

UNIVERSITY OF PUERTO RICO
RIO PIEDRAS CAMPUS
DEPARTMENT OF MATHEMATICS

Graph Theory
Ph.D. Qualifying Exam
Syllabus

Graphs and Subgraphs. Paths, Cycles, Trails.
Vertex Degrees and Counting.
Directed Graphs. Trees and Distance. Matchings and Factors.
Connectivity and Paths. Vertex and Edge Colorings of Graphs.
Independent Sets and Cliques. Planar Graphs.
Independent Sets and Cliques. Planar Graphs.
Euler Tours and Hamilton Cycles. Networks.
Applications.

References:

1. A. Bondy and U.S.R. Murty, *Graph Theory with Applications*, North Holland, 1976. (Available online at Professor Bondy's homepage).

2. D.B. West, *Introduction to Graph Theory*, 2nd. Edition, Prentice Hall, 2001.