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Course Outline — FALL 2016

MATH 412: INTRODUCTION TO GRAPH THEORY

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Sections F13, F14 (CRN: 30348, 39116) : 2:00-2:50 pm MWF, 245 Altgeld Hall

Web page: http://www.math.uiuc.edu/~jobal

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office hours: After classes. MWF 3:00-3:50. Communication via e-mail is strongly encouraged.

Study Session: M: 3:00-3:50, location AH 141.

Midterm 1: TBA.

Midterm 2: TBA

Midterm 3: TBA.

Final Exam: TBA

TEXT: **Introduction to Graph Theory**, D. West (Prentice Hall), 2-nd ed., Chapters 1-7.

This is a serious introduction about properties and applications of graphs. The concepts and theories of paths, circuits (including Euler and Hamiltonian), network flows, coloring, planarity and trees are studied deeply.

REQUIREMENTS:

There are 3 midterms and 8 homework assignments.

Each midterm is for 100 points.

The final is for 200 points and will cover all of the course material.

Each of the eight homework is counted, and from each homework out of the 6 exercises, the best 5 is counted (a total of 25 points). For students taking for 4 credits, ALL the HOMEWORK is a MUST! Tipically, homework is due on Wednesdays (check website), study sessions on Mondays are recommended.

Students missing a midterm should well-document it, and in general there is no conflict exam.

The total score is 700 points, the grading is

$560 - A$, $525 - A^-$, $490 - B^+$, $455 - B$, $420 - B^-$, $385 - C^+$, $350 - C$, $315 - C^-$, $280 - D+$, $245 - D$, $210 - D^-$.

To get a C^- or better, at least 40% is needed on the final exam.

To get an A at least 60% is needed on the final exam.

The scale for graduate students registered for 1 unit (4 hours) is different. Graduate students must get 30 points higher than undergraduate students to get the same grade, e.g. to get an

A, a graduate students must get 590 points.

Some very excellent students might get an A^+.

The tests are evening exams, and instead some classes will be cancelled. The dates of the tests are decided early in the semester.

RESOURCES: Electronic mail is a medium for announcements and questions. Collaborative study sessions are offered before tests 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, induction, and equivalence relations. Note that this class is proof based!