

MATH 396L: Wildcat Proofs Workshop

Course: Term: Spring 2022
Schedule: Wednesday 3:00 – 4:50 PM
Location: S SCI 222

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Welcome to MATH 396L: Wildcat Proofs Workshop! This course supplements MATH 323 and focuses on mathematical reasoning, with an emphasis on reading and writing proofs. The course is offered in the in-person modality. We will meet weekly at the day/time listed above and use the classroom location included above.

Course Objectives: In this course, students will:

1. learn to read, digest, appreciate, and critique mathematical statements and arguments;
2. politely critique classmates' proofs, asking questions or making suggestions about parts of the arguments that are unclear or incorrect;
3. learn to create mathematical statements and arguments;
4. learn to write in the style and according to the conventions used by professional mathematicians;
5. develop a habit of explaining work in complete sentences, using mathematical notation appropriately;
6. learn to use standard mathematical language to convey the structure of their reasoning and provide guidance for the reader;
7. experiment with examples and “what-if” scenarios to resolve mathematical questions, and seek collaboration when they are stuck or feel that talking about mathematics with peers might reinforce their understanding; and
8. develop some awareness of their own learning as well as of gaps in their understanding, and actively seek out ways to fill in the gaps.

Gradescope: We will use Gradescope for submission of written work. You should have been automatically enrolled in the Gradescope via D2L. But if for some reason you were not enrolled, please sign up for Gradescope at <https://www.gradescope.com/> and join the course with entry code 2R382Z. Along with this, you must have the ability to scan and upload written work to Gradescope. Free apps such as Tiny Scanner, Genius Scan, and Office Lens are available for both Android and iOS systems. The free version is sufficient for our purposes. Alternatively, you can take pictures of your work and upload them to Gradescope.

Textbook: There is no textbook for this course. Materials will be provided via D2L.

Class Structure: The course meets weekly for two hours. The instructors will begin by introducing the topic with a warm-up activity and/or mini-lecture. The students will then be assigned to work on exercises in groups for the majority of the time. Toward the end, we will reconvene as a class to discuss the exercises and present proofs.

Grades: This course will be graded on the alternative grading system. In the alternative grading system the possible grades are ‘S’ (Superior), ‘P’ (Passing) or ‘F’ (Failing). Specific grading will be as follows:

- **Attendance:** We will take attendance at the beginning of each class meeting, and again sometime in the middle of the class meeting. Students receive 1 point for being present each roll call, so there are 2 attendance points per class meeting. If a student is not present at either attendance call, they are considered completely absent for the day.
- **Participation:** Students will receive 2 points per class meeting for actively participating in the discussion and in group work. Participation points are assigned at the discretion of the instructors.
- **Group Work:** Students will turn in their completed group work to Gradescope after class by 11:59 PM (UArizona time). The work will be graded with students receiving 2 points for completed work which is at least mostly correct, 1 point for work which is completed but missing key ideas, and 0 points for incomplete work or insufficient effort.
- **Presentation of Proof(s):** At the end of each class meeting, we will reconvene to discuss the exercises and present proofs. Each student is expected to present / lead the discussion on two separate occasions, and will receive 5 points for each presentation.

Tabulating this all: excluding the first meeting on 1/12, there are 15 class meetings with 6 available points per meeting, plus 10 available points for presentation which gives a total of 100 points. To earn an ‘S’, a student must receive at least 85 points, have no more than two total absences, and present proofs two times. To earn a ‘P’, a student must receive at least 65 points, have no more than four total absences, and present at least one proof. Any student not meeting these criteria will be assigned an ‘F’.

Communication with Students: Announcements and important course information may be sent out via official University email or through D2L. It is the student’s responsibility to check for messages and announcements regularly. The best way to contact the instructors is

through the email listed above; we typically respond within a few hours.

Important Note Regarding MATH 323: This course is separate and independent from MATH 323, and as such, the requirements of this course must be satisfied regardless of performance in MATH 323. Sometimes students assume that either (1) if they are doing well in MATH 323, they can stop attending MATH 396L, or (2) MATH 396L will focus on helping with homework or other deliverables for MATH 323. **Both of these assumptions are false.** Even if a student is doing well in MATH 323, they must still fulfill the requirements for MATH 396L in order to receive an ‘S’ or ‘P.’ During class hours, we will not discuss homework or other deliverables for MATH 323. We are happy to answer clarifying questions or provide homework hints for MATH 323 in office hours, but those questions are more appropriately directed toward the instructor for MATH 323.

What remains are official University of Arizona policies which apply to this course:

More on Attendance: Students are generally expected to attend every scheduled class, be on time, and stay the full period of the seminar. However:

- If you feel sick, or may have been in contact with someone who is infectious, stay home.
- Except for seeking medical care, avoid contact with others and do not travel.
- Notify your instructors if you will be missing an in person or online course.
- Campus Health is testing for COVID-19. Please call (520) 621 – 9202 before you visit in person.
- Visit the UArizona COVID-19 page for regular updates.
- Students who need to miss more than one week of classes in any one semester must provide a doctor’s note of explanation to DOS-deanofstudents@email.arizona.edu.

The following standard UArizona policies also apply to attendance:

- The UA’s policy concerning class attendance, participation, and administrative drops is available at: <http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop>.
- The UA’s policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable. See: <http://policy.arizona.edu/human-resources/religious-accommodation-policy>.
- Absences pre-approved by the UA Dean of Students (or Dean Designee) will be honored. See: <https://deanofstudents.arizona.edu/absences>.
- It is the student’s responsibility to notify the instructors in advance of an absence related to religious observation or an activity for which a Dean’s excuse has been granted, and to arrange how missed work will be handled. It is the student’s responsibility to keep informed of any announcements, syllabus adjustments or policy changes made during scheduled classes.

Face Coverings are Required in Our Classroom: Per UArizona's Administrative Directive, face coverings that cover the nose, mouth, and chin are required to be worn in all learning spaces at the University of Arizona (e.g., in classrooms, laboratories and studios). Any student who violates this directive will be asked to immediately leave the learning space, and will be allowed to return only when they are wearing a face covering. Subsequent episodes of noncompliance will result in a Student Code of Conduct complaint being filed with the Dean of Students Office, which may result in sanctions being applied. The student will not be able to return to the learning space until the matter is resolved.

The Disability Resource Center is available to explore face coverings and accessibility considerations if you believe that your disability or medical condition precludes you from utilizing any face covering or mask option. DRC will explore the range of potential options as well as remote course offerings. Should DRC determine an accommodation to this directive is reasonable, DRC will communicate this accommodation with your instructor.

Physical Distancing is Required in Our Classroom: During our in-person class meetings, we will respect CDC guidelines, including restricted seating to increase physical distancing. Any student who does not maintain physical distance from others may be asked to immediately leave the learning space. Noncompliance may result in a Student Code of Conduct complaint being filed with the Dean of Students Office, which may result in sanctions being applied.

Code of Academic Integrity: Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. University policies can be found at <http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity>.

Other Relevant University Policies Relating to Conduct: Please take note of the following University policies:

- Policy on Threatening Behavior by Students: The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See <http://policy.web.arizona.edu/education-and-student-affairs/threatening-behavior-students>.
- Nondiscrimination and Anti-Harassment Policy: The University is committed to maintaining an environment free of discrimination: see <http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>.

Classroom Behavior: To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed.

Accessibility and Accommodations: It is the University's goal that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, please let us know immediately so that we can discuss options. You

are also welcome to contact Disability Resources at (520) 621 – 3268 to establish reasonable accommodations. For additional information on the Disability Resource Center and reasonable accommodations, please visit <http://drc.arizona.edu>. If you have reasonable accommodations, please plan to meet with us by appointment or during office hours to discuss accommodations and how our course requirements and activities may impact your ability to fully participate. Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

Elective Names: This course supports elective gender pronoun use and self-identification; rosters indicating such choices will be updated throughout the semester, upon student request. As the course includes group work and in-class discussion, it is vitally important for us to create an educational environment of inclusion and mutual respect.

Course Withdraws: Students withdrawing from the course must be made in accordance with University policy <http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal>. If you withdraw from the course by **January 25**, the course will remain on your UAccess academic record with a status of dropped, but will not appear on your transcript. If you withdraw from the course between **January 26** and **March 29**, you will receive a grade of W. Late withdraws will be dealt with on a case by case basis, and requests for late withdraw with a W without a valid reason may or may not be honored.

Incomplete Grades: Incomplete grades must be made in accordance with University policies, which are available at <http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete>.

Note: Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructors.