Disclaimers: If a definition, term, or notation was discussed in class and/or appeared on the homework, you are expected to know it. There is no claim that this review is perfect.

Section 1.2 Degree of a Vertex

- terminology/notation: degree, average degree, degree per vertex,
- results to know: Prop 1.2.1 (Sum of degrees is even.)
- results to know how to prove: Prop 1.2.1 (Sum of degrees is even.)

Section 1.3 Paths and Cycles

- terminology/notation: path, cycle, independent path, AB-path, distance, girth, central vertex, radius, diameter.
- results to know: Prop 1.3.1
- results to know how to prove: Prop 1.3.2, Prop 1.3.3

Section 1.4 Connectivity

- terminology/notation: connected, component, separator, separating set of vertices, separating set of edges, cut vertex, bridge, k-connected, connectivity k, k-edge-connected, edge-connectivity k
- results to know: Prop 1.4.1, Prop 1.4.2.

Section 1.5 Trees and Forests

- terminology/notation: tree, forest, acyclic, leaf,
- results to know: Thm 1.5.1 (equivalent formulation of a tree), Cor 1.5.3 (# edges in a tree)
- results to know how to prove: Thm 1.5.1, Cor 1.5.3

Section 1.6 Bipartite Graphs

- terminology/notation: r-partite graph, bipartite graph, vertex class, complete r-partite graph
- results to know: Proposition 1.6.1 (characterization of bipartite graphs)

Section 1.7 Contraction and Minors

- terminology/notation: subdivision, topological minor, (regular) minor

Section 1.8 Euler Tours

- terminology/notation: Euler tour, Eulerian

- results to know by name: Thm 1.8.1 Euler's Theorem
- results to know how to prove: Thm 1.8.1 Euler's Theorem

Section 2.1 Matching in Bipartite Graphs

- terminology/notation: matching, factor, vertex cover, alternating path, augmenting path, stable matching, Hall's condition
- results to know by name: Thm 2.1.1 König's Theorem, Thm 2.1.2 Hall's Theorem,
- results to know: Cor 2.1.3
- results to know how to prove: Thm 2.1.2 Hall's Theorem, Cor 2.1.3

Section 2.2 Matching in General Graphs

- terminology/notation: Tutte's condition
- results to know by name: Thm 2.2.1 Tutte's Theorem
- results to know: Cor 2.2.2
- results to know how to prove: Cor 2.2.2

Section 3.1 2-Connected Graphs and Subgraphs

- terminology/notation: H-path, block, block graph
- results to know: Prop 3.1.1, Lemma 3.1.2, Lemma 3.1.3, Lemma 3.1.4
- results to know how to prove: Lemma 3.1.4

Section 3.3

- terminology/notation: disjoint A-B paths, independent ab-paths
- results to know by name: Thm 3.3.1 Menger's Theorem, Thm 3.3.6 Global Menger's Theorem
- results to know and to know how to prove: Cor 3.3.4, Cor 3.3.5, Thm 3.3.6 Global Menger's Theorem