Course Outline — Spring 2016

MATH 412

INTRODUCTION TO GRAPH THEORY

Sections C13,C14: 10am MWF, 147 Altgeld Hall.
Instructor: Theo Molla, 226 Illini Hall, molla@illinois.edu.
Office hours: tentatively MF 2:30–3:30 or by appointment.
Web page: `http://www.math.uiuc.edu/~molla/2016_spring_math412`
Final Exam: Thursday, May 12th 8am-11am

TEXT:
 Introduction to Graph Theory, D. B. West (Prentice Hall), Second Edition, Chapters 1–7.
OVERVIEW:
 This is a serious introductory course about the properties and applications of graphs. We study graph-theoretic concepts such as paths, Eulerian circuits, trees, distance, matchings, connectivity, network flows, colorings, planarity, and spanning cycles.
REQUIREMENTS:

- Homework:

  - There will be a 9 homework assignments, which are each due in class. Each assignment will be worth 50 points for a total of 450 points.

  - If you cannot attend class, students can submit a scanned copy of their homework via email (a photo is acceptable) before class begins.

  - If the homework is received after class on the due date and before the next class, then 5 points will be detected from the total score.

  - Students can submit at most two late homework assignments.

  - Homework will not be accepted after the next class period for any reason.

- Quizzes:

  - There will be about 6 pop-quizzes, and the best 5 will be counted.

  - Each will be worth 10 points for a total of 50 points.

- Midterm exams:

  - There will be three midterm tests and a make-up midterm and each is worth 100 points.

  - Midterm tests will be in the evening and for each midterm exam a class will be canceled.

- The top three scores will be counted.

- Students are only required to take three of the four tests.

- Students are required to provide a valid medical excuse for ALL of the missed exams prior or soon after the exam date if they miss at least two of the four tests.

- Final exam:

  - The final exam is worth 200 points and will cover all of the course material.

WEIGHTING:
Homework 450 points, quizzes 50 points, tests 300 points, final exam 200 points, total 1000 points.
The grading scale is:
$A \geq 800$ points, $A^- \geq 750$ points, $B^+ \geq 700$ points, $B \geq 650$ points, $B^- \geq 600$ points, $C^+ \geq 550$ points, $C \geq 500$ points, $C^- \geq 450$ points (see below), $D^+ \geq 400$ points, $D \geq 350$ points, $D^- \geq 300$ points.
Students will only receive a grade of C^- or better if they score at least %40 on the final exam.
The scale for graduate students registered for 1 unit (4 hours) is different. Graduate students must get 50 points higher than undergraduate students to get the same grade, e.g. to get an A, a graduate students must get 850 points.

RESOURCES:
Announcements will be posted on the course webpage or will be sent via email. Collaborative study sessions are offered to aid students in understanding the material and solving problems.

PREREQUISITES:
There are no official prerequisites, but students will be best prepared if they have encountered logical reasoning, mathematical induction and equivalence relations.