DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
SYLLABUS (Tentative)
MATH 490 *Introduction to Graph Theory*

Objectives: To introduce the theory of graphs, including degree, connectivity, traversability, matchings, planarity, and Ramsey numbers.

Prerequisite: MATH 210

Text: A First Course in Graph Theory, by Gary Chartrand and Ping Zhang, ISBN: 9780486483689

Topics	Approximate No. of Class Hours
Chapter 1: Introduction – Graphs and graph models, connected graphs, common classes of graphs, multigraphs and digraphs	8
Chapter 2: Degrees – The degree of a vertex, regular graphs, degree sequences	6
Chapter 4: Trees – Bridges, trees, minimum spanning trees	6
Chapter 5: Connectivity – Cut-Vertices, blocks, connectivity, Menger's Theorem	12
Chapter 6: Traversability – Eulerian and Hamiltonian graphs	6
Chapter 7: Digraphs –Strong digraphs, tournaments	4
Chapter 8: Matchings and Factorization – Matchings, factorization	8
Chapter 9: Planarity – Planar graphs, embedding graphs on surfaces	6
	56

EVALUATION

Homework:	40%
Examinations:	40%
Class Participation:	20%

NOTE: ONCE A STUDENT HAS RECEIVED CREDIT, INCLUDING TRANSFER CREDIT, FOR A COURSE, CREDIT MAY NOT BE RECEIVED FOR ANY COURSE WITH MATERIAL THAT IS EQUIVALENT TO IT OR IS A PREREQUISITE FOR IT.

ah/jm 11/2016