

Math 6413 E01: Advanced Model Algebra I

Summer Semester 2020

Instructor: Dr. Abdollah Khodkar
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Office Hours: Make an appointment

Hours Credit: 3 hours

Prerequisites: MATH 3003 (A Transition to Advanced Calculus)

Textbook: A first course in Abstract Algebra, 7th edition by John B. Fraleigh,
Publisher: Addison-Wesley.

Description: Topics include introduction to groups, subgroups, quotient group and homomorphisms, group actions, direct and semidirect products and Abelian groups, and further topics in Group Theory.

We will cover:

- Chapter 1: Groups and Subgroups (**Sections 1, 2, 3, 4, 5, 6, 7**)
- Chapter 2: Permutations, Cosets, and Direct Products (**Sections 8, 9, 10, 11, 12**)
- Chapter 3: Homomorphisms and Factor Groups (**Sections 13, 14, 15, 16**)

Homework: The following selected questions from the textbook are not to be turned in and graded but that are meant to reflect the sort of questions you can expect on tests and the final. I encourage you to use my office hours if you have any questions about them.

Selected Questions:

- Exercises 0: Questions 3, 4, 7, 8, 11, 12, 17, 24, 26, 31, 32, 36
- Exercises 1: Questions 6, 8, 9, 11, 14, 20, 21, 26, 27, 31, 34, 35, 37, 40, 41
- Exercises 2: Questions 3, 8, 12, 13, 19, 23, 26, 28, 34, 35, 36, 37
- Exercises 3: Questions 6, 10, 13, 15, 16, 18, 25, 26, 27, 28, 33, 34
- Exercises 4: Questions 3, 6, 10, 13, 17, 18, 19, 29, 30, 31, 32, 35, 39, 40, 41

Exercises 5: Questions 4, 6, 12, 13, 17, 20, 21, 22, 24, 26, 28, 31, 33, 35, 41, 42, 43, 46,

47, 51, 53, 55, 56

Exercises 6: Questions 3, 7, 10, 15, 16, 17, 20, 21, 23, 28, 33, 35, 40, 44, 46, 49, 50, 51, 52, 55

Exercises 7: Questions 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14

Exercises 8: Questions 2, 5, 7, 10, 13, 17, 19, 20, 21, 33, 34, 40, 46

Exercises 9: Questions 2, 3, 6, 8, 9, 11, 13, 16, 17, 23, 29, 30, 36

Exercises 10: Questions 1, 3, 6, 8, 12, 14, 16, 19, 20, 24, 27, 28, 29, 30, 32, 39, 40, 43, 46

Exercise 11: Questions 2, 3, 5, 7, 10, 13, 14, 15, 18, 20, 23, 26, 29, 32, 34, 36, 37, 38, 39, 40, 44, 46, 47

Exercise 13: Questions 1, 4, 6, 8, 10, 12, 15, 17, 18, 21, 23, 24, 26, 27, 29, 32, 33, 37, 41, 48, 49, 50, 53

Exercise 14: Questions 1, 2, 5, 8, 9, 10, 13, 15, 16, 18, 20, 21, 23, 24, 27, 30, 31, 34

Exercise 15: Questions 1, 2, 5, 9, 10, 12, 13, 14, 15, 17, 19, 30, 31, 34, 35, 36

Exercise 16: Questions 1, 2, 3, 9, 10, 12, 15

Tests: There will be 3 class tests. Each will be worth 25% toward your final grade.

Test 1: Friday June 12

Test 2: Friday June 26

Test 3: Friday July 10

Final exam: The final exam will be worth 25% toward your final grade.

Final exam will be on Thursday July 23.

Grading Scale: A: 90-100%, B: 80-89%, C: 70-79%, D: 60-69%, F: 0-59%.

Grading: Your final grade will be determined as follows: Tests; 75% and Final: 25%.

Students, please carefully review the following information at this link

<https://www.westga.edu/administration/vpaa/common-language-course-syllabi.php>

It contains important material pertaining to your rights and responsibilities in this class. Because these statements are updated as federal, state, university, and accreditation standards change, you should review the information each semester.