

## AMAT326(Z) COURSE SCHEDULE (SPRING 2009)

HEEKYOUNG HAHN

Class will start on **January 22** and end on **May 5**. Each section will be covered in about one class hour. The following schedule is rough and so the actual schedule may differ slightly from this.

| <i>Week</i> | <i>Starts</i> | <i>Sections</i>          | <i>Topics</i>  |
|-------------|---------------|--------------------------|--|
| 1           | 1/20          | 1                        | Numbers  |
| 2           | 1/27          | 2.A, 2.C – 2.E           | Induction, Well-ordering, Division theorem, Bases      |
| 3           | 2/3           | 3.A – 3.C                | Greatest Common Divisor; Euclid's Algorithm            |
| 4           | 2/10          | 3.E, 4.A – 4.B           | Incommensurability; Fundamental Theorem of Arithmetic  |
| 5           | 2/17          |                          | No class, Winter break                                 |
| 6           | 2/24          | 4.C – 4.D, 5.A           | Primes; Congruence modulo $m$                          |
| 7           | 3/3           | 5.B – 5.D                | Properties of congruences; Linear congruence           |
| 8           | 3/10          | 6.A – 6.E                | Congruence classes                                     |
| 9           | 3/17          | 8.A – 8.B                | Rings and Fields; $\mathbb{Z}/m\mathbb{Z}$             |
|             |               |                          | <b>Midterm</b> (Mar. 17); cover week1 and week8        |
| 10          | 3/24          | 8.C – 9.B                | Homomorphisms; Fermat's and Euler's theorem            |
| 11          | 3/31          | 9.C – 9.F                | Group of units; Exponent of an Abelian group           |
| 12          | 4/7           | 11.A – 11.B, 12.A – 12.C | Groups; Chinese Remainder Theorem                      |
|             |               |                          | <b>No class</b> (Apr. 9), Spring break                 |
| 13          | 4/14          | 24.A – 24.B              | Cyclic groups; primitive roots                         |
| 14          | 4/21          | 26.A – 26.C              | Roots of unity in $\mathbb{Z}/m\mathbb{Z}$             |
| 15          | 4/28          | 27.A – 27.D              | Quadratic Residues                                     |
| 16          | 5/5           |                          | Review for final                                       |
|             |               |                          | <b>Final</b> (May 11, 10:30-12:30); cover week1–week16 |

DEPARTMENT OF MATHEMATICS AND STATISTICS, UNIVERSITY AT ALBANY, ALBANY, NY 12222