

CPPBDN5005A Matrix Map

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ELEMENTS AND PERFORMANCE CRITERIA

Element	Performance Criteria	Task / Question Map
Research trends in sustainable design	Current and incoming legislation relating to sustainable design requirements for new buildings is researched and analysed in relation to small-scale building design projects.	Energy Efficiency and the Building Code of Australia: Q1 Q2 Q3 Q4 Q5 Q6 NCC Requirements for thermal efficiency: Q1 Q2 NCC and Climate Zones: Q1 Q2 Legislative and planning requirements for thermal efficiency to the building process: Q1 Q2 Q3 ACTIVITY: Investigating State Energy Efficiency Building Requirements: Q1
	Global trends in sustainable design for new buildings are researched and analysed.	Energy and Greenhouse Gas Emissions: Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Zero Energy Buildings: Q1 Q2 Q3 Global trends in sustainable design: Q1 Permaculture Principles: Q1 Q2 Q3 Case Study 1 - Caroline Pidcock Architecture: Q1
	Locally produced components and materials for sustainable design are researched and analysed.	Sourcing locally produced components: Q1 Q2
	Research is recorded, filed and regularly updated according to workplace procedures.	Energy and Greenhouse Gas Emissions: Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Professional Development: Q3
Assess clients' sustainability requirements, preferences and budget	Compulsory requirements and trends in sustainable design are explained to client in relation to specific building design projects.	NCC Requirements for thermal efficiency: Q1 Q2 ACTIVITY: Investigating State Energy Efficiency Building Requirements: Q1 Explaining Compulsory Requirements: Q1 Assessing your clients sustainability requirements: Q1 Engaging Your Client in the Design Process: Q2

	<i>Client's preferences for sustainable design solutions are clarified, assessed against current and incoming requirements, and discussed.</i>	<i>ACTIVITY: Communicating as part of building process: Q1 Q2 Q3 Recommending sustainable materials: Q1 Assessing your clients sustainability requirements: Q1 Creating a Environmental Project Brief: Q1 Q2 Q3 Q4</i>
	<i>Client's project budget is clarified and budgetary constraints on sustainable design preferences are discussed.</i>	<i>Assessing your clients sustainability requirements: Q1 Budgetary Constraints : Q1 Q2 Creating a Environmental Project Brief: Q4</i>
<i>Evaluate and recommend design options for sustainability</i>	<i>Sustainable design options specific to project location and site conditions are researched and evaluated.</i>	<i>Sourcing locally produced components: Q1 Q2 Climate and House Design: Q1 Q2 Q3 Q4 Q5 Q6 Explaining Compulsory Requirements: Q1 Designing for Your Climate Zone: Q1 Q2 Q3 Investigating the Building's Orientation: Q1 Q2 Macro and Micro Climates: Q1 Q2</i>
	<i>Generic sustainable design options relevant to small-scale building design projects are researched and evaluated.</i>	<i>Embodied Energy in the Built Environment: Q1 Q2 Q3 Thermal Mass: Q1 Q2 Q3 Q4 Home Heating: Q1 Q2 Q3 PROJECT: Create a Passive Solar Floor Plan: Q1 Q2</i>
	<i>Sustainable design options are assessed against client preferences and budget, and cost-effective solutions are recommended to client.</i>	<i>Recommending sustainable materials: Q1 Activity 1. Prepare a concept design for an energy efficient building design project: Q1 Activity 2. Create a materials board: Q1 Activity 3. Prepare an energy efficiency design report: Q1</i>
	<i>Client's decisions on sustainable design options are recorded and actioned according to workplace requirements.</i>	<i>Activity 2. Create a materials board: Q1 Activity 3. Prepare an energy efficiency design report: Q1 Creating a Environmental Project Brief: Q4</i>

REQUIRED SKILLS

Required Skill	Task / Question Map
administration and management skills to:	
<i>manage documents</i>	<i>Activity 1. Prepare a concept design for an energy efficient building design project: Q1</i> <i>Activity 2. Create a materials board: Q1</i> <i>Activity 3. Prepare an energy efficiency design report: Q1</i> <i>Creating a Environmental Project Brief: Q4</i>
<i>manage time, including planning and prioritising work</i>	<i>Professional Development: Q1</i>
<i>plan and arrange professional development activities</i>	<i>Professional Development: Q2</i>
analytical and problem-solving skills to:	
<i>develop innovative ideas and designs</i>	<i>Activity 1. Prepare a concept design for an energy efficient building design project: Q1</i> <i>Activity 2. Create a materials board: Q1</i>
<i>select cost-effective products and materials that contribute to sustainable development</i>	<i>Sourcing locally produced components: Q2</i> <i>Material selection: Q1 Q2 Q3</i> <i>Recommending sustainable materials: Q1</i> <i>Concrete and Sustainability: Q1</i> <i>Activity 2. Create a materials board: Q1</i> <i>Activity 3. Prepare an energy efficiency design report: Q1</i> <i>Grey-water Systems: Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8</i>
<i>work out optimum compliant and cost-effective design solutions</i>	<i>Budgetary Constraints : Q1 Q2</i> <i>Activity 1. Prepare a concept design for an energy efficient building design project: Q1</i> <i>Activity 2. Create a materials board: Q1</i> <i>Activity 3. Prepare an energy efficiency design report: Q1</i>
interpersonal skills to:	

<p><i>interact with builders, clients, consultants, manufacturers and suppliers</i></p>	<p><i>Explaining Compulsory Requirements: Q1</i> <i>ACTIVITY: Communicating as part of building process: Q1 Q2 Q3</i> <i>Recommending sustainable materials: Q1</i> <i>Activity 2. Create a materials board: Q1</i> <i>Activity 3. Prepare an energy efficiency design report: Q1</i> <i>Creating a Environmental Project Brief: Q1 Q2 Q3 Q4</i> <i>Engaging Your Client in the Design Process: Q2</i> <i>Communicating with the Builder: Q1 Q2</i></p>
<p><i>network with other professionals</i></p> <p>language, literacy and numeracy skills to: communicate with clients and contacts, including:</p>	<p><i>Communicating with the Builder: Q1 Q2</i></p>
<p><i>presenting design options</i></p>	<p><i>Explaining Compulsory Requirements: Q1</i> <i>ACTIVITY: Communicating as part of building process: Q1 Q2 Q3</i> <i>Recommending sustainable materials: Q1</i> <i>Activity 1. Prepare a concept design for an energy efficient building design project: Q1</i> <i>Activity 2. Create a materials board: Q1</i> <i>Activity 3. Prepare an energy efficiency design report: Q1</i> <i>Engaging Your Client in the Design Process: Q2</i></p>
<p><i>writing reports</i></p>	<p><i>ACTIVITY: Communicating as part of building process: Q2</i> <i>Activity 3. Prepare an energy efficiency design report: Q1</i> <i>Creating a Environmental Project Brief: Q4</i></p>
<p><i>estimate costs of sustainable design options</i></p>	<p><i>Recommending sustainable materials: Q1</i></p>
<p><i>interpret and apply complex information, including legislation, regulations, codes and standards</i></p>	<p><i>Energy Efficiency and the Building Code of Australia: Q1 Q2 Q3 Q4 Q5 Q6</i> <i>Building Sustainability Rating tools: Q1 Q2 Q3</i> <i>NCC Requirements for thermal efficiency: Q1 Q2</i> <i>NCC and Climate Zones: Q1 Q2</i> <i>Legislative and planning requirements for thermal efficiency to the building process: Q1 Q2 Q3</i> <i>ACTIVITY: Investigating State Energy Efficiency Building Requirements: Q1</i> <i>Explaining Compulsory Requirements: Q1</i></p>

<p><i>research sustainable design options</i></p>	<p><i>Global trends in sustainable design: Q1</i> <i>Material selection: Q1 Q2 Q3</i> <i>Recommending sustainable materials: Q1</i> <i>Permaculture Principles: Q1 Q2 Q3</i> <i>Concrete and Sustainability: Q1</i> <i>Grey-water Systems: Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8</i> <i>Designing for Your Climate Zone: Q1 Q2 Q3</i></p>
<p><i>technology skills to use information technology and relevant software</i></p>	<p><i>NCC Requirements for thermal efficiency: Q1 Q2</i> <i>Sourcing locally produced components: Q2</i> <i>Activity 1. Prepare a concept design for an energy efficient building design project: Q1</i> <i>Activity 2. Create a materials board: Q1</i></p>

REQUIRED KNOWLEDGE

Required Knowledge	Task / Question Map
<i>basic principles of structural engineering</i>	<i>Structural principles - Demolition: Q1 Q2 Q3</i>
<i>building designers'™ duty of care to ensure quality and safety of designs</i>	<i>Durability and Maintenance: Q1 Q2 Condensation in Buildings: Q1 Q2 Q3</i>
<i>construction materials and methods used in sustainable design, including costs</i>	<i>Sourcing locally produced components: Q2 Material selection: Q1 Q2 Q3 Recommending sustainable materials: Q1 Concrete and Sustainability: Q1 Activity 2. Create a materials board: Q1 Water-tanks: Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10</i>
<i>legislation, codes and standards relevant to sustainable design requirements for small-scale building design projects</i>	<i>Energy Efficiency and the Building Code of Australia: Q1 Q2 Q3 Q4 Q5 Q6 Building Sustainability Rating tools: Q1 Q2 Q3 NCC Requirements for thermal efficiency: Q1 Q2 NCC and Climate Zones: Q1 Q2 Legislative and planning requirements for thermal efficiency to the building process: Q1 Q2 Q3 ACTIVITY: Investigating State Energy Efficiency Building Requirements: Q1 Activity 3. Prepare an energy efficiency design report: Q1</i>
<i>organisational scope of business and client demographics, including:</i>	
<i>geographic areas of operation</i>	<i>Sourcing locally produced components: Q2 Climate and House Design: Q1 Q2 Q3 Q4 Q5 Q6 Designing for Your Climate Zone: Q1 Q2 Q3</i>
<i>trends in clients'™ sustainable design preferences</i>	<i>Zero Energy Buildings: Q1 Q2 Q3 Recommending sustainable materials: Q1 Creating a Environmental Project Brief: Q1 Q2 Q3 Q4</i>
<i>types of building design projects that form the core business of the organisation</i>	<i>PROJECT: Create a Passive Solar Floor Plan: Q1 Q2 Activity 1. Prepare a concept design for an energy efficient building design project: Q1</i>

<i>principles of sustainable design</i>	<p><i>Energy and Buildings: Q1 Q2 Q3</i></p> <p><i>PROJECT: Create a Passive Solar Floor Plan: Q1 Q2</i></p> <p><i>Activity 3. Prepare an energy efficiency design report: Q1</i></p> <p><i>Creating an Environmental Project Brief: Q4</i></p>
sources of reliable information on:	
<i>current and incoming legislation</i>	<p><i>NCC Requirements for thermal efficiency: Q1 Q2</i></p> <p><i>NCC and Climate Zones: Q1 Q2</i></p> <p><i>Legislative and planning requirements for thermal efficiency to the building process: Q1 Q2 Q3</i></p> <p><i>ACTIVITY: Investigating State Energy Efficiency Building Requirements: Q1</i></p>
<i>local and global trends in sustainable design</i>	<p><i>Building Sustainability Rating tools: Q1 Q2 Q3</i></p> <p><i>Zero Energy Buildings: Q1 Q2 Q3</i></p> <p><i>Global trends in sustainable design: Q1</i></p>

CRITICAL ASPECTS

Critical Aspects	Task / Question Map
<p>Assessment for this unit must verify the practical application of the required skills and knowledge, using one or more of the following methods:</p>	
<p><i>written and/or oral assessment of the candidates required knowledge for the unit</i></p>	<p><i>Sourcing locally produced components: Q2</i> <i>Explaining Compulsory Requirements: Q1</i> <i>ACTIVITY: Communicating as part of building process: Q2 Q3</i> <i>Recommending sustainable materials: Q1</i> <i>Activity 1. Prepare a concept design for an energy efficient building design project: Q1</i> <i>Activity 2. Create a materials board: Q1</i> <i>Activity 3. Prepare an energy efficiency design report: Q1</i> <i>Creating a Environmental Project Brief: Q4</i> <i>Engaging Your Client in the Design Process: Q2</i></p>
<p><i>observed, documented and/or firsthand testimonial evidence of the candidates</i></p>	<p><i>ACTIVITY: Communicating as part of building process: Q2 Q3</i> <i>PROJECT: Create a Passive Solar Floor Plan: Q1 Q2</i> <i>Recommending sustainable materials: Q1</i> <i>Activity 1. Prepare a concept design for an energy efficient building design project: Q1</i> <i>Activity 2. Create a materials board: Q1</i> <i>Activity 3. Prepare an energy efficiency design report: Q1</i> <i>Creating a Environmental Project Brief: Q4</i></p>
<p><i>implementation of appropriate procedures and techniques for the safe, effective and efficient achievement of the required outcomes</i></p>	<p><i>Sourcing locally produced components: Q2</i> <i>ACTIVITY: Communicating as part of building process: Q2 Q3</i> <i>Activity 2. Create a materials board: Q1</i> <i>Activity 3. Prepare an energy efficiency design report: Q1</i> <i>Communicating with the Builder: Q1 Q2</i></p>

<p><i>identification of the relevant information and scope of the work required to meet the required outcomes</i></p>	<p><i>NCC Requirements for thermal efficiency: Q1 Q2</i> <i>ACTIVITY: Investigating State Energy Efficiency Building Requirements: Q1</i> <i>Climate and House Design: Q1 Q2 Q3 Q4 Q5 Q6</i> <i>Recommending sustainable materials: Q1</i> <i>Activity 2. Create a materials board: Q1</i> <i>Activity 3. Prepare an energy efficiency design report: Q1</i> <i>Creating a Environmental Project Brief: Q1 Q2 Q3 Q4</i> <i>Designing for Your Climate Zone: Q1 Q2 Q3</i></p>
<p><i>identification of viable options and the selection of options that best meet the required outcomes</i></p>	<p><i>Sourcing locally produced components: Q2</i> <i>Material selection: Q1 Q2 Q3</i> <i>Recommending sustainable materials: Q1</i> <i>Activity 1. Prepare a concept design for an energy efficient building design project: Q1</i> <i>Activity 2. Create a materials board: Q1</i> <i>Activity 3. Prepare an energy efficiency design report: Q1</i></p>
<p><i>consistently achieving the required outcomes.</i></p>	<p><i>Recommending sustainable materials: Q1</i> <i>Activity 1. Prepare a concept design for an energy efficient building design project: Q1</i> <i>Activity 2. Create a materials board: Q1</i> <i>Activity 3. Prepare an energy efficiency design report: Q1</i> <i>Communicating with the Builder: Q1 Q2</i></p>

RANGE STATEMENTS

Range Statements		Task / Question Map
<i>Sustainable design may include:</i>	<i>carbon dioxide reduction methods</i>	<i>Energy and Greenhouse Gas Emissions: Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8</i>
	<i>energy-efficient design</i>	<i>Energy and Buildings: Q1 Q2 Q3 NCC Requirements for thermal efficiency: Q1 Q2 Legislative and planning requirements for thermal efficiency to the building process: Q1 Q2 Q3 PROJECT: Create a Passive Solar Floor Plan: Q1 Q2 Activity 1. Prepare a concept design for an energy efficient building design project: Q1 Activity 3. Prepare an energy efficiency design report: Q1 Engaging Your Client in the Design Process: Q2</i>
	<i>minimal impact on site ecosystem and natural water</i>	<i>Grey-water Systems: Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8</i>
	<i>passive solar design</i>	<i>PROJECT: Create a Passive Solar Floor Plan: Q1 Q2 Activity 1. Prepare a concept design for an energy efficient building design project: Q1</i>
	<i>renewable energy appliances</i>	<i>Renewable energy:Photo Voltaic Systems: Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Renewable energy :Solar Hot Water Systems: Q1 Q2 Q3 Q4 Q5 Q6</i>
	<i>sustainable building materials, including:</i>	
	<i>locally produced</i>	<i>Sourcing locally produced components: Q1 Q2</i>
	<i>recycled</i>	<i>Recommending sustainable materials: Q2</i>
	<i>water-efficient design.</i>	<i>Water-tanks: Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Grey-water Systems: Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8</i>
<i>Small-scale building design projects:</i>	<i>include buildings covered by the BCA except construction Type A buildings</i>	<i>NCC and Climate Zones: Q1 Q2 Activity 1. Prepare a concept design for an energy efficient building design project: Q1 Activity 3. Prepare an energy efficiency design report: Q1</i>
	<i>may be residential projects, such as:</i>	
	<i>additions and renovations</i>	<i>Recommending sustainable materials: Q1</i>
	<i>heritage restorations</i>	
	<i>new buildings</i>	<i>PROJECT: Create a Passive Solar Floor Plan: Q1 Q2 Activity 1. Prepare a concept design for an energy efficient building design project: Q1</i>

	may be commercial or industrial projects, such as:	
	<i>factories</i>	
	<i>motels</i>	
	<i>offices</i>	
	<i>restaurants</i>	
	<i>retail and service outlets</i>	
	<i>warehouses.</i>	
<i>Clients may include:</i>	<i>companies</i>	
	<i>individuals</i>	<i>Recommending sustainable materials: Q1 Creating a Environmental Project Brief: Q2 Q3 Engaging Your Client in the Design Process: Q2</i>
	<i>families</i>	<i>Creating a Environmental Project Brief: Q2 Q3</i>
	<i>target groups for standard housing products.</i>	<i>Recommending sustainable materials: Q1</i>