Modern Algebra: MATH 313

PPHAC 117, MWF 2:35 PM - 3:45 PM
Fall 2015

Instructor: Dr. Shannon Talbott
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Office Hours:
Tuesday 9:30 - 11:30 AM; Wednesday 1:30 - 2:30 PM; Friday 10:15 - 11:15 AM; and by appointment

Text: *Contemporary Abstract Algebra, Eighth Edition,* by Joseph Gallian.
Other materials: Your collected homework will be typed in LaTeX. In the shared Google Drive folder, you will find a template with useful information. We may use appelets found on Joseph Gallian's website to help us formulate and test conjectures. These programs use Java and can be found here.

Course Goals:
The main purpose of this course is to provide you with the necessary skills and background to successfully study and communicate the concepts and techniques of modern algebra. Specific course goals are to:

- learn fundamental concepts about and how to identify examples of groups, rings and fields
- gain a better understanding of properties of various mathematical objects
- further develop skills in reading, understanding and writing clear, logically sound proofs

Course Topics: Modern (sometimes called abstract) algebra aims to study the structure of sets of mathematical objects, paired with operations, and their properties. We will study three of these called Groups, Rings and Fields. These algebraic structures developed from attempts to solve quite familiar questions about solutions of equations. The concepts found in modern algebra move beyond these attempts and can be found in many fields of mathematics and science, including symmetry in physics and coding theory in computer science.
The class will be a mixture of short lectures, questions and discussion, and classroom activities. Active participation during class meetings is expected from each student. Some activities will involve working as a group or working individually.

Grading System:

Homework/Quizzes
There will be homework assigned at the end of each section. It is vital that you do all of the homework problems assigned; you should keep all of your work in a notebook or binder for reference. For every hour in class, you should expect to spend 2-3 hours doing work outside of class. You cannot learn math without lots of practice! You first attempt at homework should be done on your own. If you still need assistance, you may ask for a hint from a classmate or work on the problem together. However, acquiring an entire solution from a classmate is not acceptable. You are always welcome to come to office hours to see me.

Approximately once a week, assessment in the form of collected homework or an in-class quiz will occur. There will be no make up quizzes given and late homework will not be accepted. Due to this, the lowest

quiz/homework score will be dropped at the end of the semester. Extenuating circumstances will be taken into consideration (with appropriate documentation).

Exams

We will have three in class exams and a final exam. If you will miss an exam (with an approved excuse), you must notify me PRIOR TO the exam. You will then be given a suitable (corresponding to the time beyond the exam date) but more difficult exam. Extenuating circumstances will be taken into account (with appropriate documentation).
Your final exam will be on Wednesday, December 16 at 8:30 AM.

Attendance

Regular class attendance is expected of all students. You are responsible for all material assigned or covered in class. If you do miss a class for any reason, it is your responsibility to keep up with the class. You should see a classmate for notes, homework assignments, and any announcements from class.

Grades:

Your final grade is based on the following distribution:

Participation/Preparation	15%
Homework/Quizzes:	20%
Exam I:	15%
Exam II:	15%
Exam III:	15%
Final Exam:	20%

where you will receive a grade for participation/preparation each day, based on the following 4-point scale:

- 0 Absent (unexcused)
- 1 Distracting from class or unprepared/unengaged
- 2 Somewhat prepared and participating in class
- 3 Prepared and participating in class
- 4 Prepared and actively and effectively participating in class

If you are absent with an approved excuse, you will not receive a participation/preparation grade for the day but your grade at the end of the semester will be averaged without these points.

Course grades will be determined by the following scale:

93-100 : A	80-82 : B-	67-69 : D+
90-92 : A-	77-79 : C+	63-66 : D
87-89 : B+	73-76 : C	60-62 : D-
83-86 : B	70-72 : C-	<60 : F

The exam schedule will be as follows, although slight changes may be made:

Exam I: Wednesay, September 30
Exam II: Friday, October 30
Exam III: Wednesday, December 2
Final Exam: Wednesday, December 16 at 8:30 AM

Course Policies:

Final Exam: Your final exam is on Wednesday, December 16 at 8:30 AM. A make-up final exam will not be administered to accommodate any travel plans.

Participation in class discussions: Class participation enhances your learning experience. Students who attend class regularly, participate in discussions, and are in between grades at the end of the semester may receive the higher of the two grades.

Other Expectations of Student Performance/Behavior:
Please turn off your cell phone at the beginning of class. Be considerate of your classmates and keep private discussions during class to a minimum. Please check your email for any announcements regarding this class. If you wish to email me, please use your Moravian email accounts only as I frequently delete spam.

This syllabus is subject to change. Any changes will be announced in class.

Mathematics Department Academic Honesty Policy: The Mathematics Department supports and is governed by the Academic Honesty Policy of Moravian College as stated in the Moravian College Student Handbook. The following statements will help clarify the policies of the Mathematics Department faculty.

Learning Disability Accommodations and Tutoring: Beginning the second week of class, the Mathematics and Computer Science Department offers tutoring Monday through Thursday 5:30-8:30pm in PPHAC 238. This is free drop-in tutoring and does not require an appointment.
The Academic Support Center houses Disability Support and Greyhound Tutoring on the first floor of Monocacy Hall and can be reached at 610-861-1401. Greyhound Tutoring provides course-specific tutors to Moravian students, free of charge. If you would like to work with a Greyhound Tutor to boost your academic success, please request a tutor through http://bit.ly/NeedTutorMC (case-sensitive). Plan ahead! It takes 2-3 business days to connect you with a tutor.
Students who wish to request accommodations in this class for a disability should contact the Academic Support Center, located on the first floor of Monocacy Hall (extension 1401). Accommodations cannot be provided until authorization is received from the Academic Support Center. The Writing Center is located in a building that is not accessible to persons with mobility impairments. If you need the services of the Writing Center please call 610-861-1392.