

## Industrial Technology

### School Certificate grading

Schools are responsible for awarding each student studying Industrial 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 Industrial 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 Industrial 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 – Industrial Technology

Areas for Assessment

**OHS and risk management**  
**Properties and applications of materials**  
**Industrial Technology and society**  
**Designing, communicating and evaluating**  
**Producing quality projects**

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"> <li>demonstrates elementary knowledge of some technologies in their field of study, and recognises some social, cultural and environmental impacts of these technologies.</li> <li>with guidance, displays very limited technical skills in identifying and using appropriate materials and hand and machine tools to produce practical projects.</li> <li>identifies some properties of materials that make them suitable for specific applications, and identifies some aspects of products and commercial products.</li> <li>produces elementary sketches related to practical projects, and uses simple terms to describe production processes.</li> <li>with assistance, applies elementary skills and design principles to the production or modification of projects.</li> </ul>	<p><i>A student performing at this grade typically:</i></p> <ul style="list-style-type: none"> <li>demonstrates basic knowledge of technologies in their field of study, and outlines social, cultural and environmental impacts of these technologies.</li> <li>displays basic technical skills in identifying and using appropriate materials and hand and machine tools to produce practical projects, identifying and managing some risks, and applying safe work practices.</li> <li>outlines properties of materials that make them suitable for specific applications, and identifies functional, aesthetic, environmental and economic aspects of products and commercial products.</li> <li>produces simple drawings for practical projects, and uses general terms to describe production processes to an audience.</li> <li>applies basic skills and design principles to the development and production or modification of projects.</li> </ul>	<p><i>A student performing at this grade typically:</i></p> <ul style="list-style-type: none"> <li>demonstrates sound knowledge of traditional, current, new and emerging technologies in their field of study, and explains the social, cultural and environmental impacts of these technologies.</li> <li>displays technical skills in identifying and using appropriate materials and hand and machine tools, to produce practical projects of sound quality, identifying and managing risks and applying safe work practices.</li> <li>describes the suitability of materials for specific applications, and the functional, aesthetic, environmental and economic aspects of projects and commercial products.</li> <li>produces competent drawings to illustrate practical projects, and uses accurate technical terms to describe production processes to a range of audiences.</li> <li>applies skills and design principles to the development and production or modification of projects.</li> </ul>	<p><i>A student performing at this grade typically:</i></p> <ul style="list-style-type: none"> <li>demonstrates thorough knowledge of traditional, current, new and emerging technologies in their field of study, and analyses the social, cultural and environmental impacts of these technologies.</li> <li>displays high-level technical skills in identifying and using appropriate materials and hand and machine tools to produce high quality practical projects, assessing and managing risks and applying safe work practices.</li> <li>analyses the suitability of materials for specific applications, and the functional, aesthetic, environmental and economic aspects of projects and commercial products.</li> <li>uses a range of media to illustrate practical projects, and uses technical terminology to discuss production processes with a range of audiences.</li> <li>consistently applies skills and design principles to the development and production of new projects.</li> </ul>	<p><i>A student performing at this grade typically:</i></p> <ul style="list-style-type: none"> <li>demonstrates extensive knowledge of traditional, current, new and emerging technologies in their field of study, and evaluates the social, cultural and environmental impacts of these technologies.</li> <li>displays advanced technical skills in identifying and using appropriate materials and hand and machine tools to produce practical projects of excellent quality, independently assessing and managing risks and consistently applying safe work practices.</li> <li>evaluates the suitability of materials for specific applications and the functional, aesthetic, environmental and economic aspects of projects and commercial products.</li> <li>independently selects and uses a range of media to illustrate practical projects, and confidently uses technical terminology to discuss production processes with a range of audiences.</li> <li>independently and consistently applies skills and design principles to the development and production of new projects.</li> </ul>

## 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 Industrial 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 *Industrial Technology Years 7–10 Syllabus* (2003) contains information on assessment (page 177) – including the principles of assessment for learning – and provides a detailed list of assessment strategies (page 180) that are suitable for Industrial Technology. It is available on the Board's website at [www.boardofstudies.nsw.edu.au/syllabus\\_sc/index.html](http://www.boardofstudies.nsw.edu.au/syllabus_sc/index.html)

The *Assessment for Learning in a Standards-referenced Framework – Industrial Technology* CD-ROM contains a variety of material, including assessment activities for Industrial 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](mailto:CustomerLiaison@boardofstudies.nsw.edu.au)