



# STEM GUITAR CLASS ROADMAP

**This is an example course: This outline is designed to be flexible and changed to meet the needs of individual classrooms**

Week	Material to be covered	Online activities	Assignments Due	Video Reviews
1	Guitar parts Overview, shop safety, guitar cost	Cost estimate, guitar anatomy activity	Guitar Kit price list and Online Anatomy quiz	
			<a href="#">Online Anatomy Quiz Link</a>	
2	CAD tools for headstock design Select Bodies , start headstock design	Tolerances in Engineering activity	Guitar Video Review – Body sculpting Headstock design	<code>&lt;iframe height="315" src="http://www.youtube.com/embed/1gmqLbRAA8Y" frameborder="0" width="560" allowfullscreen=""&gt;&lt;/iframe&gt;&lt;/p&gt; &lt;p&gt;&gt;</code>
			<a href="#">Online Tolerances Quiz Link</a>	
3	Body modification, Finish headstock design	Guitar Geometry	Video File review – Wood repair Video File review – Swirl dipping from down under  Guitar Body shapes - Research project	<code>&lt;iframe height="315" src="http://www.youtube.com/embed/gAxKsT2ejvw" frameborder="0" width="560" allowfullscreen=""&gt;&lt;/iframe&gt; &lt;iframe height="315" src="http://www.youtube.com/embed/BVc6kdJF1PE" frameborder="0" width="560" allowfullscreen=""&gt;&lt;/iframe&gt;</code>
			<a href="#">Online Guitar Geometry Quiz Link</a>	
4	Swirl painting chemistry – Importing Case Study Online CAD/CAM activity	Online CAD/CAM activity	Research paper - Case Study  Video File review – Hole Drilling	<code>&lt;iframe height="315" src="http://www.youtube.com/embed/_KLrOfYpwyU" frameborder="0" width="560" allowfullscreen=""&gt;&lt;/iframe&gt;</code>
			<a href="#">Online CAD/CAM Activity Quiz Link</a>	



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5	<p>Neck assembly Neck fabrication</p> <p>Material Properties of Wood for Guitars activity</p>	<p>Material Properties of Wood for Guitars activity</p>	<p>Video File review – Neck Assembly Video 1, 2, 3</p>	<pre>&lt;iframe width="560" height="315" src="http://www.youtube.com/embed/pVJ1LvmTIJk" frameborder="0" allowfullscreen=""&gt;&lt;/iframe&gt;</pre> <pre>iframe width="560" height="315" src="http://www.youtube.com/embed/yV5hNQ6dY6w" frameborder="0" allowfullscreen=""&gt;&lt;/iframe&gt;</pre> <pre>&lt;iframe width="560" height="315" src="http://www.youtube.com/embed/oSmm-HINqi0" frameborder="0" allowfullscreen=""&gt;&lt;/iframe&gt;</pre>
			<p>Online Material Properties of Wood for Guitars activity Quiz Link</p>	
6	<p>Neck fretting and math behind fret positions, Neck and Body finishes</p>	<p>Fret Spacing Calculation</p>	<p>Video File review – Neck Assembly Video 4</p> <p>Video File review – Painting</p>	<pre>&lt;iframe height="315" src="http://www.youtube.com/embed/GjXEZpofyuI" frameborder="0" width="560" allowfullscreen=""&gt;&lt;/iframe&gt;</pre> <pre>&lt;iframe width="1280" height="720" src="//www.youtube.com/embed/oNh-DB-DF84" frameborder="0" allowfullscreen=""&gt;&lt;/iframe&gt;</pre>
			<p>Online Fret Spacing Calculation Quiz Link</p>	
7	<p>midterm</p>		<p>Parts and Fretting locations</p>	
8	<p>Tuning and gear ratios Guitar setup</p>		<p>Tuning and gear Ratios activity</p>	



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	activity – Bring in a guitar and strings			
9	Soldering and electronics	Online Electronics circuit path and pictorial activity	Video File review – Soldering	<pre>&lt;iframe width="420" height="315" src="http://www.youtube.com/embed/POau0dF8vg8" frameborder="0" allowfullscreen=""&gt;&lt;/iframe&gt;</pre>
			<a href="#">Online Electronics circuit path and pictorial activity Quiz Link</a>	
10	Hardware Installation Threaded Fasteners activity	Threaded Fasteners activity	Video File review Hardware Installation	<pre>&lt;iframe height="315" src="http://www.youtube.com/embed/Bp_RK6O45MQ" frameborder="0" width="560" allowfullscreen=""&gt;&lt;/iframe&gt;</pre>
			<a href="#">Online Threaded Fasteners activity Quiz Link</a>	
11	Hardware Installation Pickup assembly Scale Length, Frequency, & String Tension activity	Online Scale Length, Frequency, & String Tension activity	Video File review – Assembling Pickups <b>SOUND CHECK BODY!</b>	<pre>&lt;iframe width="640" height="360" src="http://www.youtube.com/embed/0qBOHdUr64w" frameborder="0" allowfullscreen=""&gt;&lt;/iframe&gt;</pre>
			<a href="#">Online Scale Length, Frequency, &amp; String Tension activity Quiz Link</a>	
12	Neck attachment Online Guitar Necks: The Compression and Tension of a Neck activity	Online Guitar Necks: The Compression and Tension of a Neck activity	Video File review – Buffing Guitars	<pre>&lt;iframe width="1280" height="720" src="//www.youtube.com/embed/MTtTnOaw5xI" frameborder="0" allowfullscreen=""&gt;&lt;/iframe&gt;</pre>
			<a href="#">Online Guitar Necks: The Compression and Tension of</a>	



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			<a href="#">a Neck activity Quiz Link</a>	
13	Intonation basics	Intonation activity		
			<a href="#">Online Intonation activity Quiz Link</a>	
14	Final assembly , Stings, String Nut Setup of Guitars	Setup activity		
			<a href="#">Online Setup activity Quiz Link</a>	
15	Class Photo, final intonation		Final Setup	
16	Final guitar evaluation		Final guitar evaluation - Rubric	