

## Schedule for Math 544a Algebraic Topology

**Location/Time:** DL 431 Monday/Wednesday 2:30-3:45pm.

**Office Hours:** Monday/Wednesday 1:30 - 2:30pm. I'm also happy to talk outside of scheduled office hours (just email me!).

**Qualifying Exam:** Wednesday December 11 9am - 1pm in DL 431 (this needs to be confirmed still).

MONDAY	WEDNESDAY
<div style="border: 1px solid black; display: inline-block; padding: 2px;">Aug 26th</div> <span style="float: right;"><b>1</b></span> Fundamental Group 1 (Meets on Wednesday Aug. 29)	28th <span style="float: right;"><b>2</b></span> Fundamental Group 2 (Meets on Friday Sept. 1)
<div style="border: 1px solid black; display: inline-block; padding: 2px;">Sep 2nd</div> <span style="float: right;"><b>3</b></span> <b>Labor Day</b>	4th <span style="float: right;"><b>3</b></span> Seifert van Kampen Theorem (Guest Lecture)
9th <span style="float: right;"><b>4</b></span> CW Complexes	11th <span style="float: right;"><b>5</b></span> Covering Spaces 1: Definition and Existence of a Universal Cover
16th <span style="float: right;"><b>6</b></span> Covering Spaces 2: Universal Cover (cont) and $K(\pi, 1)$	18th <span style="float: right;"><b>7</b></span> Singular Homology, Chain Homotopy, and Invariance (The Weak Equivalence, Dimension, and Additivity Axioms)
23rd <span style="float: right;"><b>8</b></span> Homology of Pairs and Reduced Homology (The Exactness Axiom) Excision and Applications and the Axioms of Homology	25th <span style="float: right;"><b>9</b></span> Barycentric Subdivision and the Proof of Excision
30th <span style="float: right;"><b>10</b></span> Degree and Applications of Homology	<div style="border: 1px solid black; display: inline-block; padding: 2px;">Oct 2nd</div> <span style="float: right;"><b>11</b></span> Mayer-Vietoris and Classical Applications
7th <span style="float: right;"><b>12</b></span> The Lefschetz Fixed Point Theorem and Applications	9th <span style="float: right;"><b>13</b></span> Midterm Review Day
14th <span style="float: right;"><b>14</b></span> <b>Midterm</b>	16th <span style="float: right;"><b>15</b></span> <b>Fall Break</b>
21st <span style="float: right;"><b>14</b></span> Cohomology and Ext	23rd <span style="float: right;"><b>15</b></span> Cohomology and Universal Coefficients

MONDAY		WEDNESDAY	
28th	<b>16</b>	30th	<b>17</b>
Cup Products		Künneth Formula	
Nov 4th	<b>18</b>	6th	<b>19</b>
Orientation		Orientation (cont.) and Poincaré Duality	
11th	<b>20</b>	13th	<b>21</b>
Poincaré Duality (cont.)		Examples and Alexander Duality	
18th	<b>22</b>	20th	<b>23</b>
Applications of Cohomology (Possible guest lecture)		Bockstein Homomorphisms (Possible guest lecture)	
25th		27th	
<b>Thanksgiving Break</b>		<b>Thanksgiving Break</b>	
Dec 2nd	<b>24</b>	4th	<b>25</b>
The cohomology of topological groups - Hopf algebras		Review for the Qual	