 12/11/2019, 8:00a-11:00a, Room: TBA

There is no make-up exam, however the grading system is as below.
**Course grade**: Your final score will be calculated as the maximum of the following two formulas:

- 20% Homework +20% First Midterm +20% Second Midterm +40% Final Exam,
- 20% Homework +20% Best Midterm Exam +60% Final exam.

You need to get a passing grade in the Final Exam to pass the class.

**Regrades and other infos:**

- *Homework and midterm exams will be available on Gradescope*. If you wish to have your homework or exam regraded, you must do it on Gradescope on Thursday between 3-5pm. *Regrade requests will not be considered once the homework or exam leaves the room.*

- No notes, textbooks, calculators and electronic devices are allowed during exams.

- You are responsible for your grades being correct. If there is any inconsistency inform the TA immediately.

**Academic Dishonesty**: Academic dishonesty is considered a serious offense at UCSD. Students caught cheating will face an administrative sanction which may include suspension or expulsion from the university. See [this website](#) for more information.