

Syllabus for M 522: Advanced Algebra II (Spring 2016)

The main goal of this course is to give you an introduction to the theory of rings and modules.

Instructor Information

Instructor: Nikolaus Vonessen

Office: Math 207

Email: nikolaus.vonessen@umontana.edu

Phone: (406) 243-6222

Office hours: Posted on my webpage, which is linked from the math department website. If the posted times don't work for you, I'll be happy to make an appointment for a different time.

Good times to see me are after class, and during office hours.

Required Textbook

Introductory Lectures on Rings and Modules by John A. Beachy, Cambridge University Press, 1999, ISBN 978-0521-644075. There are some additional materials posted at the author's web site, http://www.math.niu.edu/~beachy/rings_modules/. We will cover most of Chapters 1–3, and, time permitting, material from Chapter 5 on Commutative Rings (this chapter can be downloaded from the author's web site). I expect you to spend considerable time reading and comprehending our textbook—there isn't enough time to cover everything in detail in class.

Prerequisites:

This course assumes some familiarity with vector spaces, groups, rings and fields. While the official prerequisite is M 521, you are probably ready to take this course if you successfully completed M 432 (or an equivalent course). Please ask me if you have questions.

Learning Goals and Assessment:

The main goal for this course is that you learn the basics about rings and modules; doing the weekly homework assignments will help you to achieve this. Your grade for the course will be based on the homework and maybe on occasional quizzes. There will be no other tests, and no final exam.

Grading Scale

Cutoff Percentage:	93%	90%	87%	83%	80%	75%	70%	65%	62%	58%	55%
Grade:	A	A-	B+	B	B-	C+	C	C-	D+	D	D-

Homework

Working on problems seems to be the most important part of learning mathematics – so please take the homework seriously. I will drop the lowest homework score. If you cannot hand a homework set in on time for a “really good” reason, contact me, and I will usually give you an extension. (If I receive too many extension requests, I will have to change my policy and only grant extensions in cases of documented illness or other exceptional circumstances beyond your control.)

Quizzes

Occasionally, there may be a short quiz (announced during the previous lecture) on definitions and statements of results. Each quiz counts like a homework set.

Collaboration on Homework Problems

I encourage collaboration (i.e., **working together** to solve problems, not simply copying the work of others). I require, however, the following:

1. You always have to write up the solutions in your own words (again, no copying!).
2. You must indicate with whom you worked to solve the problem.
3. It is not permitted to use the Web (Internet) to aid in solving homework problems.

On the other hand, it is also very important to learn to solve problems on one's own. On each homework set, there will be some **"do-on-your-own" problems** marked by a **star (*)**. As the name implies, you have to solve these problems completely on your own – you can consult books but no other materials, and nobody else (with one exception: you can ask me for hints in class or during my office hours).

Some Important Dates

Date	Event
February 12 (Friday)	Last day to drop without a W on the transcript; also last day to change the grading option to audit
February 15 (Monday)	Presidents Day
March 28 (Monday)	Last day to drop without a petition (and without a WP or WF on the transcript)
April 4-8	Spring Break
May 6 (Friday)	Last day of classes, last day for petitions to drop, and last day to change the grading option from traditional to CR/NCR grading
May 12 (Thursday)	Final Exam Period (10:10 – 12:10) If we do not want to meet at this time, we have to schedule two extra lectures during the semester.

Disability Modifications

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and [Disability Services for Students](#). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services (Lommasson Center 154, (406) 243-2243). I will work with you and Disability Services to provide an appropriate modification.

Academic Honesty

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University.

Student Conduct Code

All students need to be familiar with the [Student Conduct Code](#). You can find it in the "A to Z" index on the UM home page.