INTRODUCTION TO ABSTRACT MATHEMATICS MAT108

Syllabus Fall 2024

Professor: Roger Casals (casals – at – ucdavis.edu).

Teaching Assistants: Hannah Moon (hhmoon - at - ucdavis.edu) and Stephanie Gaston (gaston - at - math.ucdavis.edu).

Class schedule: Lectures are **MWF 1:10-2:00pm** conducted by Prof. Casals in Young Hall 184. Recitations take place on **Tuesday 3:10pm** at Wellman Hall 3 for Section 1 and **Tuesday 4:10pm** at Wellman Hall 7 for Section 2. The recitations are led by our Teaching Assistants.

Course Website. I will be maintaining the course website at the following URL

"math.ucdavis.edu/ casals/Teaching/Fall24/MAT108/websiteMAT108/Fall24MAT108.html",

whose content includes this syllabus, the weekly assigned Problem Sets, Math Diary on the material covered in each lecture, and additional materials. The grades for the assignments and exams will be administered through UC Davis Canvas.

Professor Office Hours. I will have regular office hours twice a week, on **Mondays 3:30-4:30pm** and **Wednesdays 3:30-4:30pm**. Feel free to come and discuss the material on the Lectures and the Problem Sets.

TA's Office Hours. Hannah Moon's Office Hours are **Mondays 1:00-2:00pm** and **Thursdays 4:00-5:00pm** in MSB 2139. Stephanie Gaston's Office Hours are **Tuesdays 1:00-2:00pm** and **Wednesdays 10:00-11:00am** in MSB 3139.

Course. This course is an introduction to abstract mathematics with an emphasis on rigor and proofs. Learning how to come up with proofs and writing them up in a clear and rigorous manner will be one of our main goals. It is primarily for students with no prior experience with this.

Textbook. We will use "The Art of Proof" by M. Beck and R. Geoghegan. The textbook should be accessible through the UC Davis Equitable Access Program. In addition, there is a version available in the authors' website.[1]

Grade. Grade. The Final Class Grade **G** is computed with the formula:

$$\mathbf{G} = 0.25 \cdot \text{PS} + 0.35 \cdot \max(\text{M1}, \text{M2}) + 0.4 \cdot \text{F}.$$

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[1]http://math.sfsu.edu/beck/aop.html

where PS is the grade from the homework problem sets, i.e. the average of all the grades obtained in the homeworks, where the lowest PSet grade will be dropped. $M1$ is the grade for the first Midterm exam, $M2$ is the grade for the second Midterm Exam and F is the grade for the Final Exam. Only once the quarter has ended and exams have been graded, a curve will be implemented to the distribution of final grades **G**. This curve will be such that A-grades correspond to strong understanding of the material, B-grades indicate good working knowledge of the majority of the material and C-grades correspond to having developed the skill to solve standard problems in the topics covered. (In particular, if all students do well, all get good grades.)

Assignments. The weekly assignments are due on **Friday** and should be submitted online via **Gradescope** at the beginning of class. The assignments will be posted in the course website as the course progresses. The lowest grade will be dropped.

Exams. There will be two in-class one-hour **Midterm Exams** on **Friday Oct 25** and **Monday Nov 25** and a **Final Exam on Dec 13 at 8:00am** (scheduled by the registrar). The Midterm Tests and Final Exam will strictly follow the given date and time. There will be no make-up exams. So, please plan your schedule accordingly. Please bring your UC Davis Student ID to the Exam.

Cheating and Online Solutions. You must read, understand and act in accordance with the **UC Davis Code of Academic Conduct**. In particular:

(i) It is *forbidden* to upload any of the Problem Sets, or pieces thereof, from any version of the MAT108 Course taught by Prof. Casals at UC Davis to the Internet. This includes sending the Problem Sets to any service for *homework help* or *tutoring*, including e.g. Chegg, CourseHero, Transtutor, Slader amongst others.

(ii) It is *forbidden* to type a problem from any of the Problem Sets from any version of MAT108 taught by Prof. Casals for an answer from an outside source.[2] This includes sending problems to any service for *homework help* or *tutoring*, including e.g. Chegg, CourseHero, Transtutor, Slader.

(iii) If you write a solution to a problem which you have not *entirely* developed yourself, you must *cite* the source of the material. In particular, if you are copying a solution from a source, you *must* clearly refer to the source and provide *immediate access* to the source to the Teaching Assistants and the Instructor of Record, whether the source is another person, a website, a book, an online service or any other mean.

Either of the three actions above will be considered a violation of the "UC Davis Code of Academic Conduct of Honesty, Fairness & Integrity". Students incurring in either of the above behaviors will be reported to the **Office of Student Support and Judicial Affairs** (OSSJA). Note that you can be directly reported to OSSJA for an investigation. Such direct reporting to OSSJA will take place if the TAs or the Professor have clear evidence of cheating misconduct: there will be no tolerance for cheating in Problem Sets and Exams.

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[2]That is any person or software which is not an official instructor of MAT-108 Fall 2020.

Academic Conduct. You must read, understand and act in accordance with the Code of Academic Conduct, available at http://sja.ucdavis.edu/files/cac.pdf. Inappropriate conduct will be reported to the Office of Student Support and Judicial Affairs.

Disabilities If you need special accommodation, please let me know, ideally in advance. The Student Disability Center (SDC) is here to help, and they can do so if you contact them.

Please be aware of the following message by the SDC:

"Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Student Disability Center (SDC). Faculty are authorized to provide only the accommodations requested by the SDC. If you have any questions, please contact the SDC at 530-752-3184 or sdc@ucdavis.edu."

In addition, the SDC also shares:

"The Student Disability Center (SDC) asks that students interested in serving as paid note takers for this course please contact the Student Disability Center at sdc@ucdavis.edu.

Note takers are paid a stipend of $25 per unit*, but must have a social security number or have visa status to qualify for an SSN, have a GPA of 2.5 or better, and be in good Academic standing with UC Davis. Students should attach a sample of their notes to the email and put the following information in the subject line: 'note taker', the course code, CRN number, and instructor's name. If selected, the SDC will offer the position to the Note Taker.

Notes provided to SDC students needing note takers are not to be posted, sold, or otherwise distributed, either by the note taker or the SDC Student receiving the notes. Note takers and SDC students receiving notes are expected to comply with the UC Davis academic honor code. Thank you in advance for your time and consideration.

* You can volunteer in lieu of payment"

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