

MATH 613. Graph Theory, Fall 2011

MWF 11:30–12:20, BLOC 160

Project Assignment

As the term project, you are required to read a research article (published or preprint) on graph Theory or related topics, and write a report on it. The research article should be published or posted within the last ten years, is mainly on theoretical research, and at least 5 pages long. Your report should contain the following information:

1. The area that the article belongs to, e.g., structure of graphs, extremal graph theory, set theory, discrete geometry, random graphs, etc.
2. The main result and the main technique/approach. It is all right if you read a long article, and only write a report on one or two sections.
3. Major steps of the proofs. Please give enough details, but not copy the whole article. You can leave out any straightforward computation or case-checking.

Your report should contain enough details so that a typical Ph.D in Graph Theory and Combinatorics can fill in the missing gaps and come up with the whole proof after reading your report.

4. Your comments and thoughts. Is there any special case that is familiar to you? Is there any connection to other combinatorial structures? Can you generalize the result or propose possible directions for investigation?

Please note that there is no need to evaluate the article. If you find alternative solutions, or obtain stronger results, just explain them.

Suggestions on Research Articles

You should choose the research article yourself. Some good resources are combinatorics journals, such as Journal of Combinatorics Theory, Discrete Mathematics, Journal of Graph Theory, Electronic Journal of Combinatorics, Advances in Applied Mathematics, Combinatorica, European Journal of Combinatorics, etc. TAMU library has electronic access to these journals. Also, you can check some online preprint servers, such as the arXiv, under the area of Mathematics/Combinatorics: <http://xxx.lanl.gov/list/math.CO/recent>.

If you are not sure whether a paper is suitable for this course, please bring it to me for a check. You should decide which article to work on and inform me by November 16, 2011.

Requirement of the Report

Your report should be at least two pages long, but no more than 5 pages. It should be prepared by LaTeX, or any other version of Tex. Please use a font of size 11 points or larger.

A font size of less than 10 points may be used for mathematical formulas or equations, figure, table or diagram captions and when using a Symbol font to insert Greek letters or special characters. The report should be in single-column format, and have a margin of at least one inch in all directions.

Please send me your report together with the research article you read, (electronic files are fine). Be sure to write your name in the report.

The project is assigned in the middle of October. You need to inform me of your choice of article by November 16, 2011. The report is due on **December 2, Friday**. Please send me your report together with the research article you read, (electronic files are fine). Be sure to write your name in the report.

Have fun and enjoy!