Instructor: Jeffrey Case  
Email: jscase@psu.edu  
Office: 221 McAllister Building  
Office Hours: MW 3–4pm, or by appointment.

Course Organization: MWF from 1:25–2:15pm in 117 Sackett Building. Attendance is strongly recommended.

Course Web Page: http://www.personal.psu.edu/jqc5026/teaching.html or ANGEL

Textbook: J. F. Humphreys and M. Y. Prest, Numbers, Groups and Codes, 2nd edition. An electronic version of the book can be downloaded for free from any Penn State-connected computer from here. You can also download it from any computer by searching for the textbook at www.libraries.psu.edu and logging in to the PSU network.

Course Contents: Time permitting, this course covers the entirety of the textbook. The primary purpose of this course is to introduce mathematical proofs; we shall do so by discussing basic set theory, number theory, and group theory. In the process we will discuss many different proof-writing strategies. There will be a writing component to this course; all students will be expected to write proofs.

Assignments, Exams and Grading Policies: Your grade will be based on three components:

- **Homework (30%)**: There will be weekly homework assignments, due at the beginning of class every Wednesday except for the first week of classes and the weeks of the two midterms. Homework assignments will be posted on the course webpage and on ANGEL.

- **Midterm Exams (40%)**: There will be two in-class midterms, each worth 20% of your grade. The midterms will take place on Friday, February 26 and Friday, April 1.

- **Final Exam (30%)**: The final will be given during the week of May 2–6. The date will be announced later.

- **Extra Credit Opportunity**: The first 15-20 minutes of every lecture on Wednesday (except the first such lecture) will be a discussion of the homework; during the weeks of the two midterms, the entire lecture period will be used for review. If you desire, you can give a 5-10 minute presentation to the class of one of the identified homework/review problems for extra credit. Your presentation should include a written proof of the problem and some explanation of your proof strategy. This presentation will be worth 2% of the total available points in the course and can only be given once for extra credit. You are, of course, welcome to give multiple presentations if there are no volunteers who have not yet taken advantage of the extra credit opportunity!

Grades will be assigned on the 90-80-70 scale; this may be adjusted downward at my discretion. Plus and minus grades will be given at my discretion.

Academic Integrity Statement: All Penn State policies regarding ethics and honorable behavior apply to this course. The expectations for written work are as follows:

1. The midterm exams and the final exam are closed book and closed notes. You may not use your textbook, bring notes of any sort, or use any technology to complete the exam. You must complete the exam on your own; you may not consult with your fellow students.

2. Your written homework assignments must be your own work. However, you are strongly encouraged to work on homework assignments with your fellow students. You may discuss and solve problems with your peers, but your submitted solutions must be written in your own words. If you complete a significant portion of a given homework assignment with others, you should acknowledge their contributions on the front page of your completed assignment.
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