

## Area of study 1:

Recording and production techniques for both corrective and creative purposes

Component 1: Recording	Component 2: Technology Based Composition	Component 3: Listening and Analysing	Component 4: Production and Analysing
1.1 Software and hardware	1.1 Software and hardware		1.1 Software and hardware
1.2 Capture of sound	1.2 Capture of sound (may be required for some briefs)	1.1 Capture of sound	1.2 Capture of sound
	1.3 Synthesis	1.2 Synthesis	1.3 Synthesis
	1.4 Sampling	1.3 Sampling	1.4 Sampling
	1.5 Sequencing	1.4 Sequencing	1.5 Sequencing
1.3 Audio editing	1.6 Audio editing	1.5 Audio editing	1.6 Audio editing
1.4 Pitch and rhythm correction and manipulation	1.7 Pitch and rhythm correction and manipulation	1.6 Pitch and rhythm correction and manipulation	1.7 Pitch and rhythm correction and manipulation
1.5 Automation	1.8 Automation	1.7 Automation	1.8 Automation
1.6 Dynamic processing	1.9 Dynamic processing	1.8 Dynamic processing	1.9 Dynamic processing
1.7 Stereo	1.10 Stereo	1.9 Stereo	1.10 Stereo
1.8 EQ	1.11 EQ	1.10 EQ	1.11 EQ
1.9 Effects	1.12 Effects	1.11 Effects	1.12 Effects
1.10 Balance and blend	1.13 Balance and blend	1.12 Balance and blend	1.13 Balance and blend
1.11 Mastering	1.14 Mastering	1.13 Mastering	1.14 Mastering

## Area of study 1: Task list

Topics	Content	Skills, knowledge and understanding	S	C	M
Software and hardware	The core and advanced functions of a digital audio workstation (DAW) (1,2,4)	Functions are detailed below in this table			
	A range of hardware (1,2,4)	Microphones; audio interfaces; microphone pre-amps; DI boxes; mixing desks; outboard effects; guitar pedals  controller keyboard (4)			
1.2 Capture of sound	Gain structure and how it affects noise and distortion (1,2,3,4)	Setting gain to maximise signal-to noise-ratio (1,2,3,4)  Avoiding clipping, interference and hiss (1,2,3,4)  Pre-amp controls: phantom power; gain; pad; high pass filter; polarity; clip/activity LED (1,2,4)  Checking input and output levels when several effects/pieces of hardware are chained together (1,3,4)			
	Characteristics and suitability of microphones (1,2)	Dynamic, condenser  Directional microphones; (cardioid, hypercardioid and figure of eight polar patterns): omnidirectional microphones  Proximity effect  Microphone frequency responses  Sensitivity			
	The characteristics and suitability of microphone types (3,4)	Dynamic; condenser;			
	Microphone techniques (1,2)	Single microphone techniques  Placement distance and angle  Managing spill and background noise  Eliminating plosives			
	The suitability of microphone placement techniques (3,4)	Suitable distances and angles  Recording instruments using a single microphone			

1.3 Synthesis	How synthesis is used to create sounds (2,3,4)	Selecting and mixing sine, triangle, pulse, square and saw waveforms; white noise; low frequency oscillator (LFO); filters (low pass and high pass); envelopes			
1.4 Sampling	Editing samples (2,3,4)	Cutting/trimming • Tuning			
	Looping (2,3,4)	Loop points Crossfades Zero crossings; cross-fade looping (4)			
	Pitch mapping (2,3,4)	Transposing			
1.5 Sequencing	Real-time input (2,4)	Using a MIDI controller keyboard			
	Non real-time input (2,4)	Step grid (drum editor) Using a pencil tool to draw in notes			
	Quantise (2,3)	Hard quantise values e.g.8,12,16, 24, 32 (and note length equivalents) Swing/percentage quantise Groove templates (2) Snap / grid (4)			
	Editing skills (2,3,4)	Piano roll and list editor Velocity and note length Cutting, looping and duplicating			
1.6 Audio editing	Truncating (1,2,4)	Scissor tool/split Lead-in and lead-out times (4)			
	How to remove clicks and noise (1,2,3,4)	Fades and cross fades Removing hiss, hum and plosives(3,4)			

1.7 Pitch and rhythm correction and manipulation	How to correct inaccuracies in pitch (1,2,3,4)	For example, re-tuning a vocal part with automatic tuning Manually tuning individual notes using pitch shift (1,3) Manually tuning individual notes by drawing in pitch, playing via MIDI or offline pitch shift process (2,4) Replacing small errors with material from elsewhere in the song (1)			
	How to correct inaccuracies in rhythm (1,2,3,4)	Replacing small errors with material from elsewhere in the song (1,3) Manually cutting and moving notes that are out of time For example, tightening drum parts using audio quantise (2,3,4)			
1.8 Automation	Volume and pan automation (1,2,3)  How to use volume and pan automation (3,4)	Fades and movement in the stereo field			
1.9 Dynamic processing	Uses of compression and gating (1,2,3,4)	Situations when you would use a compressor and or/gate Limiting; expansion; de-essing Pumping			
	Core and advanced parameters of a compressor and gate (1,2,3,4)	Compressor threshold, ratio and make-up gain, attack, release, knee side-chain Gate threshold, attack, release, reduction/range Gate threshold, reduction/range attack, release, hold and side-chain (4) Drawing graphs of compression and gating (4)			
1.10 Stereo	Pan (1,2,3,4)	Setting pan positions for individual parts (tracks, instruments and/or vocals) in a recording (1,2,4)  How to identify pan positions of individual parts (tracks instruments and/or vocals) in a recording (3)			
1.11 EQ	Different types of EQ in a recording (1,2,3,4)	Low shelf; high shelf; band; low pass filter; high pass filter; band pass filter Correcting problems including sibilance, noise and resonances Parametric EQ; graphic EQ (4)			

1.12 Effects	Core and advanced parameters (1,2,3,4)	Wet/dry and bypass settings Core and advanced parameters as listed for each effect Using inserts and effects (4)			
	Reverb (1,2,3,4)	Room; hall; plate; spring, gated; reversed Reverb time pre-delay time; high frequency damping			
	Delay (1,2,3,4)	Single and multi-tap; slapback; timed; ping pong Delay time; feedback; number of repeats; delay pan and EQ Automatic double tracking (ADT)			
	Modulated delay (1,2,3,4)	Flange; chorus; phaser LFO rate; LFO depth; feedback Comb filtering			
	Wah wah pedal (1,2,3,4)	Band pass filter How the pedal controls the centre frequency (4)			
	Distortion (1,2,3,4)	Overdrive; fuzz Gain/drive; tone Amp modelling parameters: amps and speaker types; virtual mic type/ placement (1,2,4)			
	Tremolo (3,4)	Identify tremolo in a recording(3) LFO rate(4)			
	Vocal effects (4)	Vocoder			
	Lo-fi (3,4)	Bit-crushing; vinyl surface noise/crackle effects; telephone effect; vocal distortion; ambient/found sound			
1.13 Balance and blend	Balance (1,2,3,4)	The relative balance of parts (tracks, instruments and/or vocals)			
1.14 Mastering	Perceived volume (1,2,3,4)	Limiting			