Industry Related Manufacturing Technology

Focus Area: Multimedia Technologies (HSC)

Students learn about:	Students learn to:
Multimedia elements *Text* • fonts: – serif – sans serif – decorative • formatting: – bold – italics – underline – alignment – indents – bullets – numbers – size – colour • stroke and fill • headings, subheadings • formatting paragraphs and document • pagination *Graphics* • graphic images: – vector – bitmap • resolution: – image size – colour depth – binary digits (bits), eg 8-bit, 16-bit, 24-bit • file size: in relation to screen size and colour depth • file formats: – TIFF – BMP – PCX/PICT – JPEG – GIF – PNG • importing images: – clip art – screen capture – scanning – graphics tablet – cameras o still o video – image libraries – stock photographs	• author a multimedia Major Project • select and competently use a range of input and output devices, printers, cameras and scanners in the production of the Major Project • investigate and use a range of multimedia components in the development and publishing of the Major Project • competently plan all processes and stages required to complete the Major Project • apply principles of design in the planning and production of the Major Project • produce storyboards to plan presentations and the Major Project • produce multimedia elements, identify scope of authoring software, produce and evaluate prototypes

Students learn about:	**Students learn to:**
• object layering: – text – other images • image enhancements: – filters – special effects – anti-aliasing • image manipulation: – stretch – skew – rotate – colour adjustment	• obtain, create and modify images, sound and text • compose camera shots and operate still and video cameras • transform prototypes into a final product
Audio • sound waves: – analogue and digital wave patterns – volume – frequency • mono/stereo/surround sound • converting analogue to digital sound • sampling: – sample rate – sample size – 8-bit – 16-bit • relationship to file size: file compression • file formats: – WAV – AIFF – MP3 – WMA – MIDI	• select from a wide range of industry techniques and apply them in the production and presentation of the Major Project • obtain, create and modify images, sound and text • outsource appropriate expertise where necessary to complement personal practical skills • utilise the features of a range of storage devices
Video • video types: – analogue – digital • file size considerations: – frame rate – image size – colour depth • video compression: – lossy – lossless – image quality – software • video players • file types: – MPEG – avi – MP4	• identify requirements of memory, processing speed, storage and peripherals to complete Major Project • outsource appropriate expertise where necessary to complement personal practical skills

Students learn about:	**Students learn to:**
• video editing: – import/export – transitions – titles – special effects, eg: o twisting o zooming o rotating o slow motion o time lapse o distorting • synchronising sound • filters: – colour balance – brightness – contrast – blurring – morphing	
Animation • 2D animation – cel animation (stop motion, claymation) – path animation – behaviour animation – morphing and tweening – frame rates – transitions – looping • 3D animation – modelling – wire frame – rendering – morphing – warping – motion capture • virtual reality – simulators – walkthroughs – navigable scenes	• identify and discuss animation requirements, scope of 2/3D animation software • evaluate the characteristics and features of a range of animation techniques
World Wide Web (www) • history and development – appropriate usage – targeted audience – age controls – censorship: o violence o sex o language • implications of the World Wide Web on multimedia design relating to:	• analyse and describe the technology associated with the World Wide Web

Students learn about:	**Students learn to:**
Text • font compatibility, font sets, font substitution • text as a graphic element • embedded text, eg: – open type – true type • cascading style sheets (CSS) • hyperlinks • scroll bars and buttons • drop-down lists • animated text: – scrolling – distorting • .pdf files *Graphics* • file size and compression, eg: – GIF – JPEG – PNG • progressive loading of images: – interlaced GIF – progressive JPEG • animated GIF • thumbnails *Sound* • sound quality • file size and compression • streaming • media players *Video* • video transfer: – hypertext transfer protocol (HTTP) – real-time streaming protocol (RTSP) • connection speed • web casting • buffering/streaming	• increase and update knowledge of the multimedia industry • discuss the impact of changing technology • solve problems through accessing and using online help and manuals
Major Project • appropriate software relevant to the Major Project in the areas of: – authoring – publishing – sound creation/capture/editing – image creation/capture/editing – video creation/capture/editing – text creation/capture/editing – animation creation/capture/editing – 2D/3D drawing • documentation – online help and manuals – user documentation	• investigate and competently use a range of suitable software in the creation, editing and publishing of the Major Project • apply a wide range of industry terminology, techniques and processes • prepare documentation to support the development of the Major Project

Students learn about:	**Students learn to:**
Intellectual property and ethics • copyrights and multimedia • ethical use • ease of copying, manipulation and incorporating multimedia objects	• obtain, modify and use a range of pre-existing components • consider legal and ethical issues in the development of multimedia presentations
• WHS – workplace procedures – safe handling of equipment – risk identification and hazard reduction strategies	• use computers, associated materials and accessories safely and responsibly • identify specific WHS issues associated with the production of the Major Project