	Week	Date	Topics	References (* = optional)
General topology	1	Sep 12	Topology: intuitions, examples, and connections Class overview Basic notions of topology: topological space, metric space	[Y] Sec. 1.1 [BBT] Sec. 0.1
	1	Sep 15	Basic notions of topology, cont'd Basic notions of category theory and set theory	[M] Secs. 20*, 21* [BBT] Secs. 0.2.1, 0.2.2, 0.2.3*, 0.3.1, 0.3.6*
	2	Sep 22	Continuous map, homeomorphism	[Y] Sec. 1.2
	3	Sep 26	Product topology, basis, basic open neighborhoods	[Y] Sec. 1.3 [BBT] Secs. 1.4, 0.3.3*, 0.3.4*
	3.5	Oct 8	The separation axioms	[Y] Sec. 2.1 [M] Sec. 31
	4	Oct 13	The countability axioms	[Y] Sec. 2.1 [M] Secs. 30, 32
	5	Oct 17	The Urysohn lemma and related theorems	[Y] Sec. 2.2 [M] Secs. 33, 34, 35
	5	Oct 20	The Urysohn lemma and related theorems, cont'd Compactness	[Y] Sec. 2.3 [M] Sec. 27*
	6	Oct 27	Compactness, cont'd	[Y] Sec. 2.3 [M] Sec. 37*
	7	Oct 31	Other sorts of compactness, compactification Connectedness	[Y] Sec. 2.3 [BBT] Sec. 5.5 [Y] Sec. 2.4 [M] Sec. 24*
	7	Nov 3	Connectedness, cont'd Path connectedness	[Y] Sec. 2.5
Geometric topology	8	Nov 10	Path connectedness, cont'd Topological properties Examples of surfaces	[Y] Secs. 2.6, 3.1
	9	Nov 14	Quotient topology	[Y] Sec. 3.2 [BBT] Sec. 1.3
	9	Nov 17	Midterm exam	
	11	Nov 28	Topoloogical manifold, classification of surfaces	[Y] Secs. 3.3, 3.4*
	11	Dec 1	Embedding of manifolds, partition of unity Simplicial complex	[M] Sec. 36 [B] Secs. 3.2, 3.4, 3.5, 3.6*
Algebraic topology	12	Dec 8	Euler characteristic, orientation Function space, the compact-open topology	[M] Sec. 46 [BBT] Secs. 5.1, 5.6.1, 6.1
	13	Dec 12	Homotopy of maps	[Y] Sec. 4.1
	13	Dec 15	Fundamental group: definitions, the fundamental groupoid, a glimpse of higher categories	[Y] Sec. 4.2 [BBT] Sec. 6.2
	14	Dec 22	Fundamental group: examples, S^n	[Y] Sec. 4.3
	15	Dec 26	Fundamental group: homotopy invariance	[Y] Sec. 4.4
	15	Dec 29	Fundamental group: computations and applications, the van Kampen theorem	[Y] Sec. 4.5 [BBT] Sec. 6.7 [M] Secs. 67*, 68*, 69*, categorically
	16	Jan 5	Fundamental group: computations and applications, surfaces	[Y] Sec. 4.5 [M] Secs. 55, 56*
		TBA	Final exam	