Course Syllabus

**Professor:** Dr. Christine Heitsch  
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**Office Hours:** Monday 3:30 – 4:30, Tuesday and Thursday 1:30 – 2pm. If you need to see me at another time, please email me to set up an appointment.

**Lectures:** Tues, Thurs 12:05 – 1:25 in Skiles 240.


**Course Description:** “This course develops in the theme of ‘Arithmetic congruence, and abstract algebraic structures.’ There will be a very strong emphasis on theory and proofs.”

**Prerequisites:** Math 2406 (Abstract Vector Spaces) or equivalent.

**Course Topics:** Groups (Chapt. 2); The Symmetric Group (Chapt. 3); Ring Theory (Chapt. 4); Fields (Chapt. 5);

**Grading Scheme:** Grades will be calculated according to the following distribution:

- 30% Final Exam
- 40% Two Midterm Exams (20% + 20%)
- 30% Homework

Grades will be assigned on the standard scale:

- A 90 or higher  
- B 80 – 89  
- C 70 – 79  
- D 60 – 69  
- F Below 60

On an individual basis, significant improvement over the semester will be taken into account. The overall class distribution will also be carefully considered.

**Final Exam:** The final exam is scheduled for Friday, December 13th, from 8:00AM - 10:50 AM. The exam will be cumulative and count for 30% of the final grade.

**Midterm Exams:** There will be two in-class exams, each counting for 20% of the final grade, for a total of 40%. The exams will be closed book, closed notes, no calculator, individual tests. The tentative exam dates are:

- **Midterm 1** Tuesday, September 30th
- **Midterm 2** Thursday, October 30th

Exam dates will be confirmed at least a week in advance.
Homework: Homework will be assigned approximately every two weeks, and due one week later at the beginning of class. **Late homework will not be accepted.**

A subset of the homework problems will be selected for grading. Assignments must be neatly and clearly written in complete, correct English sentences. Homework must be written on the front side of the page only, and multiple pages must be stapled together. Illegible and/or unintelligible solutions will receive no credit.

Collaboration is allowed (and even encouraged) when working on homework problems. However, each student must write-up and submit an independent solution in his/her own words.

Attendance: Regular attendance is expected. Exceptions will be accommodated only for valid, documented reasons including (1) official representation of the Institute and (2) medical emergencies. Note that makeup exams will be given only under extraordinary circumstances.

Exceptions: If you know that you will not be able to meet the requirements of the class as stated, you must contact me within the first two weeks of class.

Academic Integrity: Students are reminded of the obligations and expectations associated with the Georgia Tech Academic Honor Code and Student Code of Conduct, available online at: http://www.deanofstudents.gatech.edu/Honor/index.html and http://www.deanofstudents.gatech.edu/integrity/policies.php. Any violations must be reported to directly to the Dean of Students.

Practice Problems: In addition to the homework assignments, numerous “practice problems” from the book will be suggested. You are strongly encouraged to work these problems and other additional exercises on your own and/or with other students to master the course material.

Additional Resources:

- T-Square — http://t-square.gatech.edu
- 4107 webpage — http://www.math.gatech.edu/~heitsch/4107.html
- “How to write proofs: a quick guide” by Dr. Eugenia Cheng, U Sheffield — http://cheng.staff.shef.ac.uk/proofguide/

Updates: This syllabus is subject to modification. Any changes will be announced in class and posted on the course website.