Music Tech A Level - Personal Learning Checklist

Area of study 1 - Recording and production techniques fot both corrective and creative process

1.1 Software and hardware		R	A	G
Hardware – describe the use and function	Microphones			
	Audio interfaces			
	Microphone pre-amps			
	DI boxes			
	Mixing desks			
	Outboard desks			
	Outboard effects			
	Guitar pedals			
	Controller keyboards			

1.2 Capture of sound		R	A	G
Describe gain structure and how it affects noise and distortion	Setting gain to maximise signal-to-noise ratio			
	Avoiding clipping, interference and hiss			
	Pre-amp controls			
	Phantom power			
	Gain structure and how it affects noise and distortion			
	Pad			
	Highpass filter			
	Polarity			
	Clip/activity LED			
The characteristics and suitability of microphone types	Dynamic			
	Ribbon			
	Condenser			
The suitability of microphone placement techniques	Suitable distance			
	Angle			
	Recording instruments using multiple Microphones			
	On-axis and off-axis frequency responses			
Advantages and disadvantages of different polar patterns	Cardioid			
	Hypercardioid			
	Figure of 8			
	Proximity effect			
	Omnidirectional			
	Frequency response and transient response			
Advanced microphone technique	Sensitivity			
	Electromagnetic induction			
	Capacitance Diaphragms			
	Moving coil			
	Phantom power			
Advanced microphone technique	Pad			
	High pass filter			
	Polar pattern switch			
Accessories :	Pop shield			
	Elastic suspension/cradle			

1.3 Synthesis		R	A	G
Identify the following waveforms:	Sine			
	Triangle			
	Pulse (width)			
	Square			
	Sawtooth			
	White noise			
	Low frequency oscillator			
	Low pass filter			
	High pass filter			
	Mod envelope			
How timbre is affected by a wider range of parameters	Cut-off frequency			
	Resonance			
	Attack			
	Decay			
	Sustain			
	Release			
	Mapping envelope and LFO to filter cutoff and pitch			
	Oscillator octave; coarse; fine tuning			
	Pitch bend range			
	Monophonic			
	Polyphonic			
	Portamento			
	Arpeggiator			

1.4 Sampling		R	A	G
Sampling	Pitch mapping			
	Transpoing			
	Editing samples			
	Cutting and Trimming			
	Looping			
	loop points			
	Zero crossings			
	Cross-fade looping			
Advanced parameters	Sample rate and bit depth			
	Using synthesis parameters on samples, e.g. filter and envelope			
	Setting pitch key zones			
	Velocity layering			
	Time-stretch			
	Reversing samples			

1.5 Sequencing		R	A	G
Input	MIDI Keyboard			
	MIDI controller			
	Step Grid (drum editor)			
	Pencil tool			
Quantise (Hard/Swing)	8			
	12			
	16			
	24			
	32			
	Swing/Percentage quantise			
	Snap/Grid			
Editing skills	Velocity and note length			
	Piano roll and list editor			
	Cutting, looping and duplicating			

How MIDI works by studying data bytes	Note on/off			
	Pitch			
	Controllers			
	Pitch Bend range			
	LSB and MSB			
	Tempo data in bpm			
	Setting a fixed tempo and applying tempo changes			
1.6 Audio editing		**R**	**A**	**G**
Audio editing	Scissor tool/split			
	Lead-in and lead out times			
	Remove hiss, hum and plosives			
	Fades and cross-fades			
How and why clicks and other noises occur	Clicking caused by discontinuous waveforms			
	Plosives			
Functions	Normalise			
	Inverting waveforms			
1.7 Pitch and rhythm correction and manipulation		**R**	**A**	**G**
How to correct inaccuracies in pitch	Retuning a vocal part with automatic tuning			
	Manually tuning individual notes by drawing in pitch (Flex)			
How to correct inaccuracies in rhythm	Audio quantise (flex)			
	Manually moving notes			
Parameters that allow greater control and creativity	Auto tune parameters			
	Reponse time, formant shifts; finetuning			
	Polyphonic re-tuning			
	Rhythm: transient detection threshold: grove templates			
1.8 Automation		**R**	**A**	**G**
Automation	Volume			
	Paning in the stereo field			
	Plug in parameter automation			
1.9 Dynamic processing		**R**	**A**	**G**
Dynamic processing	Situations when you would use a compressor and or gate			
	Limiting			
	Expansion			
	De-essing			
	Pumping			
Parameters for Compressor	Threshold			
	Ratio			
	Make up gain			
	Attack			
	Release			
	Knee			
	Sidechain			
Parameters for Gate	Threshold			
	Make up gain			
	Attack			
	Release			
	Hold			
	Side-chain			
1.10 Stereo field		**R**	**A**	**G**
Stereo field	Setting pan positions for individual parts in a recording			

1.11 EQ		R	A	G
Different types of EQ used in recording	Low shelf			
	High shelf			
	Band			
	Low pass filter			
	High pass filter			
	Band pass filter			
	Parametric EQ			
	Graphic EQ			
How different parameters affect the sound	Gain			
	Frequency cut-off			
	Q			
	Slope			
	Resonance			

1.12 Effects		R	A	G
Describe core and advanced parameters	Wet/dry			
	Bypass			
	Use of sends and inserts			
Reverb	Room			
	Hall			
	Plate			
	Spring			
	Gated			
	Reversed			
	Reverb time			
	Pre delay			
	Time-stretch			
	High frequency damping			
Delay	Single			
	Multi-tap			
	Slapback			
	Timed			
	Ping pong			
	Delay time			
	feedback			
	Number of repeats			
	Delay pan			
	EQ Automatic double tracking(ADT)			
Modulated delay	Flange			
	Chorus			
	Phaser			
	LFO rate			
	LFO depth			
	Feedback			
	Comb filtering			
Wah wah	Band pass filter			
	How the pedal controls the centre filter			
Distortion	Overdrive			
	Fuzz			
	Gain			
	Drive			
	Tone			
Lo-fi	Bit Crushing			
	Vinyl surface noise/crackle			
	Telephone effect			
	Vocal distortion			
	Ambient/found sound			

1.13 Balance and Blend		R	A	G
Balance	The relative balance of parts (tracks instruments and/or vocals)			
Blend	How blend is affected by compression EQ and effects			

1.14 Mastering		R	A	G
Perceived volume	Limiting			
Mastering parameters	Limiter gain			
	Fade in/fade out			
How EQ is used in the mastering process	Master EQ			
	High shelf boost and rumble (high pass) filter			