

Year 9 - Graphics Technology 2023

TERM 1

Core Module 1 – Instrument Drawing

Students develop knowledge and skills to use drawing equipment and techniques to create 2D and 3D objects including prisms, logos, pictograms, and engineering components. They develop skills to maintain drawing instruments while completing graphics projects. Students complete a range of drawing types including sketches, rendering, orthogonal, isometric, and oblique. They learn about scale, AS1100 requirements, dimensions and required notation.

UNIT OVERVIEW

ASSESSMENT

- Identify and apply design principles and processes in the development, production and evaluation of graphical presentations
- Generate sketches to assist with problem-solving and communication of ideas
- Identify and interpret different methods of graphical representations in design
- Select and maintain drawing equipment and applying ordered approaches to work practices
- Plan and manage graphics projects individually and collaboratively
- Explore the role of professionals in the graphics industry
- Investigate Australian and international drawing standards and apply AS1100 technical drawing standards in the production of drawings
- Critically analyse graphical images for gender, social and cultural messages that may be conveyed
- Understand ethical responsibilities surrounding intellectual property, including indigenous cultural and intellectual property
- Identify the environmental effects of products and processes used in the graphics industry
- Apply freehand drawing techniques to a range of simple orthogonal and pictorial drawing types
- Demonstrate measurement and accuracy through the use of scales in the production of drawings
- Apply geometric construction techniques to graphical communication
- Identify and apply appropriate AS1100 technical drawing standards to orthogonal drawings
- Explore third-angle projection of orthogonal drawings
- Create orthogonal drawings in third-angle projection used in design and manufacture
- Generate drawings demonstrating advanced orthogonal drawing techniques
- Produce a range of pictorial representations of common objects
- Apply advanced techniques to pictorial projection
- Apply rendering techniques to aid in the visualisation of a product or concept
- Produce presentation pictorial and orthogonal drawings to convey technical information or product concept
- Identify and apply a range of tools, techniques and technologies to present product information graphically in a clear and innovative manner
- Identify Work Health and Safety (WHS) issues related to products and processes in the graphics industry and demonstrate safe and responsible work practices

Task Number: 1
Nature of Task:
Folio and Practical
Percentage: 100%
Week: Week 9
Reported: Semester 1

TIMING

Weeks: 1 – 11

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TERM 2

Core Module 2 – Computer Aided Design (CAD)

Students develop knowledge of drawing equipment, standards, techniques and types in CAD. They produce graphics projects using CAD and compare this process to completing drawings with instruments. Students complete a range of drawing types using appropriate drawing conventions including AS1100, develop CAD page templates for their school and part libraries for their graphics projects. Using CAD, they develop a retro game controller with orthographic drawings and photorealistic rendering. They create physical models (3D print) to enhance the presentation of their product designs.

UNIT OVERVIEW

ASSESSMENT

TIMING
Weeks: 1 - 10

- Explore the roles of professionals who use information and communication technology (ICT) in the graphics and related industries
- Identify WHS issues related to ICT in the graphics industry and demonstrate safe and responsible work practices
- Apply Australian technical drawing standards in the production of drawings
- investigate and use computer-aided design (CAD) terminology
- Explore the relationship of CAD applications to computer-aided manufacture (CAM)
- Investigate and use various file formats and images associated with CAD, CAM and related ICT
- Apply standard features of CAD software
- Compare and contrast the processes of producing drawings using manual techniques versus CAD techniques
- Explore the concepts of 2D and 3D coordinate geometry, and their application in CAD modelling
- Identify the environmental impacts of digital images used in the graphics industry
- Investigate and apply an understanding of issues related to the production and reproduction of graphics
- Collaborate on research and/or design activities
- Collect information from a range of sources to assist in the development of project work
- Generate freehand sketches to illustrate or communicate information to be used in CAD applications
- Use CAD modelling and rendering to visualise and experiment with designs
- Use appropriate CAD software to produce graphical images for a given situation
- Generate CAD orthogonal drawings, selecting appropriate views and drawing types for a particular context
- Produce pictorial drawings using CAD applications
- Manage graphics projects individually and collaboratively
- Create presentation drawings using CAD or appropriate graphics software

Task Number: 2
Nature of Task:
Folio and Practical
Percentage: 45%
Week: Week 8
Reported: Semester 2

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TERM 3

TIMING Weeks: 1 – 10	Optional Module 5 – Computer Animation The Computer Animation module extends students' knowledge, understanding and skills of graphics technology with a particular emphasis on the standards and presentation methods used in the production of digital animations and simulations.	
	UNIT OVERVIEW	ASSESSMENT
	<ul style="list-style-type: none"> Investigate and use animation terminology Investigate and use animation techniques Investigate and use a range of software suitable for the creation, editing and publishing of computer animation projects Use appropriate file types in the creation of animations and for exporting animation files to other graphics software Investigate and apply an understanding of issues related to the production and reproduction of digital assets used in animation Apply animation techniques to quickly generate representations of a design Communicate design for animation through the use of storyboarding Use a range of ICT to generate components of an animation Research and develop designs using ICT as appropriate Create and animate simple 3D models using modelling software Develop skills in the use of a range of animation techniques Generate CAD animations Develop simulations using appropriate software Develop multimedia animations using a range of tools, materials and technologies Identify WHS issues related to products and processes in the graphics industry and demonstrate safe and responsible work practices 	Task Number: 3 Nature of Task: Folio and Practical Percentage: 35% Week: Week 8 Reported: Semester 2

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TERM 4

TIMING Weeks: 1 – 10	Optional Module 2 – Australian Architecture The Australian Architecture module extends students' knowledge, understanding and skills of graphics technology with a particular emphasis on Australian architecture, its standards, building characteristics and historical qualities.	
	UNIT OVERVIEW	ASSESSMENT
	<ul style="list-style-type: none"> Apply AS 1100.301 Technical Drawing – Architectural Drawing standards Investigate historical and contemporary Australian building styles and eras Identify cultural and climatic influences on Australian building styles Apply a range of architectural drawing types to the sketching of historic and contemporary architectural buildings and features Collect and annotate images from a range of sources representing Australian architectural styles Reflect environmental considerations in the development of architectural designs Research and develop architectural designs using ICT as appropriate Create representations of historic and contemporary Australian architectural designs, showing construction details and distinctive design elements Generate Australian architectural graphics using CAD applications Communicate Australian architectural designs Develop presentations of Australian architecture using a range of tools, materials, and technologies Investigate historical and contemporary Australian building styles and eras Identify cultural and climatic influences on Australian building styles Identify WHS issues related to products and processes in the graphics industry and demonstrate safe and responsible work practices Explore the role of architects in the design, planning, construction and preservation of historical and contemporary Australian building styles 	Task Number: 4 Nature of Task: Folio and Practical Percentage: 20% Week: Week 5 Reported: Semester 2