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 groups, rings, and vector spaces, but material from an undergraduate abstract algebra course (like M 432) will be reviewed as needed.

**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. There will be no other tests, and no final exam.

**Grading Scale**

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<tr>
<th>Cutoff Percentage:</th>
<th>93%</th>
<th>90%</th>
<th>87%</th>
<th>83%</th>
<th>80%</th>
<th>75%</th>
<th>70%</th>
<th>65%</th>
<th>62%</th>
<th>58%</th>
<th>55%</th>
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<tbody>
<tr>
<td>Grade:</td>
<td>A</td>
<td>A-</td>
<td>B+</td>
<td>B</td>
<td>B-</td>
<td>C+</td>
<td>C</td>
<td>C-</td>
<td>D+</td>
<td>D</td>
<td>D-</td>
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**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. Depending on enrollment, I may only be able to grade each homework set. **Homework has to be turned in by 4 pm on the due date.** 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 should receive too many extension requests, I might have to change my policy and only grant extensions in cases of documented illness or other exceptional circumstances beyond your control.)

**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).

Resubmission of Homework Problems
To help you improve your proof writing skills, I may at times, for an individual student, require a rewrite of a homework problem. In such a case I will assign a tentative score for the problem; if I do not receive an acceptable rewrite by the deadline, that tentative score will revert to zero. Since I cannot give everyone the opportunity to resubmit, fairness requires that resubmitting a problem cannot increase the tentative score. Please note that the resubmission must be attached to the original homework.

Some Important Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Monday, January 20</td>
<td>Martin Luther King Day</td>
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<tr>
<td>Monday, February 3 (5 pm)</td>
<td>Last day to drop without a W on the transcript, and last day to switch, on CyberBear, between traditional letter grading and CR/NCR grading.</td>
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<tr>
<td>Monday, February 17</td>
<td>Presidents Day</td>
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<tr>
<td>March 16-20</td>
<td>Spring Break</td>
</tr>
<tr>
<td>Tuesday, March 24 (5 pm)</td>
<td>Last day to drop without a petition (and without a WP or WF on the transcript)</td>
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</table>
| Friday, May 1 (5 pm)  | • *No class on May 1 – we have to schedule an extra lecture during the semester.*  
                         • Last day of classes, last day for petitions to drop, and last day to change the grading option from traditional to CR/NCR grading |
| Thursday, May 7       | Final Exam Period (10:10 – 12:10)  
                         *If we do not want to meet at this time, we have to schedule two additional 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 have a disability that adversely affects your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 (or call 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.