



# Curriculum Map Music Technology A Level

## Component 1 / 4 (Recording 20% Overall Mark) / Producing and Analysing (35% Overall Mark)

Calendar	Big Question	Small Questions	Assessment Opportunities and Criteria. Teacher Feedback point (TFP)	Homework
Autumn 1 The Basics in Theory	<p><b>What are the basics in Music Technology Theory?</b></p> <p><b>How to make connections in recording studio?</b></p> <p><b>What are the different types of microphones?</b></p>	<p>How does Sound work?            What is the relationship between sound and electricity?            What is Mono and Stereo sound?            What is analogue and Digital sound?            What is magnetic tape?            What is multi tracking?</p> <p>What are the cables and connectors needed in a recording studio?            What are balanced/ unbalanced cables?            What are inputs and outputs?            What is gain and volume?</p> <p>What are Dynamic and Capacitor microphones?            What are the characteristics of different microphones?            What are the different polar patterns in microphone construction?            How are microphones constructed?            What is frequency response in relation to microphones?</p>	<p><b>Use of microphones and DI to capture live performance.</b></p> <p><b>Editing - processing EQ (drum kit, vocals, other parts)</b></p> <p>Assessment of other parts must also consider distribution of frequencies across entire mix</p> <p><b>Editing - dynamic processing (drum kit, vocals and other parts)</b></p> <p>Assessment of other parts must also consider management of dynamics across the entire mix</p> <p><b>Editing - use of effects, including ambience (drum kit, vocals, other parts)</b></p>	

	<p><b>What equipment is needed to set up a studio?</b></p> <p><b>What is Mixing and a mixing Desk?</b></p> <p><b>What is MIDI?</b></p>	<p>What audio equipment is needed to set up a studio?          What is DI?          What are the studio effects commonly used?          What is Compression?          What is pre amplification?          What is EQ?</p> <p>What is a mixer?          How do engineers mix live sound?          How do engineers mix studio sound?</p> <p>What MIDI equipment is needed in a studio?          How does MIDI work?          What are MIDI Sounds?          What is hardware sequencing?          What is Software Sequencing?</p>	<p>assessment of other parts must also consider distribution of effects across entire mix</p> <p><b>Production - balance and blend</b></p> <p><b>Production - use of stereo</b></p> <p><b>Production - management of noise, distortion, master level and audio editing (including compiling, pitch correction, handling of fades, top and tail)</b></p>	
Autumn 2	<p><b>What is a virtual studio?</b></p> <p><b>How do engineers capture Audio recording?</b></p>	<p>What is computer music production?          How do you set up a Digital Audio Workstation?</p> <p>How to create a new project?          How to manipulate MIDI?          How to work with Audio?          How do engineers create tracks?          How do engineers set up software and hardware?          How do engineers record different instruments?</p>		

	<p><b>How do producers mix and master recordings?</b></p>	<p>How do producers use channel parameters in a typical mix?  How do producers export a stereo master file?  How do producers tidy up audio files ready for finalisation?  How do producers check the quality of their recordings and distribute them?</p>		
	<p><b>How do producers create sequencing projects?</b></p>	<p>How do producers create a project?  What is note entry?  What is MIDI editing?  What is musical shaping?  How do producers set up controllers  How do producers create polished sequences?  How do producers export MIDI files?</p>		
	<p><b>How do producers begin Arranging and Composing?</b></p>	<p>What is arranging?  How do producers get started?  What is sampling and how can it be used in arranging?  What is composing using technology?  Composing using samples, MIDI and Audio.</p>		
Spring 1	<p><b>How do engineers select microphones for a</b></p>	<p>Which microphones are best for which type of instrument and capture?  What are the pros and cons for each type?  What are the polar patterns in detail and how do you select the correct one for the job?</p>		

<p><b>recording?</b></p> <p><b>How do engineers select and set up microphones for a vocal recording?</b></p> <p><b>How do engineers select and set up microphones for an acoustic guitar recording?</b></p> <p><b>How do engineers select and set up microphones for an electric guitar recording?</b></p>	<p>What is the proximity effect?</p> <p>How do you prepare the equipment for recording?</p> <p>What is monitoring?</p> <p>How do you set up equipment safely?</p> <p>How do producers get started?</p> <p>How do producers deal with plosives?</p> <p>What is a pop shield?</p> <p>How do producers deal with ambient sounds?</p> <p>How do producers get started?</p> <p>How do producers deal with tonality?</p> <p>What is working at the 12<sup>th</sup> fret?</p> <p>How do producers deal with ambient sounds?</p> <p>What is DI capture?</p> <p>What is proximity effect in relation to live guitar recording?</p> <p>How do producers create live capture effects?</p> <p>How do producers get started?</p> <p>How do producers deal with tonality?</p> <p>What is centre/ off centre?</p> <p>What is on/ off axis capture?</p> <p>What is distance to cone, close mic'ing and ambient mic'ing?</p>		
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**How do engineers select and set up microphones for an acoustic piano recording?**

**How do engineers achieve stereo recordings using mono microphones?**

How do producers get started with upright and grands?  
How do producers deal with range and tonality?  
What is spaced paired overheads?  
What is coincident pair overheads?  
Single microphone recording placement?  
How do producers create live ambience when recording pianos?  
  
What is paired Coincident recording?  
What is spaced pairing in stereo recording?  
What is Mid-side in stereo recording?

Spring 2	<p><b>How do engineers select and set up microphones for recording a drum kit?</b></p> <p><b>What are Post Capture Processes?</b></p> <p><b>What is mixing and what</b></p>	<p>What are overheads?</p> <p>What are phase issues related to drum kit recording through stereo overheads?</p> <p>How do engineers create live capture of the bass drum?</p> <p>What is SPL (Sound Pressure Level)?</p> <p>How do engineers create live capture of the snare drum?</p> <p>How do engineers create live capture of hi hats?</p> <p>How do engineers create live capture of toms?</p> <p>How do engineers create live capture of cymbals?</p> <p>What is proximity effect in relation to cymbal recording?</p> <p>What is phase/ phase inversion/ polarity inversion switch?</p> <p>How do engineers deal with and balance 'spill.'</p> <p>What is over dubbing</p> <p>What is compiling (Comping)?</p> <p>What is editing?</p> <p>What is noise gating?</p> <p>What is zero crossing?</p> <p>What is time and pitch correction?</p> <p>What is slicing?</p> <p>What are transients?</p> <p>What is warping?</p>		

	<p><b>processors are used?</b></p>	<p>What are dynamic processors?          What is a <b>noise gate</b>?          What is signal threshold?          What are attack, hold and release?</p> <p>What is a <b>compressor</b>?          What are: threshold, ratio, attack, release, hard knee, soft knee devices?          What are <b>limiters</b>?          What are <b>DeEssers</b>?          What is a <b>multiband</b> compressor?          What is an <b>expander</b> in relation to a <b>noise gate</b>?</p> <p>What is <b>Equalisation</b>?          What is <b>parametric EQ</b>?          What is frequency, gain and bandwidth in EQ'ing?          What is filtering in relation to EQ'ing?          What is a High pass filter? <b>HPF</b>          What is a high shelf?          What is a Low pass filter? <b>LPF</b>          What is a low shelf?</p>		
Summer 1	<p><b>What is mixing and what effects are used?</b></p>	<p><b>What are the main effects used in studio post production?</b></p> <p>What is <b>reverberation</b>?</p>		

	<p>What are room, hall, chamber, plate and spring reverbs? What are: pre-delay times, reverb times, early reflections, reverb tails and high frequency damping?</p> <p>What is <b>Convolution</b> and <b>Gated</b> reverbs? What is <b>reverse</b> reverb?</p> <p>What is <b>delay</b>? What are tape, bucket brigade, digital, multi tap, stereo and doubling delay effects? What are: delay times, milliseconds, feedback, pan and filter?</p> <p>What is <b>Chorus</b>? What is LFO, delay, depth and rate in relation to chorus effect?</p> <p>What is <b>comb filtering</b>?</p> <p>What is a <b>flanger</b>? What is <b>comb filtering</b>? What are rate, feedback, LFOs, reverb and delay in relation to flanging?</p> <p>What is a <b>Phaser</b>? What is phase cancellation?</p> <p>What is <b>Amp modelling</b> or an <b>amp emulator</b>?</p> <p>What is <b>distortion, fuzz, wah wah and</b></p>		
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**overdrive?**

How is a wave form altered by distortion?  
What is soft and hard clipping in distortion?  
What is scooped EQ'ing in distortion?

What is gain, output and tone?

**What is Vibrato and tremolo?**

What is pitch modulation and how does it relate to vibrato?  
What is an LFO and how does it relate to volume in a tremolo?

What is the **Leslie Cabinet** and the **rotary speaker** and how do they create modulation effects?

**What are vocal effect processors and what is a Vocoder?**

What is pitch shifting?  
What are artefacts in pitch shifting?  
What is a talk box?

**What are Lo-Fi effects?**

**What is telephone EQ?**

What are low and high pass filters in relation to lo fi effects?

**What is bit distortion?**

What is bit depth and how can this be manipulated to create distortion?

		<p><b>What is vinyl, crackle and noise?</b></p> <p><b>What are ring modulators?</b></p>		
<p>Summer 2 <b>Analogue and digital Recording</b></p>	<p><b>What are the details of analogue and digital recording?</b></p>	<p><b>What are analogue and digital waveforms?</b>          What is <b>amplitude</b> and <b>frequency</b>?          What is <b>compression</b> and <b>rarefaction</b>?          What is analogue to digital conversion?          What is digital to analogue conversion?</p> <p><b>What is Sample rate?</b>          How does sample rate relate to frequency response being captured?          What is <b>Nyquist's</b> theory?          Why is the sample rate 44.1 kHz adequate for human hearing?          What is Aliasing?</p> <p>What is <b>bit depth</b>?          What is the detail of the amplitude measured for each sample?          How does bit depth relate to dynamic range and <b>signal-to-noise</b> ratio?</p> <p>What is <b>dithering</b>?</p>		