

MATH 689 Special Topics: Advanced Graph Theory

Tentative schedule

Spring 2020

This tentative schedule might be revised during the semester without notification. See the course website for the up-to-date schedule.

- Week 1 (Jan 13, 15)
Hypergraphs
Ramsey theory
Probabilistic method
- Week 2 (Jan 20, 22)
Jan 20 is Martin Luther King, Jr. Day, no class
First moment method
- Week 3 (Sep 27, 29)
Graphs of large chromatic number and large girth
Chernoff bound
Hajós' conjecture
- Week 4 (Feb 3, 5)
Hadwiger's conjecture
Extremal function for minors
- Week 5 (Feb 10, 12)
Extremal function for minors and topological minors
Linkages
- Week 6 (Feb 17, 19)
Linkages
- Week 7 (Feb 24, 26)
Fractional graph theory
Kneser graphs

- Week 8 (Mar 2, 4)
Topological methods
- **Mar 9-13 Spring break**
- Week 9 (Mar 16, 18) **No Class due to corona virus**
- Week 10 (Mar 23, 25)
Perfect graphs
- Week 11 (Mar 30, Apr 1)
Tree-decomposition
Graph minors
- Week 12 (Apr 6, 8)
Graph minors
- Week 13 (Apr 13, 15)
Graph minors
Regularity Lemma
- Week 14 (Apr 20, 22)
Regularity Lemma
Turán-type questions
- Week 15 (Apr 27, 29 (29 no class))
Turán-type questions