

Design and Technology

School Certificate grading

Schools are responsible for awarding each student studying Design and Technology a grade (A, B, C, D, or E) to summarise the student's achievement in any 100 hour or 200 hour course completed in Stage 5. The grade awarded is reported on the student's School Certificate record of achievement.

From 2006, teachers will use these Stage 5 course performance descriptors to determine School Certificate grades for Design and Technology. The descriptors have been developed from the Board's general performance descriptors, and provide a more complete description of typical performance in this course at each grade level.

Determining School Certificate grades

Teachers should follow their school's procedures for the allocation of School Certificate grades.

During the course teachers collect information on the achievement of each student. To allocate a grade to a student at the end of the course, teachers make a judgement as to which grade descriptor best describes the achievement of that student.

Values and attitudes are an integral part of learning. However, information on students' values and attitudes is not to be used in determining grades.

Assessment activities

In developing and selecting assessment activities for the purpose of determining School Certificate grades, teachers will use a range of different assessment activities or tasks. The assessment activities should reflect the relative emphasis the school's programs place on the various aspects of the course.

Where activities or tasks are scheduled throughout a course, greater weight for grading purposes would generally be given to those activities or tasks undertaken towards the end of the course. There are different ways of organising the teaching/learning program for a course.

The scheduling of assessment activities and the weightings applied should reflect the school's organisation of the course. Students should be given the opportunity to demonstrate their maximum level of achievement relative to the course performance descriptors.

Applying the course performance descriptors

Teachers should use their professional judgement in applying the course performance descriptors. It is not intended that the course performance descriptors represent a checklist, or provide a comprehensive description of student performance at each grade level. The descriptor that provides the best overall description of the student's achievement will determine the grade awarded.

Teachers should interpret the course performance descriptors in terms of standards that can be achieved by School Certificate students within the bounds of the course.

The samples of student work that are provided on the Assessment Resource Centre website clarify the standards described in the course performance descriptors. They illustrate the quality of work typically produced by students who receive each grade.

Assessment for learning

Assessment for learning is described in detail in the assessment section of the Design and Technology syllabus. It involves using assessment activities or tasks as a regular part of the teaching and learning process to clarify students' understanding of concepts, to remedy their misconceptions, and to support their further learning and the development of deeper understanding.

All assessment activities can be used to support learning, and to provide feedback to students that enables them to actively monitor and evaluate their own learning.

Stage 5 Course Performance Descriptors – Design and Technology

Areas for Assessment	Design concepts and processes Producing quality design solutions	Creativity, innovation and enterprise Designers and responsible designing	Communicating, managing and producing Design, technology and society	
Grade E	Grade D	Grade C	Grade B	Grade A
<p><i>A student performing at this grade typically:</i></p> <ul style="list-style-type: none"> • demonstrates an elementary understanding of design when identifying concepts and processes and, with guidance, applies their learning in familiar contexts. • with guidance, applies and manages a simple design process to develop design ideas and solutions. • identifies some impacts of technologies on the individual, society and environments. • identifies some factors that affect the work and responsibilities of designers when evaluating designed solutions. • with direction, develops design ideas and solutions. • uses a limited range of techniques to communicate designed solutions. • with guidance, applies risk management practices when using a limited range of technologies to produce simple designed solutions. 	<p><i>A student performing at this grade typically:</i></p> <ul style="list-style-type: none"> • demonstrates a basic knowledge and understanding of design when describing concepts and processes, and is able to apply their learning in familiar contexts. • applies and manages a design process to develop design ideas and solutions. • describes the impacts of past, current and emerging technologies on the individual, society and environments. • evaluates designed solutions, choosing appropriate factors that affect the work and responsibilities of designers. • with guidance, develops and describes design ideas and solutions that are innovative, enterprising and creative. • uses a range of techniques to communicate design ideas and solutions to audiences. • applies basic risk management practices when selecting and safely using a limited range of technologies to produce designed solutions. 	<p><i>A student performing at this grade typically:</i></p> <ul style="list-style-type: none"> • demonstrates a sound knowledge and understanding of design when analysing concepts and processes, and is able to apply their learning in new contexts. • applies, justifies and manages a design process to develop design ideas and solutions. • explains the impact of past, current and emerging technologies on the individual, society and environments. • evaluates designed solutions, taking into account a range of factors affecting the work and responsibilities of designers. • explains innovative, enterprising and creative design ideas and solutions. • selects and uses a range of techniques to communicate design ideas and solutions to a range of audiences. • applies risk management practices when selecting and safely using a range of technologies to produce designed solutions of sound quality. 	<p><i>A student performing at this grade typically:</i></p> <ul style="list-style-type: none"> • demonstrates a thorough knowledge and understanding of design when analysing concepts and processes, and is able to apply their learning in new contexts. • consistently applies, justifies and manages design processes to develop design ideas and solutions. • analyses and explains the impacts of past, current and emerging technologies on the individual, society and environments. • evaluates designed solutions, considering a variety of factors affecting the work and responsibilities of designers. • confidently develops and evaluates innovative, enterprising and creative design ideas and solutions. • selects and uses a wide range of appropriate techniques to effectively communicate design ideas and solutions to a range of audiences. • consistently applies risk management practices when selecting and safely using a range of technologies to produce high-quality designed solutions. 	<p><i>A student performing at this grade typically:</i></p> <ul style="list-style-type: none"> • integrates their extensive knowledge and understanding of design in critically analysing concepts and processes, and is able to apply their learning in new contexts. • consistently applies, justifies and manages complex design processes to develop design ideas and solutions. • evaluates and coherently explains the impacts of past, current and emerging technologies on the individual, society and environments. • evaluates designed solutions, independently considering a comprehensive range of factors affecting the work and responsibilities of designers. • independently develops and critically evaluates innovative, enterprising and creative design ideas and solutions. • is discriminating in their selection and use of a wide range of appropriate techniques to communicate design ideas and solutions effectively to a wide variety of audiences. • applies risk management practices when independently selecting and safely using a wide range of technologies to produce outstanding designed solutions.

General performance descriptors

The general performance descriptors describe performance at each of five grade levels:

- A The student has an extensive knowledge and understanding of the content and can readily apply this knowledge. In addition, the student has achieved a very high level of competence in the processes and skills and can apply these skills to new situations.
- B The student has a thorough knowledge and understanding of the content and a high level of competence in the processes and skills. In addition, the student is able to apply this knowledge and these skills to most situations.
- C The student has a sound knowledge and understanding of the main areas of content and has achieved an adequate level of competence in the processes and skills.
- D The student has a basic knowledge and understanding of the content and has achieved a limited level of competence in the processes and skills.
- E The student has an elementary knowledge and understanding in few areas of the content and has achieved very limited competence in some of the processes and skills.

Areas for assessment

The areas for assessment for Design and Technology provide a framework for structuring an assessment program, and may be used for reporting student achievement. They are derived from the course objectives, and are linked to the course outcomes. They can be used as organisers for assessment of student achievement.

Good assessment practice involves designing quality assessment activities that enable students to demonstrate their achievements. Teachers can use the

areas for assessment when designing an assessment activity, to ensure it is assessing performance in relation to a grouping of outcomes.

In designing the assessment schedule for a course, teachers may find it useful to map each planned assessment activity to one or more of the areas for assessment. This allows teachers to ensure that assessment can occur across the year in a manageable way. The table below gives an example of how this planning could be done.

Sample Areas for Assessment	Sample Assessment Activities (with weightings)			
	Document Study* 10%	Oral Report* 20%	Common Test* 35%	Research Project* 35%
Knowledge and understanding*	✓	✓	✓	
Investigating and researching*	✓			✓
Communicating*	✓	✓	✓	✓
Interpreting data*		✓	✓	✓
Problem solving*		✓	✓	

* These sample areas for assessment and activities are provided for illustrative purposes only.

Resources and further information

The *Assessment Resource Centre* is a section of the Board of Studies' website that contains resources that have been developed by the Board to support teachers in the awarding of grades for the School Certificate from 2006. For most Stage 5 courses, there are assessment activities, and work samples that illustrate the standard of work associated with each grade.

The *Design and Technology Years 7–10 Syllabus* (2003) contains information on assessment (page 38) – including the principles of assessment for learning – and provides a detailed list of assessment strategies (page 41) that are suitable for Design and Technology. It is available on the Board's website at www.boardofstudies.nsw.edu.au/syllabus_sc/index.html

The *Assessment for Learning in a Standards-referenced Framework – Design and Technology* CD-ROM contains a variety of material, including assessment activities for Design and Technology with annotated work samples. Copies of this CD-ROM were provided to all schools, and are available from Shop Online (<http://shop.bos.nsw.edu.au>).

Inquiries about the use of these course performance descriptors should be directed to the Assessment and Reporting branch at the Office of the Board of Studies on (02) 9367 8371, or by email to CustomerLiaison@boardofstudies.nsw.edu.au