Instructor: Eric Moorhouse, moorhous@uwyo.edu, Ross Hall 6^3=216, phone 766-4394

Class Meets: MWF 1:10–2pm, CR 209

Prerequisite: Grade of C or better in Math 3205 (Analysis I) or Math 3500 (Algebra I).

Office Hours: MW 10–10:50am; R 2:10–3:30pm. In addition to my regularly scheduled office hours, please feel free to see me at other times, either by appointment or at other times if I am not busy. My current schedule is posted at http://www.uwyo.edu/moorhouse/schedule.html

Sources:

|--------------------------|-------------------------------------------------|-----------------------|

Grading Scheme:

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<tr>
<th>%</th>
<th>Participation</th>
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<tr>
<td>10%</td>
<td>Participation</td>
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<tr>
<td>40%</td>
<td>Homework</td>
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<tr>
<td>20%</td>
<td>Midterm Test</td>
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<tr>
<td>30%</td>
<td>Final Exam</td>
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I will assign grades (A, A−, B+, B, B−, C+, C, D, F, W) at the end of the semester according to the scale: A=exceptional, B=very good, C=adequate, D=poor, F=fail, W=withdrawal. I always encourage students to consult me at any time during the semester with questions, including (but not restricted to) questions about your progress in the course. You may ask questions by email, at your own risk (remember
that email is not secure); but questions asked in person typically receive more prompt
and complete answers.

**Homework:**

Homework is the most vital part of this course. Mathematics, more than most
subjects, is one which you learn not by listening and absorbing, but by trying out
yourself. The learning of mathematics is also more sequential than that of other
subjects … so all the more need to be regular in doing problems yourself!
Homework assignments will be assigned approximately once per week, and will be
submitted to me on the specified due date (usually after 2–3 classes), at the end of
class. The following expectations apply to submitted homework:

- Multiple pages should be *stapled* together.
- Write clearly. Part of the grade reflects organization and clarity of
  presentation. Tablet paper is better than pages ripped from spiral-bound
  notebooks (I will trim off the  if I see it). The back side of
  printed paper (e.g. from a recycling bin) is fine.
- Many solutions require sentence answers, e.g. in answer to ‘Explain’ or
  ‘Why…’ questions. In such cases, correct use of vocabulary, spelling,
  grammar, and punctuation is expected for full credit.
- If you must submit homework outside of class time, either slide it under my
  office door, or ask the Math Department secretary to put it in my mailbox.
  Never leave ungraded homework outside my door, as this is insecure.
- Always remember to put your name, the class (Math 4600), and the
  assignment number (e.g. HW1, HW2, etc.). There is no need to re-write
  questions.

It is fine for you to discuss the homework with other students. However, please do
not copy anyone else's work directly. Copying may adversely affect your grade;
but more importantly, of course, you won't be adequately preparing yourself for the
tests in this way.

**Tests:**

There will be one 50-minute midterm test during class time, and one final exam,
both of which are ‘closed book’; however, you will be permitted to use a handheld
calculator and one ‘cheat sheet’ (one 8½×11 inch sheet with information written on
one side in your own handwriting). Sharing of calculators or other aids during
tests and the exam, is not permitted. The midterm test will cover a specified unit
of material only, but the final exam will be comprehensive. The final exam is
scheduled for 1:15–3:15 pm on Monday, December 18, in our usual lecture room
(CR 209). A *tentative* date for the midterm test is Friday, October 20.
Make-up tests for those who miss tests, will only be granted in cases of verifiable illness or the most extreme circumstances (at my discretion). Please contact me in advance of such a situation if possible, or leave a message with the Math Department (766-4221). Even in legitimate cases, the make-up test will be harder than the original test.

**MATH 4600 Course Website:**

Course-related announcements, links, homework assignments and solutions, and handouts will be posted at [http://www.uwyo.edu/moorhouse/courses/4600/](http://www.uwyo.edu/moorhouse/courses/4600/)
The electronic copies offer several advantages over hardcopies distributed in class: full color format, electronic search capability, and updated versions in which any reported errors have been corrected.

**Course Content:**

As indicated in the UW course catalog, Math 4600 “broadens the student’s understanding of the many faces of geometry and provides a context for the specific case of Euclidean geometry. Various approaches will be presented, including axiomatic, synthetic, coordinate, and transformational methods.”

In the spirit of the catalog course description, students are expected to approach the subject matter with an open mind, expecting to learn something. A tentative list of topics to be covered includes:

- Overview of modern geometries
- Axiomatic foundations of geometry
- Euclidean geometry
- Finite geometries
- Projective geometry
- Inversive geometry
- Hyperbolic geometry
- A few key ideas from algebraic geometry
- Dimension
- Geometric transformations in Euclidean Geometry
- Fractal geometry
- A few applications of geometry
**Students with Disabilities:**

If you have a physical, learning or psychological disability and require accommodations, please let me know as soon as possible. You will need to register with, and provide documentation of your disability, to the University Disability Support Services (UDSS) in SEO, Knight Hall 330, phone 766-6189.

**Appropriate Conduct:**

For issues of academic honesty/dishonesty, classroom deportment, etc., we refer to

- [UW Student Code of Conduct](#) (UW Dean of Students)
- [Students & Teachers Working Together](#) (UW College of Arts & Sciences)

Links to both documents appear on our course website.