Government of **Western Australia**
School Curriculum and Standards Authority

BUILDING AND CONSTRUCTION

General course

Year 12 syllabus for teaching from 2027

Acknowledgement of Country

Kaya. The School Curriculum and Standards Authority (the Authority) acknowledges that our offices are on Whadjuk Noongar boodjar and that we deliver our services on the country of many traditional custodians and language groups throughout Western Australia. The Authority acknowledges the traditional custodians throughout Western Australia and their continuing connection to land, waters and community. We offer our respect to Elders past and present.

Important information

As part of the Western Australian Certificate of Education (WACE) Refreshment, the School Curriculum and Standards Authority (the Authority) has revised the course rationale and aims, and updated the General Capabilities to create clearer connections with the syllabus content.

This syllabus is effective from 1 January 2027.

Users of this syllabus are responsible for checking its currency.

Syllabuses are formally reviewed by the Authority on a cyclical basis, typically every five years.

Copyright

© School Curriculum and Standards Authority, 2026

This document – apart from any third-party copyright material contained in it – may be freely copied, or communicated on an intranet, for non-commercial purposes in educational institutions, provided that the School Curriculum and Standards Authority (the Authority) is acknowledged as the copyright owner, and that the Authority's moral rights are not infringed.

Copying or communication for any other purpose can be done only within the terms of the *Copyright Act 1968* or with prior written permission of the Authority. Copying or communication of any third-party copyright material can be done only within the terms of the *Copyright Act 1968* or with permission of the copyright owners.

Any content in this document that has been derived from the Australian Curriculum may be used under the terms of the Creative Commons Attribution 4.0 International licence.

Contents

Rationale **1**

Aims **2**

Organisation **2**

Structure of the syllabus 2

Organisation of content 3

Representation of the General Capabilities 5

Representation of the Cross-curriculum Priorities 7

Unit 3 ..... **8**

Unit description 8

Unit content 8

Unit 4 ..... **11**

Unit description 11

Unit content 11

School-based assessment **14**

Assessment table – Year 12 14

Externally set task 15

Grading 16

Appendix 1 – Grade descriptions Year 12 ..... **17**

Rationale

The Building and Construction General course builds on students' appreciation and knowledge of building design and provides a context in which to integrate knowledge and practical experiences to meet opportunities and client requirements. Students are encouraged to be creative, innovative and solve problems by applying essential mathematical and engineering principles and strategies to design constructions. They consider and plan for identified individual and community needs through the application of project management skills. Students learn ways to diagnose technical terms, implement course information, communicate effectively and incorporate approved regulatory requirements while understanding the foundations of building and construction.

The course builds on students' flexibility to adapt to the continually evolving practices, conditions and requirements of the building and construction industry, with a focus on practical skills and professional expectations. Social and community responsibilities, ethical practices and environmental factors are explored in the design, evaluation of proposals and creation of structures for specified requirements. Processes required to manage production, resources, time, selection of materials and appropriate technologies are outlined and applied to complete constructions.

The course extends opportunities for students to interact and communicate effectively with varied audiences, work collaboratively and respond to the evolving demands and needs of individuals, communities and clients. In dealing with issues, such as quality assurance, time constraints, resource management, contract liability and regulatory responsibilities, students further develop ethical considerations, practices and processes to design, build and create constructions. Emphasis is placed on the importance of lifelong learning and compliance with the principles of the Western Australian *Work Health and Safety Act 2020* to equip students with the essential knowledge required for workplace safety.

Industry-related experiences acquired through this course could include, for example, aspects of computer-aided designing, working with a range of building materials, fundamental engineering, architecture and enterprising behaviours. Students acquire, develop and learn to apply practical skills for use in everyday life. These skills are transferable to a range of vocational and academic pathways to enhance employability in the building and construction industry. The skills support confidence, independent living and an appreciation of environmental resources. Key skills could include project management, working collaboratively, problem-solving, effective communication, leadership, selection and safe use of building technologies and materials, and application of regulatory requirements.

The course prepares students with and builds on essential foundations for areas such as carpentry, bricklaying, electrical trades, plumbing and gas fitting, building design and drafting, and construction project management. This knowledge will support pathways into future study at Technical and Further Education (TAFE), university or employment. Through practical experience and industry-relevant information, people become informed contributors to the community and acquire knowledge and skills for building and construction.

Aims

The Building and Construction General course aims to develop students':

- understanding of building and construction processes and practices
- understanding of design fundamentals, materials, structural principles, spatial concepts and preferred locations for creative, safe and compliant building and construction projects
- application of structured processes to meet opportunities and needs in building and construction through informed, practical and reflective approaches
- application of organisational skills to select, use, manage and adapt building and construction technologies in safe and efficient ways
- consideration of the interconnections between community expectations, beliefs, ethical and cultural values, the environment and their effect on decision-making in building and construction.

Organisation

This course is organised into a Year 11 syllabus and a Year 12 syllabus. The cognitive complexity of the syllabus content increases from Year 11 to Year 12.

Structure of the syllabus

The Year 12 syllabus is divided into two units which are delivered as a pair. The notional time for the pair of units is 110 class contact hours.

Unit 3

This unit explores properties of common construction materials (timber, metals, concrete, grout, brickwork, block work, insulation, mortar and paint); their mechanical properties under load and flexural actions; and their use in construction. Concepts in space and computation are developed. Students practise reading drawn/drafted information as applied to building. Documentation for small projects is developed. The unit explores processes in contexts drawn from building, landscaping, earthwork, projects involving different energy use and the recycling of building materials.

Unit 4

This unit builds upon the understandings of building materials, structures and structural components and the evaluation of combinations of various materials to sustain the strength of structural components. The methods and materials used in connecting building elements are explored. Further design considerations are studied. Drawing/drafting skills are refined and practised with application to more complex building issues. New criteria are incorporated in the specifications of design projects and skills are practised in these areas of content. Service networks, economics and recycling are studied. The unit explores processes in contexts drawn from building, landscaping and earthwork projects, involving environmental issues of building waste disposal, water and sewerage treatment.

Each unit includes:

- a unit description – a short description of the purpose of the unit
- unit content – the content to be taught and learned.

Organisation of content

The course content is the focus of the learning program.

The course content is divided into three content areas:

- Design, planning and management
  - planning and management
  - design processes
  - drafting
- Materials
  - properties and selection
  - working with materials
- Systems
  - structures and services
  - environment and sustainability

Design, planning and management

Planning and management

Planning is an important stage in the process of construction. This includes the planning of operations, time management, quantity surveying, ordering procedures, scheduling and costing, communication of the planning process, identification of needs and issues, and, where appropriate, contingency plans. Evaluation of successful projects and the generation of new ideas help to develop innovative skills. Analysis, synthesis and evaluation are important during the planning and production of projects to inform improvements in the design and to establish what impact the project will have, both socially and environmentally.

A range of skills is needed to manage projects effectively. Such skills include risk assessment, the planning and implementation of sequences of operations and using appropriate communication skills to document project development. Effective management of a project is aided by understanding the various roles of individuals and institutions involved in tasks and stages, along with the structures that integrate these factors. The roles of professional and administrative bodies regulating industry practice and the procedures for project approvals by these bodies are integral to projects. Knowledge of financial institutions, managing the accounts of small businesses, quantity surveying, costing and tendering are required for the realisation of projects.

Project documentation (using word processing), computation and processing of information (using database and spreadsheets) are necessary skills. A competency in English for different contexts and diverse audiences is necessary for the practice of building and construction.

Design processes

Building and construction design involves choosing between several alternatives on the basis of criteria that are either explicit in the project specifications (economy, safety, functionality and environmental issues) or implicit (market trends, societal and aesthetic). Establishing project aims and strategies to develop and modify design are required to complete a design that satisfies the aims of projects. Professional and governmental standards regulate design and technology in the building and construction industries. Building and construction relies heavily on drawings to formulate and

communicate aesthetics, form and structure. This requires competence in geometrical and pictorial perception and projections; the ability to apply the fundamentals of proportions and scaling in the interpretation and production of design drawings; and the ability to translate field measurements into graphical and numerical forms for drawing and calculating quantities.

The building and construction industry fulfils needs of individuals and communities. Such needs include people's need to address beauty and function in their built environment; links between style, function and economics; historical developments; and cultural and regional variations.

Drafting

The representation and communication of building and construction artefacts require the development of a perception of space and the ability to understand, reflect on and convey details of designs. This will be practised in various forms, such as sketching, freehand drawing, technical drawing, including reading and using computer-aided drawing and drafting technologies and by three-dimensional modelling, using industry-specific graphical symbols and conventions.

Surveying involves the extraction of raw information about the space of a construction project to execute the design. This includes the operation of surveying and levelling equipment, plotting plans and the use of maps. Skills in reading plans and setting up construction activities are necessary. This requires an understanding of digital/analog data acquisition and processing used in electronic measurement equipment.

Materials

Properties and selection

An understanding of the scientific nature and properties of materials underpin fundamental decisions within building and construction. This includes common materials as well as emerging materials. Identification and scientific testing of materials is conducted. Properties, such as metals, polymers, ceramics, textiles, timber, composite, organic materials and alloys are investigated. Chemical reactions and mechanical actions involved in the production and use of composite materials are studied, such as concrete, mortar, plaster, laminates and paints. The physical and mechanical properties of materials; their elasticity, tensile strength, toughness, ductility, malleability, axial (tensile and compressive) and sheer strength and stress and strain, are considered and evaluated. Thermal properties of building materials are important considerations both during construction, for example, for curing of materials and metal welding, and after completion of a building, for example, for insulation, movement and safety.

The ability to select appropriate materials is developed in the course. Materials are selected for specific contexts. This involves an understanding of the nature of a material's properties, conducting scientific testing of materials and assessing the availability of materials. Materials are selected by balancing structural, economic, environmental, aesthetic and social concerns. Issues are considered, such as required thermal properties, conductivity, environmental suitability and sustainability, characteristics and properties of materials for specific purposes and aesthetic appearance and production processes.

Working with materials

Project work is used to introduce techniques and skills for the production, use and handling of construction materials. This includes composite materials (such as concrete, mortar, plaster, laminates and paints) and materials used in the welding and coating of metal structures. The control and testing of materials, either mixed on-site or prefabricated, is necessary for quality control. The effects of handling, forming and curing techniques on the properties of materials are investigated. These include the effects of time, wind, humidity and temperature on composite materials, metal welding and finishing.

The ways, advantages and limitations of combining and connecting building parts of the same or different materials in building up whole structures are examined.

Work health and safety practices and obligations to self and others are of prime importance. The aim is to work with various materials and machines in a safe and responsible manner.

Systems

Structures and services

Structures are defined as bodies that can resist applied forces. Scientific and mathematical principles of different types of structures are considered. Such structures may include: mass structures, skeletal structures and shells; types of loads (concentrated and distributed loads and static and dynamic loads) and equilibrium of forces; static friction; external forces and internal actions; stability; components; and resolved parts. An analysis of loads and forces applied to building structures is analysed, including forces that influence the design of structures.

Water systems are necessary for the supply of water to the construction site and the completed building, and for the disposal of excess and rainwater. Supply networks for natural gas are also introduced.

Environment and sustainability

The impact of systems on the environment and its sustainability is important. The integration of environmental impacts in an ecological system is important for the planning of building and construction projects. Opportunity, cost, waste management and rehabilitation are essential in assessing the environmental impact of building projects. Relationships between technology, industry and society are highlighted through historical case studies. Impacts on environments are forecast. These forecasts are then used to assess different design alternatives and to guide decisions and selection of design.

Building techniques are studied for energy efficiency and environmental streaming. Alternative usage of low-cost renewable energy in the built environment is examined.

Representation of the General Capabilities

The General Capabilities encompass the knowledge, skills, behaviours and dispositions that will support students to live and work successfully now and into the future. They are not assessed unless identified within the specified unit content. Teachers should find opportunities to incorporate the following General Capabilities into the teaching, learning and assessment program for the Building and Construction General course.

Critical and creative thinking

Critical and creative thinking is integral to the design process. Students use critical and creative thinking to develop an appreciation of different perspectives and ideas, consider alternatives and draw conclusions in the design and construction process. They acquire and use information from various sources for creative thinking, performance testing and ways to improve the design, appearance and functionality of a construction. Students conduct a critical review of which processes, materials and technologies worked well and consider ways for improvement. The process of inquiring, generating, analysing and reflecting guides students to become confident, critical and creative thinkers in their learning and production.

Literacy

The course fosters literacy skills for interactions with various people in the building and construction industry. Students communicate the integrated relationship between people and ways to apply the roles and purpose of work health and safety regulations. They access design processes, building instructions and technological content through a variety of print, oral, visual, spatial and electronic forms, including data books, texts, computer software, images and written technical materials. Students learn to investigate, interpret and apply design ideas and technologies principles from a variety of sources to design solutions for an opportunity, individual or community need. An evaluation of information for relevance and accuracy provides the opportunity to respond in writing. For design and response assessment tasks, students present findings orally, in writing or diagrammatically. Accurate language use supports clarity of ideas, processes and explanations of design solutions and for the evaluation of structures.

Numeracy

Numeracy is fundamental in calculating and evaluating quantities of materials, and in the design and construction of structures for the Building and Construction General course. Students build on their understanding and skills of numeracy while undertaking tasks to produce, test and evaluate products. This could include the application of fundamental and practical geometry and estimation of quantities, area, volume and perimeter of designated designs. The application of numbers, proportional thinking and units of measurement fosters greater understanding of mathematical and technical concepts that explain how designed and constructed products and structures are built, function and meet regulatory requirements to be safe and compliant. Students interpret and use numerical data, such as plans, specifications, material quantities and estimations, and convert scaled drawings to actual size to inform decision-making and ensure precision in building and construction.

Addressing the other General Capabilities

Although the following General Capabilities have not been identified as a focus in the Building and Construction General Year 12 syllabus, teachers may find opportunities to incorporate them into the teaching and learning program.

- Digital literacy
- Ethical understanding
- Intercultural understanding
- Personal and social capability

Such opportunities may occur through the application of different contexts, pedagogical practices and/or assessment strategies that relate to the syllabus as part of the teaching and learning program.

Summary representation of the General Capabilities in the Building and Construction General course

The unit content and assessment types for this course provide students with the opportunity to develop the General Capabilities summarised in the table below.

Year	Course	Course type	General Capabilities						
			CCT	DL	EU	IU	L	N	PSC
Year 11	Building and Construction (GEBCN, G1BCN, G2BCN)	General	✓				✓	✓	
Year 12	Building and Construction (GTBCN)	General	✓				✓	✓	

Key
CCT: Critical and creative thinking, DL: Digital literacy, EU: Ethical understanding, IU: Intercultural understanding, L: Literacy, N: Numeracy, PSC: Personal and social capability

Representation of the Cross-curriculum Priorities

The Cross-curriculum Priorities address the contemporary issues that students face in a globalised world. Teachers may find opportunities to incorporate them into the teaching and learning program for the Building and Construction General course. The Cross-curriculum Priorities are not assessed unless they are identified within the specified unit content.

Aboriginal and Torres Strait Islander histories and cultures

Students may have opportunities to explore Aboriginal and Torres Strait Islander development and use of building technology, and the interconnectedness between technologies and identity, people, culture and country/place.

Asia and Australia's engagement with Asia

Students have opportunities to explore traditional, contemporary and emerging technological achievements in the countries of the Asia region. Students may explore Australia's rich and ongoing engagement with the peoples and countries of Asia to create appropriate products and services to meet personal, community, national, regional and global needs.

Sustainability

Students take action to create more sustainable patterns of living. Students can develop knowledge, understanding and skills necessary to design and build for effective sustainability.

Students focus on the knowledge, understanding and skills necessary to choose technologies and systems with regard to costs and benefits. They evaluate the extent to which the process and designed solutions embrace sustainability. Students reflect on past and current practices and assess new and emerging technologies from a sustainability perspective.

Unit 3

Unit description

This unit explores properties of common construction materials (timber, metals, concrete, grout, brickwork, block work, insulation, mortar and paint); their mechanical properties under load and flexural actions; and their use in construction. Concepts in space and computation are developed. Students practise reading drawn/drafted information as applied to building. Documentation for small projects is developed. The unit explores processes in contexts drawn from building, landscaping, earthwork, projects involving different energy use and the recycling of building materials.

Unit content

An understanding of the Year 11 content is assumed knowledge for students in Year 12. It is recommended that students studying Unit 3 and Unit 4 have completed Unit 1 and Unit 2.

This unit includes the knowledge, understandings and skills described below.

Design, planning and management

Planning and management

- the structure of the building and construction industries
- stages within a simple project management plan

Design processes

- research and investigate different
  - design ideas
  - structural configurations
  - assembly of components
- prepare a design brief using rapid concept development, brainstorming and critical thinking
- use ICT and manual presentation skills
- devise similar design ideas using annotated graphics and sketches
- review a design's suitability against design needs, including investigation of construction methods
- generate suitable 2D drawings with conventions for designed solution
- manage production of a solution, including a sequence of manufacture
- evaluate the result of the project against design criteria using simple statements

Drafting

- read and draw plans utilising fundamentals of practical geometry with orthogonal projection and industry conventions
- apply appropriate scaling of drawings
- estimate quantities
  - perimeter of drawn shapes
  - area of drawn shapes
  - volume of materials
- operate levelling equipment
- operate surveying equipment
- recognise and use industry specific conventions and building and construction terminology
- set out construction tasks using string lines and formwork

Materials

Properties and selection

- material properties
  - hardness
  - elasticity
  - conductivity
  - flexibility
  - strength
- natural and pre-made construction materials appropriate for different applications
  - timber
  - metals
  - soil types
  - masonry
  - plastics
  - glass

Working with materials

Students demonstrate the use of:

- wood or metal frames and structures, including supportive trusses in construction
- different types of materials and construction methods
  - timber
    - joinery/cabinet work
  - masonry
    - brick
    - concrete
  - plasterboard
    - gyprock
    - jointing/flushing
  - insulation
    - thermal
    - acoustic
  - roof coverings
    - sheet
    - tiles
  - floor systems
    - sub-floors
    - floor sheeting/boards
- techniques to lay and finish paving with complex angular patterns, including
  - running bond and stack bond patterns
  - basket weave
- straight line brick/block laying and pointing
- lime, mortar and cement
- materials and processes to produce a range of surface finishes

- welding procedures and materials
  - oxy/acetylene
  - electric arc
  - MIG welding
- the removal of burrs, sharp edges, welding slag and spatter
- a range of common fasteners associated with building and construction
- various portable power tools, equipment and hand tools employed in the building and construction industry
- work health and safety rules and regulations relating to the use of materials and processes.

Systems

Structures and services

- two-dimensional forces on trusses, frames and structural components
- the provisions for the supply of
  - on-site gas
  - electric power
  - water
  - drainage
  - sewerage

Environment and sustainability

- building insulation and its purpose
- the types of energy (electrical, heat, mechanical) used during construction
- recycling of building materials

Unit 4

Unit description

This unit builds upon the understandings of building materials, structures and structural components and the evaluation of combinations of various materials to sustain the strength of structural components. The methods and materials used in connecting building elements are explored. Further design considerations are studied. Drawing/drafting skills are refined and practised with application to more complex building issues. New criteria are incorporated in the specifications of design projects and skills are practised in these areas of content. Service networks, economics and recycling are studied. The unit explores processes in contexts drawn from building, landscaping and earthwork projects, involving environmental issues of building waste disposal, water and sewerage treatment.

Unit content

This unit builds on the content covered in Unit 3.

This unit includes the knowledge, understandings and skills described below.

Design, planning and management

Planning and management

- use planning and organisational strategies to complete project tasks common to building and construction industries
- apply project management skills

Design processes

- research and investigate different
  - design ideas
  - materials
  - structural configurations
  - assembly of components
- prepare a design brief using rapid concept development, brainstorming and critical thinking
- analyse collected information for suitability, against design needs
- use of ICT and manual presentation skills
- develop a single design solution from a variety of designs, including selection of materials and structural systems
- review of the design's suitability against design needs, including investigation of construction methods
- generate suitable 2D drawings with conventions for designed solution
- manage production of a solution, including a sequence of manufacture
- evaluate the result of the project against design criteria using simple statements

Drafting

- read and draw plans utilising fundamentals of practical geometry with orthogonal projection and industry conventions
- apply appropriate scaling of drawings
- recognise and use industry specific conventions and building and construction terminology

Materials

Properties and selection

- properties of lime and cement to make composites, such as mortar, plaster and concrete
- functional limitations of lime and cement in
  - various environments
  - mix ratios
- demonstrate adhesion of plaster and mortars

Working with materials

Use and work with:

- wood or metal frames and structures, including supportive trusses in construction
- different types of materials and construction methods
  - timber
    - joinery/cabinet work
  - masonry
    - brick
    - concrete
  - plasterboard
    - gyprock
    - jointing/flushing
  - insulation
    - thermal
    - acoustic
  - roof coverings
    - sheet
    - tiles
  - floor systems
    - sub-floors
    - floor sheeting/boards
- techniques to lay and finish paving with complex angular patterns, including traditional herringbone
- hand and machine techniques to mix and use lime, mortar and cement
- straight line, multi course corner brick/block laying and pointing
- decorative pointed feature brick/block laying and pointing
- tools and processes to pour concrete slabs and pathways; trowel and level to a simple finish
- materials and processes to produce a range of surface finishes
- welding procedures and materials
  - oxy/acetylene
  - electric arc
  - MIG welding
- various portable power tools, equipment and hand tools employed in the building and construction industry
- work health and safety rules and regulations relating to the use of materials and processes

Systems

Structures and services

- demonstrate installation of bracing for structural components in building
- the stability (and buckling) of struts and columns
- the installation of services, including
  - electric power
  - gas
  - water supply
  - drainage
  - sewerage

Environment and sustainability

- demonstrate correct building waste disposal
- water and sewerage treatment
- environmental impact of the disposal of waste, water and sewerage

School-based assessment

The *Western Australian Certificate of Education (WACE) Manual* contains essential information on principles, policies and procedures for school-based assessment that needs to be read in conjunction with this syllabus.

Teachers design school-based assessment tasks to meet the needs of students. The table below provides details of the assessment types for the Building and Construction General Year 12 syllabus and the weighting for each assessment type.

Assessment table – Year 12

Type of assessment	Weighting
Design Teachers assess research work in which students conduct and communicate an investigation. The findings can be recorded and presented in any appropriate form, such as written, graphical or multimedia, through a portfolio or journal. Teachers assess how students devise, develop and modify design solutions throughout the technology process. Types of evidence can include: design portfolio, observation checklists, evaluation tools (self or peer), journal entries, design proposal and project proposal presented using a range of communication strategies.	20%
Production Extended and manufacturing project(s) where students control, evaluate and manage processes as necessary. Teachers assess students' understanding, confidence and competence when using skills in building and construction processes and when managing production plans. Teachers also assess the manufactured product in terms of quality and finish. Types of evidence can include: manufactured products, building and construction tasks, journal, observation checklists and evaluation tools (self or peer).	50%
Response Students apply their knowledge and skills in responding to a series of stimuli or prompts in the following formats: verbal communications, reports/essays, tests, oral and ICT visual response. Types of evidence can include: verbal responses, worksheets, assignments and observation checklists.	15%
Externally set task A written task or item or set of items of 50 minutes duration developed by the School Curriculum and Standards Authority and administered by the school.	15%

Teachers are required to use the assessment table to develop an assessment outline for the pair of units.

The assessment outline must:

- include a set of assessment tasks
- include a general description of each task
- indicate the unit content to be assessed
- indicate a weighting for each task and each assessment type
- include the approximate timing of each task (for example, the week the task is conducted, or the issue and submission dates for an extended task).

In the assessment outline for the pair of units, each assessment type must be included at least once over the year/pair of units. The externally set task occurs in Term 2.

The set of assessment tasks must provide a representative sampling of the content for Unit 3 and Unit 4.

Assessment tasks not administered under test/controlled conditions require appropriate validation/authentication processes.

Externally set task

All students enrolled in the Building and Construction General Year 12 course will complete the externally set task developed by the Authority. Schools are required to administer this task in Term 2 at a time prescribed by the Authority.

Externally set task design brief – Year 12

Time	50 minutes
Format	Written
	Conducted under invigilated conditions
	Typically between two and five questions
	Can require students to refer to source material
Content	The Authority informs schools during Term 3 of the previous year of the Unit 3 syllabus content on which the task will be based

Refer to the *WACE Manual* for further information.

Grading

Schools report student achievement in terms of the following grades:

Grade	Interpretation
A	Excellent achievement
B	High achievement
C	Satisfactory achievement
D	Limited achievement
E	Very low achievement

The teacher prepares a ranked list and assigns the student a grade for the pair of units. The grade is based on the student's overall performance as judged by reference to a set of pre-determined standards. These standards are defined by grade descriptions and annotated work samples. The grade descriptions for the Building and Construction General Year 12 syllabus are provided in Appendix 1. They can also be accessed, together with annotated work samples, through the Guide to Grades link on the course page of the Authority website at www.scsa.wa.edu.au.

To be assigned a grade, a student must have had the opportunity to complete the education program, including the assessment program (unless the school accepts that there are exceptional and justifiable circumstances).

Refer to the *WACE Manual* for further information about the use of a ranked list in the process of assigning grades.

Appendix 1 – Grade descriptions Year 12

A	**Design** Independently uses elements of a clearly identifiable design process to devise and generate individual ideas. Develops solutions and processes appropriate to the specifications of a developed design brief or given design brief/criteria. Provides evidence of research into existing products and selection of materials that satisfy prescribed design criteria. Documentation displays clear design progression using concept sketches that are fully annotated using appropriate terminology and the development of several ideas. Provides fully developed working drawings, justification of materials selected, a clear and logical production plan and an evaluation of construction processes and the end product against the design brief/criteria.
	Production Develops a project management plan and independently applies correct operational procedures. Effectively manages time to complete tasks on time and to a high standard. Produces regular and accurate records of processes and procedures and includes modifications derived from ongoing evaluation. Organises and uses appropriate tools and equipment as required to complete tasks with concern for the safety of self and others.
	Response Concisely presents referenced research information using current and accurate terminology in a variety of suitable formats, including pictures, tables and photographs. Identifies and provides details of selected materials that are appropriate for a chosen application. Details the impact of design decisions and materials selection on society and the environment, including justified relevant conclusions and personal interpretations.

B	**Design** Uses a clearly identifiable design process to explain given design issues, needs, and opportunities within a design brief. Includes evidence of research of existing products. Documentation displays design progression using partially annotated concept sketches with appropriate terminology. Provides working drawings, lists of selected materials, a clear production plan and an evaluation of project processes and the end product against the design brief/criteria.
	Production With minimal guidance, applies operational correct procedures to complete tasks on time and to a high standard. Produces regular reporting of ongoing processes as planned and takes advice and implements suggested modifications when necessary. Uses appropriate tools and equipment with concern for the safety of self and others.
	Response Uses correct terminology in the reporting of researched information, including pictures, tables and photographs. Includes references for some sources of information. Identifies and lists materials that are appropriate for a chosen application. Lists several ways in which task design decisions and materials selection may affect society and the environment and includes suitable conclusions and personal interpretations.

C	**Design** With assistance, uses some elements of an identifiable design process, including some research and investigation of similarly designed products to develop a solution relevant to the design brief. Some evidence of research into existing products, with some design progression towards a solution. Documentation shows superficial annotation on concept sketches with moderate use of appropriate terminology. Develops suitable working drawings, a list of selected materials, an appropriate production plan and evaluation of the end product.
	Production With guidance, applies planned operational procedures to complete tasks to a satisfactory standard. Presents reports of major steps within the production process and implements suggested modifications. Uses tools and equipment with appropriate consideration for the safety of self and others.
	Response Provides reports of research information with correct terminology, mixed with occasional short and/or irrelevant statements. Presents little evidence of referencing or sources of information. Lists materials that are appropriate for a chosen application. Lists, in general terms, ways in which task design decisions and materials selection may affect society and the environment and includes relevant, but short conclusions.

D	**Design** Uses a highly scaffolded design process to research features of similarly designed products with some relevance to the design brief. Documentation displays limited evidence of design progression, inadequate concept sketches with minimal annotations and little or no evidence of research into existing products. Presents simple or incomplete sketched working drawings, partial lists of materials, a simple, sequenced production plan and a brief evaluation of the final design.
	Production With regular guidance, follows given operational procedures to complete tasks to an incomplete or unsatisfactory standard, with little documented evidence of following a production plan. Requires close regular supervision to work safely with tools and equipment.
	Response Uses limited terminology in the presentation of brief or incomplete research information. Presents limited or no evidence of referencing. Prepares incomplete or limited lists of materials that are appropriate for a chosen application. Lists some ways in which task design decisions and materials selection may affect society and the environment but provides few relevant conclusions.

E	Does not meet the requirements of a D grade and/or has completed insufficient assessment tasks to be assigned a higher grade.

