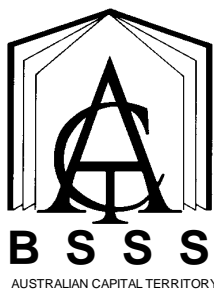


Design and Technology

**Course
Framework**

For courses from 2014



DESIGN AND TECHNOLOGY

COURSE FRAMEWORK

INTRODUCTION

All programs of study for the ACT Year 12 Certificate should enable students to become:

- creative and critical thinkers
- enterprising problem-solvers
- skilled and empathetic communicators
- informed and ethical decision-makers
- environmentally and culturally aware citizens
- confident and capable users of technologies
- independent and self-managing learners
- collaborative team members

and provide students with:

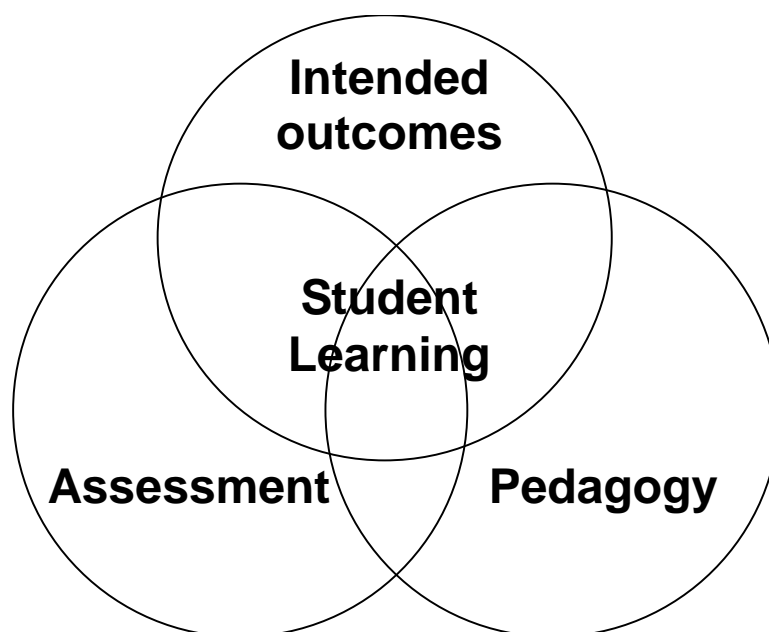
- a comprehensive body of specific knowledge, principles and concepts
- a basis for self-directed and lifelong learning
- personal attributes enabling effective participation in society.

*Examples of these student capabilities are provided at **Appendix A**.*

COURSE FRAMEWORKS

Course Frameworks provide the basis for the development and accreditation of any course within a broad subject area and provide a common basis for the assessment, moderation and reporting of student outcomes in courses based on the Framework.

Course Frameworks support a model of learning that integrates intended student outcomes, pedagogy and assessment. This model is underpinned by a set of beliefs and a set of learning principles.



Underpinning beliefs

- All students are able to learn
- Learning is a partnership between students and teachers
- Teachers are responsible for advancing student learning

Learning principles

1. Learning builds on existing knowledge, understandings and skills.
(Prior knowledge)
2. When learning is organised around major concepts, principles and significant real world issues, within and across disciplines, it helps students make connections and build knowledge structures.
(Deep knowledge and connectedness)
3. Learning is facilitated when students actively monitor their own learning and consciously develop ways of organising and applying knowledge within and across contexts.
(Metacognition)
4. Learners' sense of self and motivation to learn affects learning.
(Self-concept)
5. Learning needs to take place in a context of high expectations.
(High expectations)
6. Learners learn in different ways and at different rates.
(Individual differences)
7. Different cultural environments, including the use of language, shape learners' understandings and the way they learn.
(Socio-cultural effects)
8. Learning is a social and collaborative function as well as an individual one.
(Collaborative learning)
9. Learning is strengthened when learning outcomes and criteria for judging learning are made explicit and when students receive frequent feedback on their progress.
(Explicit expectations and feedback)

THE DESIGN AND TECHNOLOGY FRAMEWORK

A, T, V, C and M courses may be developed under this framework. Courses should provide for a diverse range of students with the opportunity to study Design and Technology relevant to their lives and futures.

Eligibility to study an M course is determined by BSSS Modified course policy. Modified courses/units are designed for students:

who satisfy the Education and Training Directorate Disability Criteria accepted as a common definition for census and other system processes by all sectors, public and non-government, where the principal has deemed exceptional circumstances due to the students' significant needs and previous levels of support.

Provisions for students with special needs are outlined in the BSSS *Equitable Assessment and Special Consideration in Assessment in Years 11 and 12* guidelines.

RATIONALE

The study of Design and Technology explores the purposeful use of technologies, creative processes and design solutions. Students acquire knowledge and develop skills using technologies including tools, materials, and processes appropriately, safely and competently to design and create products, systems and built environments.

The study of Design and Technology provides opportunities for students to engage with emerging technologies, make connections with industry, apply standards and practices through the development of their projects.

A design literate student will solve problems through investigation and analysis, creativity and innovation, planning and production, synthesis and evaluation, communication and marketing. Students develop insights into how design is culturally, socially and ethically constructed with an environmentally sustainable approach to a product life cycle.

Design and Technology provides pathways in a range of related fields such as architecture, industrial design, engineering, interior design, graphic design, furniture design, fashion, jewellery, textiles, ceramics, and trade based careers and recreation activities.

Literacy in Design and technology

Students have opportunities to develop and refine the following literacy skills when studying Design and Technology, through:

- reading and understanding of design theory and concepts
- reading and understanding aspects of Workplace Health & Safety (WHS)
- interpreting and applying specific instructions in relation to systems, processes, and safe operating procedures
- analysing, interpreting, and evaluating technical information
- using appropriate technical language to communicate, in a variety of forms, ideas and designs for creating a product or system
- writing reports and acknowledging sources appropriately
- interpreting and using a broad range of graphical communication techniques.

Numeracy in design and technology

Students have opportunities to develop and refine the following numeracy skills when studying Design and Technology, through:

- calculating including costing, measuring and estimating
- applying and displaying numerical calculations appropriate to the context and task using correct technical standards and procedures
- analysing and interpreting numerical data for relevance (i.e. application to product or systems development)
- understanding and using graphs, spreadsheets, diagrams, and statistics to analyse and communicate technical data, properties of materials, or systems information
- understanding numerical control systems and numerical instrumentation methods.¹

¹ The developers acknowledge SACE 2011 Stage 1 and 2 Design and Technology curriculum documents in the development of literacy and numeracy skills.

GOALS

Course Framework goals focus on the essential skills and knowledge that students should know and be able to do as a result of studying a course in this subject area. They are the **intended student outcomes**. All courses based on this Course Framework should enable students to demonstrate:

- analysis, synthesis and evaluation design needs and situations
- ethical decision making, cultural and environmental awareness
- organisational skills, the ability to work independently and collaboratively
- the use of technology skills, materials and processes and apply occupational health and safety principles and industry standards
- application of the design process to produce a creative and innovative outcome
- communication skills using oral, written or graphical techniques to enhance their design and technological capacity
- knowledge and understanding of existing and emerging technologies, links to industry and career pathways.

GUIDE TO THE SELECTION OF CONTENT

Courses developed under this framework will provide details of course content through the component units of the course. While this content will differ according to the particular course classification, A, T, V, C or M, including vocational programs, all content will be chosen to enable students to work towards the achievement of the common and agreed goals of the framework.

ESSENTIAL CONCEPTS AND SKILLS

All courses developed under this framework will be based on the essential concepts and skills of the subject area, as outlined below.

DESIGN AND TECHNOLOGY

Concepts

- the design process (defining design criteria, analysing the design brief, researching, development of ideas, planning and producing the most suitable solution, testing, evaluating, and marketing)
- role of the designer
- relationship of designer, manufacturer and client/user
- production and consumption of resources and environmental issues
- environmental, cultural and ethical issues in design and manufacture
- innovation and enterprise
- technologies (these may include a combination of technologies in the areas of Information Communication, Wood, Metal, Composites, Robotic Systems, Automated Manufacturing Processes and Electronics)
- intellectual property
- properties of materials
- design metalanguage
- workplace, health & safety (WHS)

Skills

- technologies skills (hand tools, power tools, Machinery, ICT, drafting equipment)
- materials use and manipulation
- ability to use tools and materials appropriately and safely
- planning and organisational skills
- problem solving and decision making
- research, analysis and evaluative skills
- creation, experimentation and synthesis
- ability to work independently and collaboratively
- literacy and numeracy skills
- multimodal communication including oral, graphic, visual and written forms
- industry standards work practices (VET)

VOCATIONAL COURSES

Colleges with Registered Training Organisation status (RTO) are eligible to deliver units of competence from Training Packages, or alternatively, they may develop vocational courses, classified as A/V/M or T/V/M based on the Training Packages, and consistent with the goals of this framework.

PEDAGOGY

Teaching Strategies

Course developers are encouraged to outline teaching strategies that are grounded in the Learning Principles and encompass quality teaching. Pedagogical techniques and assessment tasks should promote intellectual quality, establish a rich learning environment and generate relevant connections between learning and life experiences.

Teaching strategies that are particularly relevant and effective in Design and Technology include, but are not limited to:

Review prior learning

- brainstorming individual pair and group work
- student reflection of relevant concepts and skills

Introduce new material

- exposure to quality visual imagery/materials through a variety of media
- industry and tertiary excursions
- material use, testing and manipulation
- emerging technologies

Provide demonstration, guided practice and application

- teacher demonstration, modelling and peer tutoring
- teacher scaffolding to facilitate analysis of visual material
- engagement of industry professionals, including guest speakers, demonstrators and mentors
- establish links with relevant industry individuals and groups
- simulated real life and work scenarios e.g. a small business simulation
- digital delivery of information and content

Promote independent practice and application

- research strategies and time management
- problem solving strategies
- mentoring
- practice and reinforcement of learning by way of revision, worksheets, tests and demonstrations
- regular and meaningful feedback
- discussions, debates and student presentations

Link to next task or skill area

- links with the design, manufacturing and tertiary communities through excursions, field trips, gallery, exhibition and industry visits, and engagement with designers and craftsman in the classroom

For Modified courses, teaching strategies should be underpinned by the principles of the Disability Discrimination Act and reflect contemporary pedagogical practices in meeting the needs of students with specific learning deficits or disabilities.

ASSESSMENT

The purpose of including assessment task types (with examples of tasks) and assessment criteria in Course Frameworks is to provide a common and agreed basis for the collection of evidence of student achievement. This collection of evidence enables a comparison of achievement within and across colleges, through moderation processes. This enables valid, fair and equitable reporting of student achievement on the Year 12 Certificate.

Assessment Tasks elicit responses that demonstrate the degree to which students have achieved the goals of a unit (and the course as a whole).

Assessment Tasks in T courses require students to utilise the higher order thinking skills that are the basis of the ACT Scaling Test.

Assessment Task Types (with **weightings**) group assessment tasks in ways that reflect agreed shared practice in the subject area and facilitate the comparison of student work across different assessment tasks.

Assessment Criteria (the dimensions of quality that teachers look for in evaluating student work) provide a common and agreed basis for judgement of performance against unit and course goals, within and across colleges. Over a course, teachers use all of these criteria to assess students' performance, but do not necessarily use all criteria on each task. Assessment criteria are to be used holistically on a given task and in determining the unit grade.

Assessment Rubrics are used to develop criteria for a task type and a continuum that indicates levels of student achievement against each criterion.

General Assessment Criteria (A, T, V and M)

Students will be assessed on the degree to which they demonstrate:

- knowledge , understanding and application
- design process, analysis, synthesis and evaluation
- technology and communication skills
- planning and organisation skills

ASSESSMENT GUIDE TO TASK TYPES

(A, T, V and M Courses)

Board Recommendations

The Board recommends 3 - 5 assessment tasks per standard unit (1.0) and 2 - 3 per half standard unit (0.5).

Assessment is to be differentiated for A, T, V and M courses. Assessment tasks in all courses need to be appropriate to the classification and cater for the needs of students. Creative, open-ended and rich learning tasks are recommended.

Assessment in **A** courses should typically reflect the following:

Theoretical	Tasks allow students to apply their understanding through identifying, explaining, describing, exploring, examining, recommending and justifying.
Practical	Tasks allow students to demonstrate their design skills through identifying, describing, exploring, explaining, using, applying and justifying.

Assessment in **T** courses should typically reflect the following:

Theoretical	Tasks allow students to apply their understanding through exploring, examining, analysing, hypothesising and evaluating.
Practical	Tasks allow students to demonstrate their design skills through using, demonstrating, applying and analysing.

Assessment in **M** courses should typically reflect the following:

Theoretical	Tasks allow students to demonstrate their understanding through recalling, classifying, outlining, identifying, describing, demonstrating, recounting, distinguishing and predicting.
Practical	Tasks allow students to demonstrate their design skills through using, applying and practising.

Approaches to Assessment

- Refer to recognised models of quality pedagogy, such as the Quality Teacher model when developing tasks.
- Use a variety of practical and theoretical tasks that recognise different learning styles and utilise a range of technologies.
- For M courses consider:
 - Students' strengths, interests and ability
 - Alternative formats e.g. audio/visual
 - Scaffolded tasks
 - Guidance in interpreting the task
 - Changing the conditions of assessment e.g. time, scribes etc.

Assessment Task Types (A Courses)

<p>To demonstrate knowledge and understanding in A courses, students will:</p> <p>Identify and explain e.g. techniques, theories, materials performance, events, plans and practical outcomes</p> <p>Describe and explore e.g. concepts, issues, theories and principles</p> <p>Examine e.g. advantages and disadvantages</p> <p>Recommend e.g. products, materials, techniques and strategies</p> <p>Justify e.g. points of view with evidence and reasons</p> <p>Describe, explore and apply e.g. problem solving, initiative and decision making skills</p> <p>Summarise e.g. videos/DVDs/photos</p>				
Task Type		Description	Weightings	
			1.0 units	0.5 units
Theoretical	Written and/or Oral	<p>* Written report: (500-1000 words)</p> <p>Tasks may include research/investigation report, test, product review, advertising / marketing plan.</p> <p>* Oral Presentation/Digital Presentation: (4 – 6 minutes)</p> <p>Tasks may include PowerPoint (or similar) presentation or, podcast, tutorial, interview, online discussion.</p> <p>Tasks using ICT may include web pages, CADD, podcasts, etc.</p>	15%-25%	15%-25%
	Design Development	<p>The design portfolio should outline and explain the design process of products and must reflect:</p> <ul style="list-style-type: none"> - a design brief (background, requirements and limitations) - research (analysis/comparison, survey, feedback) - concept sketches (isometric and orthographic) - tools, materials, techniques and experiments/testing - production stages - evaluation of outcomes (of requirements from initial design brief). <p>This diary may be supported with storyboards, concept boards, mood boards and digital process diary.</p>	15%-30%	15%-30%
Practical work		<p>Practical work may include: products/prototypes, technical drawings/presentations, scale models, computer modelling, practical test</p>	50%-70%	50%-70%

Assessment Task Types (T Courses)

To demonstrate knowledge and understanding in T courses, students will:

Demonstrate e.g. concepts and skills, WHS practices

Critically analyse e.g. text, products and systems

Explore and examine e.g. concepts, issues, theories and principles

Critically analyse e.g.

- contrast and compare
- interrelationships or connections
- techniques, theories, materials performance, events, plans and practical outcomes

Hypothesise e.g. potential design outcomes and future directions

Evaluate e.g. theories, strategies, design, plans and practical outcomes, techniques and approaches to materials and, design materials performance

Task Type		Description	Weightings	
			1.0 units	0.5 units
Theoretical	Written and/or Oral	<p>* Written report: (1000-1500 words)</p> <p>Tasks may include, research/investigation report, test, product review, design analysis, exhibition, design brief, an advertising/ marketing plan, exam.</p> <p>* Oral Presentation/Digital Presentation: (8-12 minutes)</p> <p>Tasks may include PowerPoint(or similar) presentation or , podcast, tutorial, interview, online discussion, product presentation/critique session</p> <p>Tasks using ICT may include web pages, CADD, podcasts, etc.</p>	30%-40%	30%-40%
	Design Development	<p>The design portfolio should outline and explain the design process of products and must reflect:</p> <ul style="list-style-type: none"> - a design brief (background, requirements and limitations) - research (analysis/comparison, survey, feedback) - concept sketches (isometric and orthographic) - tools, materials, techniques and experiments/testing - production stages - evaluation of outcomes (of requirements from initial design brief). <p>This diary may be supported with storyboards, concept boards, mood boards and digital process diary.</p>	30%-40%	30%-40%
Practical work		Practical work may include: products/prototypes, technical drawings/presentations, scale models, computer modelling, practical test	30%-40%	30%-40%

Assessment Task Types (M Courses)

To demonstrate knowledge and understanding in M courses, students will:

Recall, Classify and Outline e.g. facts, techniques, WHS policies

Demonstrate and apply e.g. skills and techniques

Communicate: e.g. a basic sketch, confidence with task

Recount e.g. ideas

Identify e.g. material properties

Distinguish e.g. safety issues

State, recount and practice e.g. personal and interpersonal skills

Task Type		Description	Weightings	
			1.0 units	0.5 units
Theoretical	Written and/or Oral	Tasks may include: <ul style="list-style-type: none"> - informal oral explanation - research/investigation report - product review - advertising - marketing plan 	10% - 80%	10% - 80%
	Design Development	Tasks may include: <ul style="list-style-type: none"> - Design choices - a design brief - research - concept sketches - tools, materials, techniques and experiments/testing - production stages 	10% - 80%	10% - 80%
Practical work		Practical work may include: <ul style="list-style-type: none"> products drawings models 	10% - 80%	10% - 80%

ACHIEVEMENT STANDARDS

Grade descriptors provide a guide for teacher judgement of students' achievement, based on the assessment criteria, over a unit of work in this subject. Grades are organized on an A-E basis and represent standards of achievement.

Grades are awarded on the proviso that the assessment requirements have been met. Teachers will consider, when allocating grades, the degree to which students demonstrate their ability to complete and submit tasks within a specified time frame.

The following descriptors are consistent with the **system grade descriptors**, which describe generic standards of student achievement across all courses.

Unit Grade Descriptors for A Course

	<i>A student who achieves the grade A typically</i>	<i>A student who achieves the grade B typically</i>	<i>A student who achieves the grade C typically</i>	<i>A student who achieves the grade D typically</i>	<i>A student who achieves the grade E typically</i>
Knowledge, understanding and application	<ul style="list-style-type: none"> demonstrates comprehensive knowledge and applies understanding of design theory and technology skills (including related industry standards) applies sustainable design practices in a range of contexts and understands how choices impact upon society and the environment 	<ul style="list-style-type: none"> demonstrates relevant knowledge and applies understanding of design theory and technology skills applies sustainable design practices and understands how choices impact upon society and the environment 	<ul style="list-style-type: none"> applies essential technology skills and demonstrates some knowledge of design theory applies sustainable design practices with some understanding of the impact upon society and the environment 	<ul style="list-style-type: none"> applies limited technology skills and demonstrates minimal knowledge of design theory applies limited design practices with minimal understanding of the impact upon society and the environment 	<ul style="list-style-type: none"> applies inconsistent technology skills and demonstrates minimal knowledge of design theory applies minimal design practices with little or no understanding of the impact upon society and the environment
Design process, analysis, synthesis and evaluation	<ul style="list-style-type: none"> selects relevant information from a wide range of appropriate sources and examine existing designs, to solve problems and develop suitable creative design solutions independently demonstrates the ability to accurately identify, explain and examine criteria affecting design and apply these to assessing a solution 	<ul style="list-style-type: none"> selects information from a range of appropriate sources and explore existing designs, to solve problems and develop creative design solutions demonstrates the ability to identify and explain criteria affecting design and apply these to assessing a solution 	<ul style="list-style-type: none"> locates information from appropriate sources and describe existing designs, to solve problems and develop creative design solutions demonstrates the ability to identify and describe criteria affecting design and apply these to assessing a solution 	<ul style="list-style-type: none"> make design choices with assistance using information from a narrow range of sources demonstrates some ability to describe criteria affecting design 	<ul style="list-style-type: none"> makes simple design choices with direction demonstrates limited ability to identify criteria affecting design
Technology and communication skills	<ul style="list-style-type: none"> demonstrates the ability to develop and apply a repertoire of technology skills, processes and systems to enable the realisation of quality design solutions and consistently maintains appropriate WHS procedures communicates visual, written and oral information with clear and concise control of the medium and applies appropriate industry standards to technical information 	<ul style="list-style-type: none"> demonstrates the ability to apply a range of technology skills, processes and systems to enable the realisation of design solutions and maintains appropriate WHS procedures communicates visual, written and oral information with control of the medium and applies appropriate industry standards to technical information 	<ul style="list-style-type: none"> demonstrates the ability to use technology skills, processes and systems, with some assistance, to enable the realisation of design solutions and maintains appropriate WHS procedures communicates visual, written and oral information clearly and applies fundamental industry standards to technical information 	<ul style="list-style-type: none"> demonstrates with assistance limited ability to use technology skills, processes and systems and inconsistently demonstrates WHS procedures communicates visual, written and oral information to an elementary level and applies fundamental industry standards with assistance 	<ul style="list-style-type: none"> demonstrates with direct instruction minimal ability to use technology skills, processes and systems and inconsistently demonstrates WHS procedures communicates fundamental visual, written and oral information to an elementary level with assistance
Planning and Organisation Skills	<ul style="list-style-type: none"> demonstrates initiative and ability to independently develop and implement effective project plans demonstrates the ability to work collaboratively, showing leadership and respect for others and the work environment 	<ul style="list-style-type: none"> demonstrates initiative and ability to develop and implement project plans demonstrates the ability to work collaboratively, respecting others and the work environment 	<ul style="list-style-type: none"> demonstrates some initiative to develop and implement simple project plans demonstrates some ability to work collaboratively, respecting others and the work environment 	<ul style="list-style-type: none"> demonstrates limited ability to develop and implement simple project plans demonstrates awareness and respect for others and the work environment 	<ul style="list-style-type: none"> demonstrates minimal ability to develop and implement simple project plans demonstrates minimal awareness and respect for others and the work environment

Unit Grade Descriptors for T Courses

	<i>A student who achieves the grade A typically</i>	<i>A student who achieves the grade B typically</i>	<i>A student who achieves the grade C typically</i>	<i>A student who achieves the grade D typically</i>	<i>A student who achieves the grade E typically</i>
Knowledge, understanding and application	<ul style="list-style-type: none"> demonstrates comprehensive design knowledge and applies complex concepts of theory, process and production independently (including related industry standards) applies sustainable design strategies in a wide range of contexts and demonstrates insightful understanding of cultural and ethical implications of design and technological innovation 	<ul style="list-style-type: none"> demonstrates detailed design knowledge and applies concepts of theory, process and production (including related industry standards) applies sustainable design strategies in a range of contexts and demonstrates a understanding of cultural and ethical implications of design and technological innovation 	<ul style="list-style-type: none"> demonstrates relevant design knowledge and applies concepts of process and production (including related industry standards) applies sustainable design strategies and demonstrates an awareness of cultural and ethical implications of design and technological innovation 	<ul style="list-style-type: none"> applies some design process and production techniques and demonstrates minimal knowledge of design theory applies some sustainable design strategies and demonstrates a limited awareness of cultural and ethical issues 	<ul style="list-style-type: none"> applies limited design process and production techniques and demonstrates little knowledge of design theory applies limited knowledge of sustainable design with little comprehension of cultural and ethical issues
Design process, analysis, synthesis and evaluation	<ul style="list-style-type: none"> demonstrates the ability to identify, evaluate and synthesise information to develop appropriate design criteria independently and hypothesise potential design outcomes and future directions demonstrates the ability to problem solve and generate multiple creative and innovative design solutions addressing the design criteria demonstrates consistently and effectively the ability to critically evaluate and justify design solutions coherently and with relevant supportive evidence 	<ul style="list-style-type: none"> demonstrates the ability to identify and evaluate information to develop appropriate design criteria and hypothesise potential design outcomes demonstrates the ability to problem solve and generate creative and design solutions addressing the design criteria demonstrates effectively the ability to evaluate and justify design solutions with supportive evidence 	<ul style="list-style-type: none"> demonstrates the ability to identify and evaluate information to develop simple design criteria demonstrates the ability to solve some problems and generate design solutions addressing the design criteria demonstrates the ability to describe design solutions with some ability to justify 	<ul style="list-style-type: none"> demonstrates the ability to use basic information to develop simple design criteria demonstrates the ability to generate some design solutions addressing the design criteria demonstrates some ability to describe design solutions with minimal evidence of justification 	<ul style="list-style-type: none"> demonstrates some ability to use basic information to develop simple design criteria with assistance demonstrates minimal ability to generate basic design solutions with assistance demonstrates little or no ability to describe design solutions with assistance
Technology and communication skills	<ul style="list-style-type: none"> demonstrates the ability to competently develop a repertoire of technology skills, processes and systems to enable the highly detailed production of quality design solutions and consistently maintains appropriate WHS procedures consistently communicates visual, written and oral information with sophisticated control of the medium and applies appropriate industry standards to technical information 	<ul style="list-style-type: none"> demonstrates the ability to competently use and develop a range of technology skills, processes and systems to enable the detailed production of quality design solutions maintains appropriate WHS procedures consistently communicates visual, written and oral information with clear and concise and control of the medium and applies appropriate industry standards to technical information 	<ul style="list-style-type: none"> demonstrates the ability to competently use technology skills, processes and systems, with to enable the production of design solutions and maintains appropriate WHS procedures communicates visual, written and oral information with some control of the medium and mostly applies appropriate industry standards to technical information 	<ul style="list-style-type: none"> demonstrates the ability to competently use some technology skills, processes and systems, with assistance, and demonstrates appropriate WHS procedures communicates some visual, written and oral information and applies fundamental industry standards to technical information 	<ul style="list-style-type: none"> demonstrates, with assistance, minimal ability to use technology skills, processes and systems, and inconsistently applies WHS procedures communicates minimal visual, written and oral information to an elementary level and applies fundamental industry standards with assistance
Planning and Organisation Skills	<ul style="list-style-type: none"> demonstrates initiative and the ability to develop and implement detailed and effective project planning strategies and uses resources efficiently demonstrates productivity and highly effective collaboration displaying leadership and respect for others and the work environment 	<ul style="list-style-type: none"> demonstrates initiative and the ability to develop and implement effective project planning strategies and uses resources responsibly demonstrates productively and collaboration displaying elements of leadership and respect for others and the work environment 	<ul style="list-style-type: none"> demonstrates some initiative and the ability to develop and implement project planning strategies demonstrates the ability to work collaboratively and displaying respect for others and the work environment 	<ul style="list-style-type: none"> demonstrates ability to develop and implement short term project goals works in a productive manner on guided tasks with some understanding of the expectations of the work environment 	<ul style="list-style-type: none"> demonstrates minimal ability to develop and implement short term project goals works on guided tasks with support and demonstrates basic understanding of the expectations of the work environment

Unit Grade Descriptors for M Courses

	<i>A student who achieves the grade A typically</i>	<i>A student who achieves the grade B typically</i>	<i>A student who achieves the grade C typically</i>	<i>A student who achieves the grade D typically</i>	<i>A student who achieves the grade E typically</i>
Knowledge and understanding	<ul style="list-style-type: none"> demonstrates sound understanding of fundamental concepts underpinning design theory and processes displays independence in locating and selecting relevant information for the development of design solutions 	<ul style="list-style-type: none"> demonstrates basic understanding of fundamental concepts underpinning design theory and processes locates and selects relevant information for the development of design solutions with assistance 	<ul style="list-style-type: none"> demonstrates some understanding of fundamental concepts underpinning design theory and processes locates some information for the development of design solutions with assistance 	<ul style="list-style-type: none"> demonstrates limited understanding of fundamental concepts underpinning design theory and processes locates limited information for the development of design solutions with assistance 	<ul style="list-style-type: none"> demonstrates minimal understanding of fundamental concepts underpinning design theory and processes locates minimal information with assistance
Designing, analysing, evaluating and problem solving	<ul style="list-style-type: none"> demonstrates a sound ability to identify and explain criteria influencing design and solutions 	<ul style="list-style-type: none"> demonstrates a basic ability to identify and explain criteria influencing design and solutions 	<ul style="list-style-type: none"> demonstrates some ability to identify criteria influencing design and solutions 	<ul style="list-style-type: none"> demonstrates limited ability to identify criteria influencing design and solutions 	<ul style="list-style-type: none"> demonstrates minimal ability to identify criteria influencing design and solutions
Technology Skills	<ul style="list-style-type: none"> demonstrates a sound ability to apply appropriate technology skills with attention to detail (including industry standards) and always maintains appropriate WH&S procedures 	<ul style="list-style-type: none"> demonstrates a basic ability to apply appropriate technology skills (including industry standards) and always maintains appropriate WH&S procedures 	<ul style="list-style-type: none"> demonstrates some ability to apply appropriate technology skills and maintains appropriate WH&S procedures with assistance 	<ul style="list-style-type: none"> demonstrates limited ability to apply technology skills and maintains appropriate WH&S procedures with guidance 	<ul style="list-style-type: none"> requires supervision to apply technology skills and appropriate WH&S procedures
Communication Skills	<ul style="list-style-type: none"> communicates visual, written and oral information with sound control of the medium and applies appropriate industry standards to technical information 	<ul style="list-style-type: none"> communicates visual, written and oral information with basic control of the medium and applies appropriate industry standards to technical information 	<ul style="list-style-type: none"> communicates visual, written and oral information with inconsistencies and applies some industry standards to technical information with assistance 	<ul style="list-style-type: none"> communicates visual, written and oral information with assistance with guidance 	<ul style="list-style-type: none"> communicates visual, written and oral information to an elementary level with guidance using modelling and scaffolding
Planning and Organisation Skills	<ul style="list-style-type: none"> demonstrates sound ability to independently develop and implement effective project plans demonstrates ability to work collaboratively and display respect for others and the work environment 	<ul style="list-style-type: none"> demonstrates basic ability to develop and implement project plans demonstrates some ability to work collaboratively and display respect for others and the work environment 	<ul style="list-style-type: none"> demonstrates foundation skills to develop and implement simple project plans demonstrates respect for others and the work environment 	<ul style="list-style-type: none"> demonstrates limited ability to develop and implement simple project plans demonstrates some awareness and respect for others and the work environment with guidance 	<ul style="list-style-type: none"> demonstrates minimal ability to develop and implement simple project plans demonstrates minimal awareness and respect for others and the work environment

MODERATION

Moderation is a system designed and implemented to:

- provide comparability in the system of school-based assessment
- form the basis for valid and reliable assessment in senior secondary schools
- involve the ACT Board of Senior Secondary Studies and colleges in cooperation and partnership
- maintain the quality of school-based assessment and the credibility, validity and acceptability of Board certificates.

Moderation commences within individual colleges. Teachers develop assessment programs and instruments, apply assessment criteria, and allocate Unit Grades, according to the relevant Course Framework. Teachers within course teaching groups conduct consensus discussions to moderate marking or grading of individual assessment instruments and unit grade decisions.

The Moderation Model

Moderation within the ACT encompasses structured, consensus-based peer review of Unit Grades for all accredited courses, as well as statistical moderation of course scores, including small group procedures, for T courses.

Moderation by Structured, Consensus-based Peer Review

Review is a subcategory of moderation, comprising the review of standards and the validation of Unit Grades. In the review process, Unit Grades, determined for Year 11 and Year 12 student assessment portfolios that have been assessed in schools by teachers under accredited courses, are moderated by peer review against system wide criteria and standards. This is done by matching student performance with the criteria and standards outlined in the unit grade descriptors as stated in the Course Framework. Advice is then given to colleges to assist teachers with, and/or reassure them on, their judgments.

Preparation for Structured, Consensus-based Peer Review

Each year, teachers teaching a Year 11 class are asked to retain originals or copies of student work completed in Semester 2. Similarly, teachers teaching a Year 12 class should retain originals or copies of student work completed in Semester 1. Assessment and other documentation required by the Office of the Board of Senior Secondary Studies should also be kept. Year 11 work from Semester 2 of the previous year is presented for review at Moderation Day 1 in March, and Year 12 work from Semester 1 is presented for review at Moderation Day 2 in August.

In the lead up to Moderation Day, a College Course Presentation (comprised of a document folder and a set of student portfolios) is prepared for each A, M and T course/units offered by the school, and is sent in to the Office of the Board of Senior Secondary Studies.

The College Course Presentation

The package of materials (College Course Presentation) presented by a college for review on moderation days in each course area will comprise the following:

- a folder containing supporting documentation as requested by the Office of the Board through memoranda to colleges
- a set of student portfolios containing marked and/or graded written and non-written assessment responses and completed criteria and standards feedback forms. Evidence of all assessment responses on which the unit grade decision has been made is to be included in the student review portfolios.

Specific requirements for subject areas and types of evidence to be presented for each moderation day will be outlined by the Board Secretariat through memoranda and Information Papers.

Visual evidence for judgements made about practical performances

(also refer to BSSS Website Guidelines)

It is a requirement that schools' judgements of standards to practical performances (A/T/M) be supported by visual evidence (still photos or video).

Photographic evidence does not have to illustrate the work of the individual students whose folios are included in the verification submission. The photographic evidence only needs to represent the school's judgement of an A, B or C standard of practical performance for that unit in the semester and needs to come from within that scaling group.

The photographic evidence submitted must be drawn from practical skills performed as part of the assessment process.

Teachers should consult the BSSS guidelines at http://www.bsss.act.edu.au/grade_moderation/information_for_teachers when preparing photographic evidence.

BIBLIOGRAPHY

NSW Curriculum Documents for Design and Technology

http://www.boardofstudies.nsw.edu.au/syllabus_hsc/design-technology.html

Victoria Curriculum Documents for Design and Technology

<http://www.vcaa.vic.edu.au/vcaa/vet/programs/appliedfashion/appliedfashion.html>

COURSE FRAMEWORK DEVELOPMENT GROUP

Name	College
Shannon Dunn	Gungahlin College
Tim Minehan	Radford College
Terence Pereira	Marist College

The group gratefully acknowledges the work of previous groups who developed and revised the Design and Technology Course Frameworks.

All programs of study for the ACT Year 12 Certificate should enable students to become:

	The examples are indicative and not exhaustive. Those in bold relate particularly to the Employability Skills; those in <i>italics</i> to the Across Curriculum Perspectives.
• creative and critical thinkers	exploring, imagining, observing, predicting, thinking laterally, generating ideas, inquiring and researching , interrogating, conceptualising, collecting and analysing data and information, classifying , interpreting, formulating hypotheses, generalising, synthesising, reflecting , justifying conclusions, understanding different perspectives, understanding and application of different thinking strategies, understanding of scientific and mathematical language, using scientific and mathematical techniques (e.g. estimating, reading and interpreting data, interpolation and extrapolation)
• enterprising problem-solvers	showing initiative, resourcefulness , resilience, persistence, assessing and taking risks, recognising and seizing opportunities, problem-posing, problem-identification, problem clarification , being practical, being innovative , using mathematical techniques, using appropriate technologies, working independently and/or collaboratively to achieve a solution, testing assumptions and solutions, modifying approaches
• skilled and empathetic communicators	oral and written skills in Standard Australian English, matching communication to audience and purpose , using terminology and style appropriate to particular disciplines, using mathematical language , creating and communicating meaning using multi-modal forms, imagining the feelings and views of others , respecting and valuing diversity
• informed and ethical decision-makers	finding information and using evidence as the basis for judgements and decisions, developing awareness of differing perspectives , having integrity, taking action, exploring and critically reflecting on own values, attitudes and beliefs
• environmentally and culturally aware citizens	understanding <i>the interconnectedness of the natural and constructed world</i> ; the <i>multicultural nature of Australian society</i> ; <i>Indigenous perspectives</i> ; and global economic, social and <i>environmental</i> issues; <i>respecting difference</i> , exercising rights and responsibilities, acting in the public sphere , understanding consequences of choices and decisions
• confident and capable users of technologies	having a range of IT skills , accessing and evaluating <i>information</i> , designing and making, communicating using technologies, choosing most appropriate technologies for the task , refining processes, willingness to learn new skills
• independent and self-managing learners	e.g. understanding self (<i>including gender</i>), having personal goals, evaluating and monitoring own performance, taking responsibility , flexibility in adapting course of action, openness to new ideas, managing time and resources, planning and organising
• collaborative team members	e.g. contributing to group effectiveness, building trust, capacity to take different roles within a team, respecting differing strengths (<i>including contributions of boys and girls</i>), skills in negotiation and compromise, sustaining commitment to achieve group goals

and provide students with

• a comprehensive body of specific knowledge, principles and concepts	through subjects, cross-disciplinary courses and/or projects, work experience
• a basis for self-directed and lifelong learning	through understanding and managing self, developing capabilities and modelling an approach ('taking stock, taking steps') that prepares for a social and economic environment of greater individual responsibility
• personal attributes enabling effective participation in society	through developing social skills and capabilities for citizenship, work experience and recognition of outside learning ; through understanding of a globalised knowledge society