

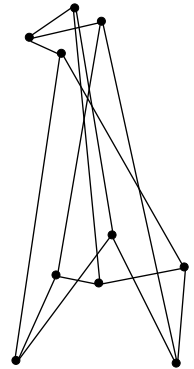
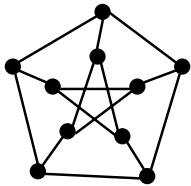


Department of Mathematical Sciences

Course Announcement – Autumn 2021

Graph Theory

M 485 (Sec 01) Graph Theory
T,Th 9:30-10:50 am in MATH 311
CRN 73799



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This is a senior-level treatment of graph theory. We quickly cover the basics (graphs and subgraphs) and follow the text into this rich subject. An outline of the topics to be covered may be constructed by sampling the text's Table of Contents: connected graphs, trees, connectivity, planarity, stable sets and cliques, vertex and edge colorings, matchings, and Hamilton cycles. Depending on time and student interest, additional, or fewer, topics may be covered.

Graph theory forms part of the foundation for computer science and as such is an essential branch of modern mathematics. This holds not only for math majors, but for majors in almost any of the other STEM disciplines. Students might also consider that UM-Missoula is the only Montana University System campus that offers this course.

M 485 should be considered by anyone wishing both to challenge themselves and to bolster their understanding of this vibrant mathematical area. Graduate students will also find it helpful in preparing for UM's preliminary exam in C&O.

Prerequisites: M 307 (Intro Abstract Math) & M 361 (Discrete Optimization), or M 325 (Discrete Mathematics), or consent of instructor. Students should have background appropriate for senior-level mathematical studies.

Text: J.A. BONDY AND U.S.R. MURTY, *Graph Theory*, Springer, 2008 [978-1-84628-969-9]

Grading: traditional (homework and tests)

Questions? ... Please! Just ask.

Fun exercise: show that the Petersen *graph* and the Petersen *giraffe* (above) are 'isomorphic' (same graph).

