

Abstract Algebra II

Winter 2017

Course Instructor

Daniel Rowe

JXJ 2228

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Office Hours: MW 3-4, R 2-4

Learning Outcomes

This course is a continuation of ma312: *Abstract Algebra I*.

With an understanding of the theory of groups in hand, this semester will focus on the study of rings and fields. The eventual goal of this course is *Galois Theory*, which is a beautiful interaction between the concepts of groups, rings, and fields. By the end of this course a student will be able to *understand* and *apply*:

- finite abelian groups
- Euler's formula
- polynomial rings, rational function fields
- Gaussian integers and Gaussian primes
- irreducible polynomials over \mathbb{Z}
- symmetric functions
- Galois Theory.

Course Meeting Times

MWF 10:00-10:50

JXJ 3103

Course Webpage

The course webpage will be on the *NMU EduCat* system, which can be accessed at <https://educat.nmu.edu>.

Recommended Textbook

Michael Artin, *Algebra*, 2E, Prentice Hall, 2011.

Grading Scheme

Problem Sets (30%)	Tests (35%)	Final (35%)
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Problem Sets and Tests

There will be 3 tests evenly spaced throughout the semester. There will also be problem sets posted to *EduCat* with evenly spaced due dates throughout the semester. These problem sets are the backbone of the class. We will sometimes devote entire classes to working together on the problem sets.

Advice

Learning is an active *process*, and it is critical that you be respectful of this process. I will be working very hard to make this class exciting, engaging and clear, but you will have responsibilities as well. It is *very important* that you attend every class. You need to be *present* and *engaged*. When learning math, you cannot simply sit back and let the information soak in; you must invest your time, little by little, struggling with concepts and problems, making mistakes, and then finding the solutions.

Accessibility

If you have a need for disability-related accommodations or services, please inform the *Coordinator of Disability Services* in the Dean of Students Office at 2101 Hedcock Building (906-227-1700 or disserv@nmu.edu). Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state, and University guidelines.