

INSTRUCTOR: Logan Axon

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PHONE: 509-313-3897

OFFICE: Herak 307A

OFFICE HOURS: 9-9:50 M, 10-11 Tu in the Math Lab (Herak 224), 1:30-2:30 W, 1:30-3:00 Th, or by appointment

WEB SITE AND COURSE SCHEDULE: <http://web02.gonzaga.edu/faculty/axon/499>

DESCRIPTION: A comprehensive survey of mathematics. Students will gain experience with both written and oral communication of a breadth of mathematical topics. At the end of the semester students will be required to take the Educational Testing Services Major Field Test (MFT) in Mathematics. To prepare for class students will solve problems from the GRE Subject Test in Mathematics; the problems mostly involve calculus and analytic geometry but differential equations, linear algebra, probability, abstract algebra, topology, and complex analysis also show up. The course does not aim to teach new material, but some introduction of unfamiliar topics may be provided. During each class randomly selected students will present their solutions. These presentations will be evaluated for accuracy and clarity (roughly, see the following rubric). A final presentation will be assessed by the entire mathematics department. This presentation will receive extra weight in the final grade.

LEARNING OUTCOMES: At the end of the course students will be able to solve problems of the type found on the MFT in Mathematics; this will require both calculations and the formulation of logical mathematical arguments. Students will also be able to present a clear method of solution to the class (or a group of math professors) using a combination of writing and speaking. Students will be able to critically analyze the mathematical presentations of others.

GRADES: Grades will be based on presentations (both your presentations and your evaluation of other presentations), practice exams, and scores on the Major Field Test (which will be administered at the end of the semester). Presentations will comprise 40% of the final grade, practice exams 20%, and the MFT 40%. Your percentile rank on the MFT will be used to calculate the proportion of that 40% you earn using the following formula:  $F(x) = 1 - (1 - x)^4(1 + 4x)$ .

GUIDELINES FOR PRESENTATIONS: Make sure the problem is shown on the projector. For all but the simplest problems you should explain the problem to the class: what do you actually need to do in order to solve the problem? Next briefly explain how you will accomplish this. Then present your complete solution, being sure that each step is clearly connected to the problem and/or earlier steps. Too little and too much detail can both be bad. It may be helpful to plan stopping points when you can check to make sure that everyone is still following you. It may also be helpful to plan out how you will use the dry-erase boards.

RUBRIC FOR GRADING PRESENTATIONS: Presentations will receive scores in 4 areas: accuracy, clarity, speech, and boardwork. Each score will be a number between 1 and 5 (inclusive).

	5	4	3	2	1
<b>Accuracy</b>	All mathematics is correct	Minor errors that are promptly corrected	Correct answer, but with minor errors that are not corrected	Correct answer, but with significant errors or omissions	Incorrect answer
<b>Clarity</b>	Presentation is well-organized	One or two points or links are unclear	Argument can be followed but links are weak	Difficult to follow argument	No apparent argument
<b>Speech</b>	Speech is always clear	Speech is occasionally hesitant or inaudible	Speech understandable only with difficulty	Parts of the speech are not understandable	Most speech is not understandable
<b>Boardwork</b>	All writing and diagrams are clear	Some are not clear, but the presentation is still easily readable	Presentation is readable with some effort	Parts of the presentation are unreadable	Most of the presentation is unreadable

**ATTENDANCE AND OTHER CLASS BUSINESS:** Students are expected to attend all classes. When possible, absences should be excused in advance or by a written, signed note from an authority. Students are responsible for making up all missed work. The website will be kept roughly up to date, but some changes will be announced in class before they appear on the website. Always check in with the instructor if you miss a class.

The College of Arts and Sciences has suggested that the following be included in all course syllabuses. It is important and you should read it at least once.

**HARASSMENT, NON-DISCRIMINATION, AND SEXUAL MISCONDUCT:** Consistent with its mission, Gonzaga seeks to assure all community members learn and work in a welcoming and inclusive environment. Title VII, Title IX, and Gonzaga's policy prohibit harassment, discrimination, and sexual misconduct. Gonzaga encourages anyone experiencing harassment, discrimination, or sexual misconduct to talk to someone from the Campus and Local Resources list found in the Harassment and Non-Discrimination Policy.

It may be helpful to talk about what happened in order to get the support needed and for Gonzaga to respond appropriately. There are options for support and resolution, namely confidential support resources, and campus reporting and support options available. Gonzaga will respond to all reports of sexual misconduct in order to stop the harassment, discrimination, or misconduct, prevent its reoccurrence and address its effects. Responses may vary from support service referrals to formal investigations.

As a faculty member, I want get you connected to the resources here on campus specially trained in and experienced in assisting in such complaints, and therefore I will report all incidents of gender-based harassment, discrimination and sexual misconduct to Title IX (in fact, I am required to report such incidents). A representative from that office will reach out to you via phone and/or email to explore options for support, safety measures and reporting. I will provide our Title IX Director with all relevant details, including names and identifying information, of the information reported. For more information about policies and resources or reporting options, please visit the following websites: Equity and Inclusion and Title IX. If you would like to directly make a report of harassment, discrimination or sexual misconduct directly, you may fill out an online Sexual Misconduct Report Form or contact the Title IX Director by phone, email, or in person:

Stephanie N. Whaley  
Title IX Director  
509-313-6910  
whaleys@gonzaga.edu  
Business Services Building 018

**NOTICE TO STUDENTS WITH DISABILITIES AND/OR MEDICAL CONDITIONS:** The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability/medical condition requiring an accommodation, please call 509-313-4134, email [disability@gonzaga.edu](mailto:disability@gonzaga.edu), or visit the Disability Access office (room 209 Foley Library).

**ATTENDANCE:** I follow the university's standard policy on absences: the maximum allowable absence is two class hours (100 minutes) for each class credit. For a three-credit class meeting three times a week, the maximum number of absences allowed is six. For a three-credit class meeting twice a week, the maximum number of absences allowed is four. The grade for excessive absences is "V", which has the same effect as "F" (Fail) and is counted in the GPA. See also "Class Attendance Policy" on page 68 of the University's online catalogue.

**ACADEMIC HONESTY:** Academic honesty is expected of all Gonzaga University students. Academic dishonesty includes, but is not limited to, cheating, plagiarism, and theft. Any student found guilty of academic dishonesty is subject to disciplinary action, which may include, but is not limited to, a failing grade for the test or assignment in question, a failing grade for the course, or a recommendation for dismissal from the University. See also "Academic Honesty" on page 67 of the University's online catalogue.

**COURSE EVALUATION:** At Gonzaga, we take teaching seriously, and we ask our students to evaluate their courses and instructors so that we can provide the best possible learning experience. In that spirit, we ask students to give us feedback on their classroom experience near the end of the semester. I will ask you to take a few minutes then to carry out course/instructor evaluation in class. Please know that I appreciate your participation in this process. This is a vital part of our efforts at Gonzaga to improve continually our teaching, our academic programs, and our entire educational effort.