

## COURSE OVERVIEW

Day	Concepts	Activities	Evening Reading
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### Week 1

1-Sun	Course logistics, Expectations Geometry vs Topology	Pre-Assessment	
1-Mon	Review of math fundamentals Review of proofs Introduction to topology	<i>Hyperplane arrangement</i> <i>Domino Tiling</i> Stone cold lemmas	Richeson Pro, Intro, Ch. 1
1-Tue	Spaces and subspaces	<i>Do the Twist</i> <i>Rubber sheet puzzles intro</i> Topological Battleship	Richeson Ch. 2, 3, 4
1-Wed	Type of points Metric spaces	<i>State change</i> <i>Möbius plumbing</i> Metric City	Richeson Ch. 5, 6
1-Thu	Continuity Makes Topology Flexible Construction of Spaces	<i>Rubber sheet puzzles</i> Topological Game Day	Richeson Ch. 7, 8
1-Fri	Connectedness	Presentations	

### Week 2

2-Sun		Exam 1	Richeson Ch. 9, 10, 11
2-Mon	Graphs Path Connectedness	<i>Wild Networks</i> Bridges of Lancaster	Richeson Ch. 11, 12, 13
2-Tue	Compactness Separation Axioms	<i>Handcuffs</i> Can you escape or Knot?	Richeson Ch. 14, 15
2-Wed	Countability Groups Homotopy	<i>Hotel Infinity Management</i> Triangle tilings	Richeson Ch. 15, 16, 17
2-Thu	Fundamental Group Covering Spaces	<i>Laughter and Insight</i> Wallpaper tilings	Richeson Ch. 17, 18, 19
2-Fri	Manifolds	Presentations	

### Week 3

3-Sun		Exam 2	Richeson Ch. 19, 20
3-Mon	Euler characteristic Classification of Surfaces Shape of the Universe	<i>Pick up the wrapping paper</i> Seifert Soap	Richeson Ch. 21, 22
3-Tue	Knot Theory	<i>Crunched Charms</i> Rational tangle dance	Richeson 23
3-Wed	Homology Poincaré Conjecture Course Review		Richeson Epilogue
3-Thu	Conference presentations Course wrap-up	Math conference SPEs	
3-Fri	Post-assessment	Post-assessment	