Foundation of Number Systems  
Math 303  
Fall 2015 Syllabus

Professor Tim Harms  
Class Meeting in MacLean 269 M, W, F 1:00-1:50  
Office: MacLean 375F  
Office Phone: 218-477-4016

Office hrs: M 12:00-12:50, T 8:30-10:30 & 1:00-2:50, W 8:30-11:00, R 8:30-10:30, F 12:00-12:50  
along with additional hours available by appointment

e-mail: harms@mnstate.edu  
Web page: http://web.mnstate.edu/harms

Required Text & Supplement:  
Rick Billstein, Shlomo Libeskind, Johnny W. Lott

Required Supplies: Three ring binder & colored pencils.

Prerequisites:  
Students enrolled in this course should have completed two years of high school algebra or its equivalent and one year of high school geometry. Students must have successfully completed Math 110 or its equivalent with a C - or better prior to taking this course.  
(For students who have not taken Math 110 there is a requirement that the Computational Mastery Exam be passed to pass this course.)

Course Description:  
Foundations of Number Systems includes the study of sets; systems of numeration; whole number, integer, and rational number operations and properties. Particularly appropriate for elementary and special education majors.

Learner Outcomes:  
- Demonstrate proficiency with teaching materials such as Dienes Blocks, and other manipulative materials.  
- Correctly use and explain the models used for teaching mathematical concepts and algorithms in the elementary school mathematics curriculum which included:  
  - Whole number computation  
  - Whole number operations and properties  
  - Rational number operations and properties  
  - Decimal, ratio, proportion, and percent  
  - Number theory  
  - Algebraic thinking  
  - Problem Solving

Course Outline:  
Unit/Test 1 – Patterns, Dienes Woods, Whole Numbers  
  Sections 1.2, 2.1, 2.2, 3.1, 3.2, 3.3  
Unit 2/Test 2 – Number Theory & Integers, Chapters 4-5  
Unit/Test 3 – Rational Numbers & Proportional Reasoning, Chapter 6  
Unit 4 – Comprehensive Final Exam over Chapters 1-7 – Dec. 11th 11:30

Class assignments with due dates are posted and regularly updated on the Web page listed above under the Math303 link.
Student Expectations:
- Regular and active classroom participation.
- Use appropriate tools (paper, pencil, multi-base blocks, other manipulatives) when solving problems.
- Allocate time in your schedule to complete the homework by its due date. (For every hr. of class you will be expected to work outside of class at least 2 hrs.)
- Work cooperatively in small groups on in-class activities.
- Solve problems in mathematics by formulating problems, use different strategies to verify and interpret results, & communicate results.
- Please keep your cell phone put away while in class.
- No calculators will be permitted for this course.
- Students will act in an honest and trustworthy manner in class and on all assignments. See your Student Handbook http://web.mnstate.edu/sthandbook/policiesprocedures/academichonesty.cfm

Attendance Policy:
- An absence may result in no credit for that day’s class work if arrangements have not been made with Professor Harms prior to class.
- Late work will lose 50% of its value for each day beyond its due date.
- No make-up on missed quizzes or tests if prior arrangements have not been made with Professor Harms.

Evaluation:
1. Select problems from the activities, textbook, & handouts 5 -10 pts. each
3. Tests 1, 2, & 3 are each worth 100 pts.

Grading Scale:
-98 A+; 97-93 A; 92-90 A-
89-88 B+; 87-83 B; 82-80 B-
79-78 C+; 77-73 C; 72-70 C-
69-68 D+; 67-63 D; 62-60 D-
59%- F
(Grades will be rounded to the nearest whole percent. There is no extra credit offered in this course so do your best on each assignment and assessment.)

Assistance Available:
If you are having trouble please see Dr. Harms during office hours or make an appointment. The Math Department offers drop in tutoring M-F in MacLean 383, Bailey or Kaylee are the best resources to help with Math 303 questions Mon. 9-10:30, Wed. 9-10:30 & 3-4, Thur. 1:30-3, & 3-4, Fri. 9:30-11.

Dienes Wood Kits are available in the Library at two different locations one set on the second floor in the CMC Curriculum Kits with call numbers 513.2 D562m.
The other set is at the front desk on reserve: Base 2 Reserve # 471, Base 3 Reserve #472, Base 4 Reserve #473, Base 5 Reserve #474, & Base 6 Reserve #475
**Special Accommodations:**
Minnesota State University Moorhead is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

- If you have, or think you may have, a disability (e.g. mental health, attentional, learning, chronic health, sensory or physical) please contact the DRC at (218) 477-4318 (V) or (800)627.3529 (MRS/TTY) to schedule an appointment for an intake.

- Additional information is available on the DRC website: [http://www.mnstate.edu/disability/](http://www.mnstate.edu/disability/)

- If you are registered with the DRC and have a current Accommodation Letter, please schedule an appointment to visit with me, during my office hours, to discuss implementation of your accommodations.

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**Important Dates:**
Add/drop deadline is **August 28th**
Labor Day, no class **Sept. 7th**
Veterans Day, no class **Nov. 11th**
Withdrawal deadline for this course is **November 23rd**
Thanksgiving break, no class **Nov. 25-27th**
Study Day, **Dec. 9th**