

MATH 482: DISCRETE MATHEMATICS II
SPRING 2010

Course webpage: <http://www.math.msu.edu/~dhand/MTH482SS10/index.html>

1/11 - Overview

1/13 - Modular arithmetic, multiplicative inverses

1/15 - Chinese remainder theorem

1/18 - NO CLASS

1/20 - Euler function, HW 1 due

1/22 - Euler's theorem

1/25 - Public key encryption

1/27 - Counting necklaces, Fermat's little theorem, HW 2 due

1/29 - Order of elements in \mathbb{Z}_n

2/1 - Cyclotomic polynomials

2/3 - Divisor game, Möbius function, HW 3 due

2/5 - Möbius inversion

2/8 - First order logic

2/10 - Knights and knaves, HW 4 due

2/12 - Irreducible polynomials

2/15 - Finite fields and Latin squares

2/17 - Finite projective planes, HW 5 due

2/19 - Orthogonal Latin squares

2/22 - Hadamard matrices

2/24 - Hadamard codes

2/26 - Paley's construction, HW 6 due

3/1 - Review

3/3 - **Midterm exam**

3/5 - The probability that two positive integers are relatively prime

3/8 - NO CLASS

3/10 - NO CLASS

3/12 - NO CLASS

3/15 - Graphs

3/17 - Ramsey Theory

3/19 - Paley graphs

3/22 - Review of linear algebra

3/24 - The adjacency matrix, HW 7 due

3/26 - Expander graphs

3/29 - The Laplacian matrix

3/31 - The matrix tree theorem, HW 8 due

4/2 - Cayley graphs

4/5 - Ramanujan graphs

4/7 - Edge expansion, HW 9 due

4/9 - Two constructions of Ramanujan graphs

4/12 - Partitions

4/14 - Euler's pentagonal number theorem, HW 10 due

4/16 - Schur polynomials

4/19 - Lambda calculus, binary trees

4/21 - Combinatory logic

4/23 - The halting problem

4/26 - Review

4/28 - Review, Extra credit problems due

4/30 - Review

Final Exam: Wednesday 5/5. 3-5pm. Wells Hall C-205

IMPORTANT DATES:

Monday - 1/11/10 - Classes Begin

Friday - 1/15/10 - Online open add period for Spring semester ends at 8pm.

- Last day to change to CR/NC.

Monday - 1/18/10 - Martin Luther King, Jr. Day. No classes are held. The University is open.

Monday 1/18/10 to Friday 1/22/10 - Students go to Undergraduate office, A212 Wells Hall for Mathematics enrollment changes. (late adds, drop to lower course, section changes)

Friday - 1/22/10 - Last day to late add a course or change sections within a course. Last day to drop to a lower level course.

Thursday - 2/04/10 - End of Tuition Refund

Wednesday - 3/03/10 - Middle of Semester, Last day to drop a course without a grade being reported.

Monday 3/08/10 to Friday 03/12/10 - Spring Break - no classes. The University is open.

Friday - 4/30/10 - Last day of classes.

Monday 5/03/10 to Friday 5/07/10 Final Exams