



POLICIES / SYLLABUS

Instructor

Eric Moorhouse, Ross Hall 6³ = 216.

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Class Meeting

MWF 9:00–9:50am in RH 247. I do record pdf slides of lectures, and audio/video recordings, for your future reference.

These will be posted through the course website (see below).

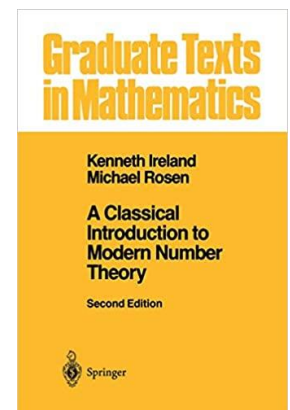
Do not take this as an invitation to skip class without good reason. Students who consistently attend class perform better than those who do not.

Office Hours

My office hours are currently scheduled at MW 10:00–10:50am, T 1:30–2:50pm, R 2:10–3:30pm (subject to change; my current schedule is posted at <https://ericmoorhouse.org/schedule.html>).

Textbook

Kenneth Ireland and Michael Rosen, *A Classical Introduction to Modern Number Theory*, 2nd ed., Springer, 1990. (The first edition, which differs only slightly from the second edition, is cheaper; and used copies are easily obtainable online.)



Grading Scheme

On the right, I indicate the default grading scheme if you do not want to present any material in class. If you would like to present a topic as part of your course grade, please speak with me during the first half of the semester and we will try to agree on a suitable topic and resources for you as you prepare.

10%	Participation
90%	Homework
negotiable	Presentation

I will assign grades 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; but questions asked in person typically receive more prompt and complete answers.

Homework: Homework may be discussed with others, but must be written up individually. As mentioned above, students may elect to present a topic during the semester, for a portion of the grade; if this is of interest to you, please discuss this with me as soon as possible and we will arrange topic, dates, and how much of your grade to devote to the presentation.

MATH 5590 Website: Please bookmark the site <https://ericmoorhouse.org/courses/5590/> where I will try to post class recordings, and announcements relevant to our class, including reminders of homework assignments; etc. This is our official course website (as distinct from the WyoCourse site which will only be used when security is required, e.g. for posting grades on individual homework assignments or sharing files subject to copyright).

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.

Content: Topics to be covered will depend largely on the range of students' backgrounds and interests. If most students have not seen the most important topics usually taught at the undergraduate level (e.g. quadratic reciprocity, applications to public key cryptography, Pell's equation, continued fractions, etc.) then we will want to brush up on those topics first. Beyond this, our priorities will probably include

- Factorization in number fields and the ideal class group
- Gauss and Jacobi sums
- Higher reciprocity laws
- Cyclotomic fields
- Bernoulli numbers
- Zeta functions and L-functions
- Elliptic curves

Please let me know if there are topics you particularly wish to see included.