Math 546/701I: Algebraic Structures I
Section 101/201   Summer 2021

Instructor: Shaoyun Yi
Meeting Times: MTWR 2:30-4:10 pm (100% Web Synchronous)
Virtual Office Hours: MTWR 4:15-5:15 pm, and by appointment
Email: shaoyun@mailbox.sc.edu
Web: Visit http://people.math.sc.edu/shaoyun/math5462.html for a tentative course calendar and other information (will be updated throughout the course).

Textbook and Materials: *Abstract Algebra* by J. Bleachy and W. Blair, 4th edition.

The course covers all of Chapter 3 and Sections 1.3, 1.4, 2.3.

Topics: Definition and examples of groups, subgroups, group homomorphisms and isomorphisms, normal subgroups and factor groups. Notable examples that will be discussed in detail are cyclic groups and groups of permutations.

Prerequisite: Qualification through a grade of C or better in Math 544, or consent of the Undergraduate Director.

Learning Outcomes: Upon successful completion of this course, students should be able to:

- Become familiar with basic examples, properties and constructions of groups, subgroups, homomorphisms, rings and ideals, as well as fundamental theorems in group theory (Lagrange's theorem, Cayley's theorem).

- Verify whether the group axioms hold in concrete examples, decide when two groups are isomorphic, and list subgroups of certain groups.

- Read a mathematical argument and write a mathematical proof.

Expectations:

- Students are expected to attend all lectures on Blackboard since the course is 100% Web Synchronous online.

- Students are expected to read assigned sections in the textbook and complete periodic homework, two tests, and a final exam. Students should check email, Blackboard and course website frequently for announcements and course documents such as homework and lecture slides; see the tentative course calendar on the course website.

Make-up work Policy: Make-up work will not be assigned, except in cases of excused absences.

Withdrawal:
The last day to change/drop a course without a grade of "W" being recorded is **May 11 (T)**.
The last date to withdraw without a grade of "WF" being assigned is **June 6 (Sunday)**.

Testing Policy: There will be two tests and a comprehensive final exam. Each exam will be given as a take-home exam. You will be allowed to use your notes and the book during exams.

NO collaborations are allowed. And NO consulting any online sources is allowed.

You are required to submit solutions on Blackboard/Assignments as **a single pdf**, not as an email attachment (if needed, there are many online converters of jpg pictures to pdfs).

I will **NOT** "drop the lowest test grade". In general, no make-up tests will be given. Tests are *tentatively* scheduled as follows:

Test 1	Monday	May 24
Test 2	Tuesday	June 8
Final Exam	Saturday	June 19

- *The procedure for the test 1 (resp. test 2):* I will post the questions on Blackboard at **9 am EST on May 24 (resp. June 8)**. You will have until **11:59 pm EST on May 24 (resp. June 8)** to submit solutions. However, the length of the exam will be such that you should be able to complete it in **100 minutes**, the normal exam length.

- *The procedure for the final exam:* I will post the questions on Blackboard at **12:30 pm EST on June 19**. You will have until **12:30 pm EST on June 20** to submit solutions. However, the length of the exam will be such that you should be able to complete it in **150 minutes**, the normal exam length.

I acknowledge the fact that you might not be able to work uninterrupted at home, and therefore the exam will not be timed.

Homework Policy: You are required to submit solutions on Blackboard as **a single pdf**.

You are allowed, even encouraged, to discuss homework assignments with other students. However, each student must turn in his or her own homework.
Copying homework will NOT be tolerated.

All homework must be done before the due date. Please find the due date on the course website. Under **NO** circumstances will late homework be accepted. Homeworks will be partially graded (**5 questions for each homework**). The **lowest one** homework grade will be dropped.

Grade Distribution:

Homework	40%
Test 1	15%
Test 2	15%
Final Exam	30%

Grading Scale:

A	90%-100%	C	70%-75%
B+	86%-89%	D+	66%-69%
B	80%-85%	D	60%-65%
C+	76%-79%	F	below 60%

Getting Help:
Students are encouraged to attend virtual office hours or schedule appointments if particular difficulties arise. In this course, the subject matter builds upon itself, so it is important to catch problems with understanding early.

Disability Services:
Any student with a documented disability should contact the Office of Student Disability Services at 777-6142 to make arrangements for appropriate accommodations.

Honor Code:
The Honor Code applies to all work for this course. Students should review the Honor Code at http://www.sc.edu/academicintegrity. Students found violating the Honor Code will be subject to discipline.