# Math 180B Syllabus

The section numbers refer to the textbook. The schedule is very tentative.

| Week | Day | Sections/Readings | Assessments |
|------|-----|-------------------|-------------|
| 1 | Mon | Continued Fractions ($\sim$ sec 45) | |
| | Wed | Cont fracs for irrationals | |
| | Fri | Convergents | |
| 2 | Mon | Diophantine Approximations | |
| | Wed | Hurwitz's Thm/Pell's Equation | HW/Quiz 1 in Th discussion |
| | Fri | Pell's Equation ($\sim$ sec 31–34) | |
| 3 | Mon 4/15 | Pell's Equation: existence | |
| | Wed | Primitive Roots ($\sim$ 28–29) | HW/Quiz 2 in Th discussion |
| | Fri | Indices/Discrete Logarithms | |
| 4 | Mon | Primitive Roots: Existence | |
| | Wed | Linear Recurrence Relations (sec 39) | HW/Quiz 3 in Th discussion |
| | Fri | (cont) | |
| 5 | Mon | Review | |
| | Wed | | Midterm Exam |
| | Fri | Descent: FLT | |
| 6 | Mon | FLT and Sums of Squares | |
| | Wed | Gaussian Integers (sec 34, 35) | |
| | Fri | $Z[i]$: division algorithm | |
| 7 | Mon | $Z[i]$: unique factorization | |
| | Wed | Sums of squares revisited | HW/Quiz 4 in Th discussion |
| | Fri | Factorization in other rings | |
| 8 | Mon | Norms and FLT for n=3 | |
| | Wed | Algebraic Curves | HW/Quiz 5 in Th discussion |
| | Fri | Projective Geometry | |
| 9 | Mon | Memorial Day Holiday | |
| | Wed | Elliptic Curves | HW/Quiz 6 in Th discussion |
| | Fri | Rational Points on Elliptic Curves | |
| 10 | Mon | Algebraic Curves Modulo p | |
| | Wed | (cont) | |
| | Fri | Review | |
| 11 | Wed | | Final Exam |