0366.3267 Graph Theory, Fall Semester 2024
List of Theorems

- Cayley's Formula
- Mader's Theorem (large degrees imply a subgraph of large connectivity)
- Whitneys Theorem; $\kappa(G) \leq \kappa'(G) \leq \delta(G)$.
- Euler's Theorem (about Eulerian graphs)
- Dirac's Theorem for Hamilton cycles
- The Chvátal-Erdős Theorem for Hamiltonicity
- Hall's Theorem
- König's Theorem: In any bipartite graph, the maximum size of a matching is equal to the minimum size of a vertex cover
- Petersen's Theorem
- Brooks' Theorem
- König's theorem: The chromatic index of any bipartite graph is equal to its maximum degree
- Erdős-Szekeres Theorem: $R(s,t) \leq \binom{s+t-2}{s-1}$
- Erdős' lower bound for the Ramsey number $R(k,k)$
- Euler's Formula for planar connected graphs
- Heawood's Theorem (five-colorability of planar graphs)