MATH 291 Special Topic: Rational Numbers
Fall, 2012

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Class time/location: M 10:10-11:30AM, Math Building conference room at basement level room 004D. The course also has an online component.

Prerequisites: M135 (mathematics for elementary teachers, course I) or an appropriate score on the mathematics placement exam.

Text: No textbook required for this course. I will provide hard copies of the readings. Some readings for the course are available online.

The Rational Number Project: http://cehd.umn.edu/rationalnumberproject/default.html

Office Hours: WF 10:00 – 11:00 AM, and by appointment

Course Goals:

1. To deepen future elementary/middle school teachers’ mathematics content knowledge of rational numbers within an environment that models and pedagogy are implemented.

2. Students will use manipulative to initiate leaning of rational numbers within an environment that involves problem solving, connections, communication (both in oral and written form), reasoning and representation.

3. Students will become familiar with different strategies and mathematical modeling to approach real world problems involving mathematical concepts such as ratio, proportion, and percent.

4. In this integrated content and methods class, students will become familiar with the national and state standards on rational numbers for K-8 grades. Students will compare and contrast the textbooks of different K-8 mathematics curricula on rational numbers.

5. Students will read research articles on rational numbers and make connections between research and classroom teaching.
Course Assignments:

(1) *Homework* is assigned regularly, and collected occasionally. Collected assignments will be graded.

(2) *Test and Quizzes*: there will be a midterm test and 1 quiz.

(3) *Projects*: a) national/state standards; b) curriculum evaluation

(4) *Final Exam* is scheduled to be on **December 10, 8:00-9:00 AM** and the time will not be changed. Make your travel arrangement based on the scheduled final exams.

* Late homework will not be accepted. No makeup test/exam will be given without permission prior to the schedule test/exam.

Grading distribution and scale:

The grading distribution will be approximately as follow:

<table>
<thead>
<tr>
<th>Grading Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>5%</td>
</tr>
<tr>
<td>Homework/Projects</td>
<td>60%</td>
</tr>
<tr>
<td>Test/quizzes</td>
<td>25%</td>
</tr>
<tr>
<td>Final exam</td>
<td>10%</td>
</tr>
</tbody>
</table>

Grading scale:

- 90 – 100% A
- 80 – 89.9% B
- 70 – 79.9% C
- 60 – 69.9% D
- Below 60% F

* The *P/NP option is not allowed*

Administrative Policies:

*Administrative Policies:*

**Important Dates:** Students can add a course through CyberBear only until Wednesday, September 5. From then on, you need, for adding only, a paper form with the instructor’s signature. Students can still drop a course or change the grading option on CyberBear until September 17. Please note the implication: under Petitions and B below, changing a grade to Audit does not arise because it is not allowed after September 17.
September 18 through October 29, students must drop/add with a paper from that is signed by the student’s advisor and the instructor. Accepted reasons for a late drop are listed in the university catalog: reasons such as accident or illness, family emergency, or change in work schedule. The following examples are not considered sufficient: protecting the GPA, forgetting to turn in the change slip, losing financial aid, losing eligibility to engage in sports.

October 29 is the DEADLINE for students to drop/add a course, change sections, change grading option from Credit/No Credit to a letter grade (or vice versa), or change credit in a variable credit course. After October 29, a student is allowed to make these changes only by PETITION, which requires the instructor’s signature and recommendation. In case of drops only, the petition also requires the signature of the Dean of your major. This option ends on December 7.

**Cell phones**: No cell phone or I-pod use is allowed in class, either sending or receiving calls or text messages, or listening to music. Anyone whose cell phone goes off in class, or who is found texting will be required to bring treats to the next class!

**Students with Disabilities**: Please feel free to discuss accommodations with me. The UM assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (DSS). “Reasonable means the U of M permits no fundamental alteration of academic standards or retroactive modifications. Cases are dealt with individually. More information can be found at [http://www.umt.edu/dss/](http://www.umt.edu/dss/).

**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.