



TCE courses are offered at Senior Secondary 2 (C, B, A), 3 (C, B, A), 4 (C, B, A) and 5C. A C course is of 150 hours design time, a B course of 100 hours, an A course of 50 hours design time.

THE COURSE DOCUMENT

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TEACHING AND LEARNING GUIDE

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LEARNING STATEMENT

In a changing world, new ideas, inventions and materials are constantly changing, providing us with new opportunities and challenges. It is important that we study, analyse, understand and take control of these changes.

Through technology education programs students will gain knowledge of materials, information and systems to build up their ability to solve problems in a creative and satisfying way. Through technology education, students can be helped to make reasoned decisions and imaginative responses to a rapidly changing technological environment.

COURSE DESCRIPTION

This course is designed for senior secondary students studying Design in Wood. They enable students to demonstrate an advanced understanding of the design process by producing items. Through working with timbers students will be involved in a variety of practical problem solving situations that lead to advanced skills, techniques and processes. Students are required to develop knowledge of timber and associated industries in order to gain an appreciation of vocational and consumer opportunities. Students are required to work independently and cooperatively, showing initiative, ingenuity and resourcefulness.

LEARNING OUTCOMES

Through studying this course students will:

- experience a sense of enjoyment and achievement through working in areas of personal interest
- develop confidence in applying the process strand of designing, making and appraising
- develop an understanding of the materials, information and systems strands
- demonstrate problem-solving associated with practical experiences
- develop curiosity and skills related to enquiry, initiative, ingenuity and resourcefulness
- work independently and cooperatively in a group situation within a range of learning situations
- participate in the planning and organisation of tasks
- apply skills, techniques and processes for personal and/or market needs
- develop an awareness of the desirable and undesirable impacts of technological change
- demonstrate safe, healthy and hygienic work practices
- communicate ideas and information in a variety of ways
- understand past and present contexts and speculate about the future
- develop an awareness of career and further study options.

COURSE CONTENT

Designing, Making and Appraising

Designing, making and appraising is a process through which students develop ideas and create imaginative solutions for learning tasks. They should participate in decisions about what, why, and how projects should be undertaken and how the product might be improved.

When students design, make and appraise they:

- investigate issues and situations
- devise proposals and alternatives
- communicate ideas and actions
- produce products
- evaluate impacts and consequences.

Materials and Equipment

- classification and properties of common timbers
- timber based products in common use
- selection of appropriate timber
- common terminology associated with timbers
- common joining processes
- common hardware
- surface finishing techniques and finishes
- basic woodworking hand tools
- recognition and strictly supervised use of portable power tools
- simple maintenance and care of hand tools and equipment
- marking out and measuring equipment (basic numeracy)

Information

Students should gain knowledge and understanding of wood related information using a variety of communication mediums depending upon the purpose of the task. Students should gather, access, store, process and transfer information.

Systems

Systems are a series of steps, sequences, or combinations of elements that work together to achieve specified outcomes.

Working with systems gives students opportunities to:

- observe procedures, dismantle components, construct articles, modify products, operate machines, control equipment, make projects, assemble parts, organise processes and manage activities
- examine how systems are designed and applied;
- control and monitor the efficient and effective operation of systems.

Interest Areas

Interest areas are starting points for students to develop curiosity, initiative, ingenuity and resourcefulness in areas of personal interest. A list of suggested areas of interest is given in the Teaching and Learning Guide.

ASSESSMENT

Criterion-based assessment is a form of outcomes assessment which identifies the extent of student achievement at an appropriate end-point of study. Although assessment in the classroom is continuous, much of it is formative, and is done to help students identify what they need to do to attain the maximum benefit from their study of the course. Therefore, assessment for summative TCE reporting should focus on what both teacher and student understand to reflect end-point achievement.

The primary audience for assessment is the student and the teacher, but may also include parents when appropriate.

The standard of achievement each student attains on each criterion is recorded as a rating 'A', 'B', or 'C', according to the outcomes specified in the standards section of the course.

A 't' notation must be used where a student demonstrates any achievement against a criterion less than the standard specified for the 'C' rating. The 't' notation sits outside the continuum of ratings that ascend through the levels of difficulty of TCE generic or subject framework criteria, and is thus not described in course standards.

A 'z' notation is to be used where a student provides no evidence of achievement at all.

Schools offering this course must participate in the moderation process through attendance at meetings and completion of the moderation requirements. Further information on moderation, as well as on assessment, is available in the TCE Handbook or on the website at <http://www.tqa.tas.gov.au>.

Internal assessment of all criteria will be made by the school. Schools will report the student's rating for each criterion to the Tasmanian Qualifications Authority.

The Tasmanian Qualifications Authority will supervise the external assessment of designated criteria (*). The ratings obtained from the external assessments will be used in addition to those provided from the school to determine the final award.

C COURSE CRITERIA

The assessment for *Design in Wood* Senior Secondary 2C, 3C and 4C course will be based on the degree to which the student can:

1. collect and categorise information
2. select and use technologies
3. understand and apply occupational health, hygiene and safety procedures
4. develop skills, understanding and knowledge of systems
5. examine and resolve issues
6. plan, organise and complete activities
7. communicate ideas and information
8. work constructively with others
9. demonstrate an understanding of technological change
10. demonstrate an understanding of design principles.

AWARD REQUIREMENTS

The minimum requirements for an award in this course are as follows:

EXCEPTIONAL ACHIEVEMENT (EA)

9 'A' ratings, 1 'B' rating.

HIGH ACHIEVEMENT (HA)

4 'A' ratings, 5 'B' ratings, 1 'C' rating.

COMMENDABLE ACHIEVEMENT (CA)

6 'B' ratings, 3 'C' ratings.

SATISFACTORY ACHIEVEMENT (SA)

8 'C' ratings.

PRELIMINARY ACHIEVEMENT (PA)

4 'C' ratings.

A student who otherwise achieves the ratings for a CA (Commendable Achievement) or SA (Satisfactory Achievement) award but who fails to show any evidence of achievement in one or more criteria ('z' notation) will be issued with a PA (Preliminary Achievement) award.

B COURSE CRITERIA

The assessment for *Design in Wood* Senior Secondary 2B, 3B and 4B course will be based on the degree to which the student can:

1. collect and categorise information
2. select and use technologies
3. understand and apply occupational health, hygiene and safety procedures
4. develop skills, understanding and knowledge of systems
5. examine and resolve issues
6. plan, organise and complete activities
7. communicate ideas and information
8. work constructively with others.

AWARD REQUIREMENTS

The minimum requirements for an award in this course are as follows:

EXCEPTIONAL ACHIEVEMENT (EA)

7 'A' ratings, 1 'B' rating.

HIGH ACHIEVEMENT (HA)

3 'A' ratings, 4 'B' ratings, 1 'C' rating.

COMMENDABLE ACHIEVEMENT (CA)

4 'B' ratings, 3 'C' ratings.

SATISFACTORY ACHIEVEMENT (SA)

6 'C' ratings.

PRELIMINARY ACHIEVEMENT (PA)

3 'C' ratings.

A student who otherwise achieves the ratings for a CA (Commendable Achievement) or SA (Satisfactory Achievement) award but who fails to show any evidence of achievement in one or more criteria ('z' notation) will be issued with a PA (Preliminary Achievement) award.

A COURSE CRITERIA

The assessment for *Design in Wood* Senior Secondary 2A, 3A and 4A course will be based on the degree to which the student can:

1. collect and categorise information
2. select and use technologies
3. understand and apply occupational health, hygiene and safety procedures
4. develop skills, understanding and knowledge of systems
5. examine and resolve issues
6. plan, organise and complete activities.

AWARD REQUIREMENTS

The minimum requirements for an award in this course are as follows:

EXCEPTIONAL ACHIEVEMENT (EA)

5 'A' ratings, 1 'B' rating

HIGH ACHIEVEMENT (HA)

2 'A' ratings, 3 'B' ratings, 1 'C' rating

COMMENDABLE ACHIEVEMENT (CA)

3 'B' ratings, 3 'C' ratings

SATISFACTORY ACHIEVEMENT (SA)

4 'C' ratings

PRELIMINARY ACHIEVEMENT (PA)

2 'C' ratings

A student who otherwise achieves the ratings for a CA (Commendable Achievement) or SA (Satisfactory Achievement) award but who fails to show any evidence of achievement in one or more criteria ('z' notation) will be issued with a PA (Preliminary Achievement) award.

ACCREDITATION

The accreditation period for this syllabus is 1 January 2008 until 31 December 2008.

VERSION HISTORY

Version 1 Accredited Version

T A S M A N I A N

C E R T I F I C A T E

O F E D U C A T I O N

Design in Wood

Senior Secondary

2C, 2B, 2A 3C, 3B, 3A 4C, 4B, 4A



CRITERIA STANDARDS

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Note:

Each criterion has standards described at the appropriate level(s) of difficulty. Each set of standards has three sub-sets of outcomes (descriptors) distinguished by the ratings, C, B or A. Symbols beside each descriptor enable descriptors to be tracked through levels. Collectively, the descriptors define the requirements for achievement of the rating. Teachers need to exercise judgement to ensure that the standards have been met.

The descriptors indicate progress and achievement and may be used by students as well as by teachers. The items have symbols to match the meaning of the descriptors across ratings and levels.

Within the descriptors the items presented in bold print indicate precisely where the outcomes specified in one rating are more difficult than in the one that precedes it. Where (**) is shown in the descriptors, it indicates that a word or phrase has been omitted from the previous rating to add to the difficulty of the rating. Where they are included, teacher notes at the bottom of the descriptors highlight these changes.

In the generic criteria, the wording of the stem determines where each level is more demanding than the level that precedes it. The words in standard font are common to all generic criteria at corresponding levels and ratings. The words in italics are those that describe attributes unique to a generic criterion.

A Teaching and Learning Guide in a separate document, provides suggested tasks, examples of activities and other materials to support the delivery of the course.

SENIOR SECONDARY 2 DESCRIPTORS

CRITERION 1 COLLECT AND CATEGORISE INFORMATION

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a limited range of specified <i>methods</i> and use to <i>collect and categorise specific and current information</i> as instructed; ➔ attempt to adjust <i>use of collected information</i> to changed conditions as directed; ▲ undertake a checklist evaluation of <i>collected information and the categories to which it is assigned</i> in specific contexts; ○ endeavour to demonstrate improvement in <i>collecting and categorising processes</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a limited range of recommended <i>methods</i> and use to <i>collect and categorise specific and current information</i> as advised; ➔ attempt to adjust <i>use of collected information</i> to changed conditions as directed; ▲ undertake a checklist evaluation of <i>collected information and the categories to which it is assigned</i> in specific contexts; ○ endeavour to demonstrate improvement in <i>collecting and categorising processes</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a (**) range of recommended <i>methods</i> and use to <i>collect and categorise specific and current information</i> as advised; ➔ attempt to adjust <i>use of collected information</i> to changed conditions as directed; ▲ undertake a checklist evaluation of <i>collected information and the categories to which it is assigned</i> in specific contexts; ○ endeavour to demonstrate improvement in <i>collecting and categorising processes</i> in some aspects identified for attention in previous evaluations.

SENIOR SECONDARY 2 DESCRIPTORS

CRITERION 2 SELECT AND USE TECHNOLOGIES

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from and use a limited range of specified technologies to develop ideas and designs carefully as instructed; ➔ attempt to adjust the selection and use of technologies to changed conditions as directed; ▲ undertake a checklist evaluation of selected technologies in specific contexts; ○ endeavour to demonstrate improvement in application of technologies in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from and use a limited range of recommended technologies to develop ideas and designs carefully as advised; ➔ attempt to adjust <i>the selection and use of technologies</i> to changed conditions as directed; ▲ undertake a checklist evaluation of selected <i>technologies</i> in specific contexts; ○ endeavour to demonstrate improvement in <i>application of technologies</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from and use a broader range of recommended <i>technologies to develop ideas and designs carefully</i> as advised; ➔ attempt to adjust <i>the selection and use of technologies</i> to changed conditions as directed; ▲ undertake a checklist evaluation of selected <i>technologies</i> in specific contexts; ○ endeavour to demonstrate improvement in <i>application of technologies</i> in some aspects identified for attention in previous evaluations.

SENIOR SECONDARY 2 DESCRIPTORS

CRITERION 3 UNDERSTAND AND APPLY OCCUPATIONAL HEALTH, HYGIENE AND SAFETY PROCEDURES

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ when reminded, wear appropriate safety equipment; ➔ behave in a safe and acceptable manner but close supervision is required; ▲ use equipment and resources safely when supervised. 	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ usually wear appropriate safety equipment; ➔ usually behave in a safe and acceptable manner with regard to personal and group safety; ▲ generally use equipment and resources correctly and seek advice when uncertain. 	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ (**) wear appropriate safety equipment; ➔ (**) behave in a safe and acceptable manner with regard to personal and group safety; ▲ (**) use equipment and resources correctly and seek advice when uncertain.

SENIOR SECONDARY 2 DESCRIPTORS

CRITERION 4 DEVELOP SKILLS, UNDERSTANDING AND KNOWLEDGE OF SYSTEMS

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <p>☆ undertake specific tasks and have a very limited knowledge of basic systems.</p>	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <p>☆ undertake negotiated tasks and have a basic knowledge of everyday systems.</p>	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <p>☆ undertake negotiated tasks and have a general knowledge of everyday systems.</p>

SENIOR SECONDARY 2 DESCRIPTORS

CRITERION 5 EXAMINE AND RESOLVE ISSUES

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a limited range of specified strategies, and use to anticipate and solve minor problems, and select and use strategies seeking to resolve more complex issues as instructed; ➔ attempt to adjust problem solving strategies to changed conditions as directed; ▲ undertake a checklist evaluation of selected issues resolution strategies in specific contexts; ○ endeavour to demonstrate improvement in issues resolution in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a limited range of recommended strategies, and use to <i>anticipate and solve minor problems, and select and use strategies seeking to resolve more complex issues as advised;</i> ➔ attempt to adjust <i>problem solving strategies</i> to changed conditions as directed; ▲ undertake a checklist evaluation of selected <i>issues resolution strategies</i> in specific contexts; ○ endeavour to demonstrate improvement in <i>issues resolution</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a (**) range of recommended <i>strategies</i>, and use to <i>anticipate and solve minor problems, and select and use strategies seeking to resolve more complex issues</i> as advised; ➔ attempt to adjust use of <i>problem solving strategies</i> to changed conditions as directed; ▲ undertake a checklist evaluation of selected <i>issues resolution strategies</i> in specific contexts; ○ endeavour to demonstrate improvement in <i>issues resolution</i> in some aspects identified for attention in previous evaluations.

SENIOR SECONDARY 2 DESCRIPTORS

CRITERION 6 PLAN, ORGANISE AND COMPLETE ACTIVITIES

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a limited range of specified strategies to achieve objectives, and use to perform tasks within proposed times as instructed; ➔ attempt to adjust plans and actions to changed conditions as directed; ▲ undertake a checklist evaluation of selected plans devised to complete activities in specified contexts; ○ endeavour to demonstrate improvement in planning and completion processes in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a limited range of recommended strategies to achieve objectives, and use to perform tasks, within proposed times as advised; ➔ attempt to adjust <i>plans and actions</i> to changed conditions as directed; ▲ undertake a checklist evaluation of selected <i>plans devised to complete activities</i> in specified contexts; ○ endeavour to demonstrate improvement in <i>planning and completion processes</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a (**) range of recommended <i>strategies to achieve objectives</i>, and use to perform tasks within proposed times as advised; ➔ attempt to adjust <i>plans and actions</i> to changed conditions as directed; ▲ undertake a checklist evaluation of selected <i>plans devised to complete activities</i> in specified contexts; ○ endeavour to demonstrate improvement in <i>planning and completion processes</i> in some aspects identified for attention in previous evaluations.

SENIOR SECONDARY 2 DESCRIPTORS

CRITERION 7 COMMUNICATE IDEAS AND INFORMATION

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a limited range of specified <i>methods and styles</i>, and use to <i>communicate ideas and information clearly and accurately</i> as instructed; ➔ attempt to adjust <i>communication</i> to changed conditions as directed; ▲ undertake a checklist evaluation of selected <i>communication</i> in specific contexts; ○ endeavour to demonstrate improvement in <i>communication</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a limited range of recommended <i>methods and styles</i>, and use to <i>communicate ideas and information clearly and accurately</i> as advised; ➔ attempt to adjust <i>communication</i> to changed conditions as directed; ▲ undertake a checklist evaluation of selected <i>communication</i> in specific contexts; ○ endeavour to demonstrate improvement in <i>communication</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a (**) range of recommended <i>methods and styles</i>, and use to <i>communicate ideas and information clearly and accurately</i> as advised; ➔ attempt to adjust <i>communication</i> to changed conditions as directed; ▲ undertake a checklist evaluation of selected <i>communication</i> in specific contexts; ○ endeavour to demonstrate improvement in <i>communication</i> in some aspects identified for attention in previous evaluations.


SENIOR SECONDARY 2 DESCRIPTORS

CRITERION 8 WORK CONSTRUCTIVELY WITH OTHERS

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a limited range of specified approaches, and use to cooperate with others to achieve agreed purposes as instructed; ➔ attempt to adjust personal behaviour to changed conditions as directed; ▲ undertake a checklist evaluation of selected personal behaviours and approaches used to participate in group activities in specific contexts; ○ endeavour to demonstrate improvement in group participation skills in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a limited range of recommended approaches, and use to <i>cooperate with others to achieve agreed purposes as advised</i>; ➔ attempt to adjust <i>personal behaviour</i> to changed conditions as directed; ▲ undertake a checklist evaluation of selected <i>personal behaviours and approaches used to participate in group activities</i> in specific contexts; ○ endeavour to demonstrate improvement in <i>group participation skills</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a (**) range of recommended <i>approaches</i>, and use to sensitively cooperate with others to achieve agreed purposes as advised; ➔ attempt to adjust <i>personal behaviour</i> to changed conditions as directed; ▲ undertake a checklist evaluation of selected <i>personal behaviours and approaches used to participate in group activities</i> in specific contexts; ○ endeavour to demonstrate improvement in <i>group participation skills</i> in some aspects identified for attention in previous evaluations.

SENIOR SECONDARY 2 DESCRIPTORS

CRITERION 9 DEMONSTRATE AN UNDERSTANDING OF TECHNOLOGICAL CHANGE

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <p>☆ identify some benefits and potential of new equipment, processes and techniques.</p> <p>➡ </p>	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <p>☆ show some understanding of how products are designed and the ideas which have had some influence on their development;</p> <p>➡ indicate their importance where they are applied.</p>	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <p>☆ show some understanding of how products are designed and the ideas which have (**) influenced their development;</p> <p>➡ indicate their relative importance where they are applied.</p>

The grey shading of the rating descriptor indicated by the ➡ symbol indicates that this descriptor will be applied in higher ratings/levels of complexity.

SENIOR SECONDARY 2 DESCRIPTORS

CRITERION 10 DEMONSTRATE AN UNDERSTANDING OF DESIGN PRINCIPLES

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <p>☆ attempt to evaluate a design project in order to reach a satisfactory conclusion to the design task.</p>	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <p>☆ usually demonstrate the ability to make design decisions in order to plan for the completion of design projects.</p>	<p>In familiar settings and with teacher supervision and guidance, a student can:</p> <p>☆ (**) demonstrate the ability to make design decisions in order to plan for the completion of design projects.</p>

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Note:

Each criterion has standards described at the appropriate level(s) of difficulty. Each set of standards has three sub-sets of outcomes (descriptors) distinguished by the ratings, C, B or A. Symbols beside each descriptor enable descriptors to be tracked through levels. Collectively, the descriptors define the requirements for achievement of the rating. Teachers need to exercise judgement to ensure that the standards have been met.

The descriptors indicate progress and achievement and may be used by students as well as by teachers. The items have symbols to match the meaning of the descriptors across ratings and levels.

Within the descriptors the items presented in bold print indicate precisely where the outcomes specified in one rating are more difficult than in the one that precedes it. Where (**) is shown in the descriptors, it indicates that a word or phrase has been omitted from the previous rating to add to the difficulty of the rating. Where they are included, teacher notes at the bottom of the descriptors highlight these changes.

In the generic criteria, the wording of the stem determines where each level is more demanding than the level that precedes it. The words in standard font are common to all generic criteria at corresponding levels and ratings. The words in italics are those that describe attributes unique to a generic criterion.

A Teaching and Learning Guide in a separate document, provides suggested tasks, examples of activities and other materials to support the delivery of the course.

SENIOR SECONDARY 3 DESCRIPTORS

CRITERION 1 COLLECT AND CATEGORISE INFORMATION

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a broad range of methods and use to <i>collect and categorise specific and current information (**)</i>; ➔ attempt to adjust <i>use of collected information</i> to changed conditions to which attention is drawn by others; ▲ undertake a checklist evaluation of <i>collected information and the categories to which it is assigned</i> in specific contexts; ○ (**) demonstrate improvement in <i>collecting and categorising processes</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider and select methods and use to <i>collect and categorise specific and current information</i>; ➔ identify changed conditions and adapt use of collected information to attempt to meet minor new requirements; ▲ undertake a range of methods to evaluate <i>collected and adapted information and the categories to which it is assigned</i> in specific contexts; ○ demonstrate improvement in <i>collecting and categorising processes</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider and select <i>methods to collect and responsibly use to categorise specific and current information</i>; ➔ identify changed conditions and adapt use of <i>collected information</i> to (**) meet minor new requirements; ▲ undertake a broad range of methods to evaluate effectiveness of adapted <i>collected information and the categories to which it is assigned</i> in specific contexts; ○ demonstrate improvement in <i>collecting and categorising processes</i> in some aspects identified for attention in previous evaluations.


SENIOR SECONDARY 3 DESCRIPTORS

CRITERION 2 SELECT AND USE TECHNOLOGIES

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from and use a broad range of <i>technologies</i> to <i>develop ideas and designs carefully</i> (**); ➔ attempt to adjust <i>the selection and use of technologies</i> to changed conditions to which attention is drawn by others; ▲ undertake a checklist evaluation of selected <i>technologies</i> in specific contexts; ○ (**) demonstrate improvement in <i>application of technologies</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider and select and use <i>technologies</i> to <i>develop ideas and designs carefully</i>; ➔ identify changed conditions and adapt <i>the selection and use of technologies</i> to attempt to meet minor new requirements; ▲ undertake a range of methods to evaluate selected and adapted <i>technologies</i> in specific contexts; ○ demonstrate improvement in <i>application of technologies</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider and select, and use <i>technologies</i> to <i>develop ideas and designs carefully and responsibly</i>; ➔ identify changed conditions and adapt <i>the selection and use of technologies</i> to (**) meet minor new requirements; ▲ undertake a broad range of methods to evaluate effectiveness of selected and adapted <i>technologies</i> in specific contexts; ○ demonstrate improvement in <i>application of technologies</i> in some aspects identified for attention in previous evaluations.

SENIOR SECONDARY 3 DESCRIPTORS

CRITERION 3 UNDERSTAND AND APPLY OCCUPATIONAL HEALTH, HYGIENE AND SAFETY PROCEDURES

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ wear appropriate safety equipment; ➔ usually behave in a safe and acceptable manner with regard to personal and group safety; ▲ use equipment and resources correctly and seek advice when uncertain. ○  	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ always wear appropriate safety equipment; ➔ always behave in a safe and acceptable manner with regard to personal and group safety; ▲ generally use materials, tools and equipment correctly; ○ generally identify appropriate solutions that are offered when problems arise. 	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ always wear appropriate safety equipment; ➔ always behave in a safe and acceptable manner with regard to personal and group safety; ▲ (**) use materials, tools and equipment correctly; ○ (**) identify appropriate solutions that are offered when problems arise.

The grey shading of the rating descriptor indicated by the ○ symbol indicates that this descriptor will be applied in higher ratings/levels of complexity.

SENIOR SECONDARY 3 DESCRIPTORS

CRITERION 4 DEVELOP SKILLS, UNDERSTANDING AND KNOWLEDGE OF SYSTEMS

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <p>☆ undertake negotiated tasks and have a general knowledge of everyday systems.</p>	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <p>☆ show some degree of thought when working on tasks that involve systems.</p>	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <p>☆ show some degree of independence and thought when working on tasks that involve systems.</p>

SENIOR SECONDARY 3 DESCRIPTORS

CRITERION 5 EXAMINE AND RESOLVE ISSUES

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a broad range of (**) <i>strategies</i>, and use to <i>anticipate and solve minor problems</i>, and <i>select and use strategies seeking to resolve more complex issues</i> as advised; ➔ attempt to adjust use of <i>problem solving strategies</i> to changed conditions to which attention is drawn by others; ▲ undertake a checklist evaluation of selected <i>issues resolution strategies</i> in specific contexts; ○ (**) demonstrate improvement in <i>issues resolution</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select and use <i>strategies to anticipate and solve minor problems</i>; clearly identify more complex issues and consider, select and use <i>strategies seeking to resolve them</i>; ➔ identify changed conditions and select and apply acquired <i>problem-solving strategies to attempt to meet minor new requirements</i>; ▲ undertake a range of methods to evaluate selected and adapted <i>issues resolution strategies</i> in specific contexts; ○ demonstrate improvement in <i>issues resolution</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select, and use <i>strategies to anticipate and solve minor problems</i>; clearly identify more complex issues and consider, select and responsibly use <i>strategies seeking to resolve them</i>; ➔ identify changed conditions and select and apply acquired <i>problem-solving strategies</i> to (**) meet minor new requirements; ▲ undertake a broad range of methods to evaluate effectiveness of selected and adapted <i>issues resolution strategies</i> in specific contexts; ○ demonstrate improvement in <i>issues resolution</i> in some aspects identified for attention in previous evaluations.

SENIOR SECONDARY 3 DESCRIPTORS

CRITERION 6 PLAN, ORGANISE AND COMPLETE ACTIVITIES

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a broad range of <i>strategies to achieve objectives</i>, and use to <i>perform tasks within proposed times (**)</i>; ➔ attempt to adjust <i>plans and actions</i> to changed conditions to which attention is drawn by others; ▲ undertake a checklist evaluation of selected <i>plans devised to complete activities</i> in specified contexts; ○ (**) demonstrate improvement in <i>planning and completion processes</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider and select <i>strategies to achieve objectives</i>, and use to <i>perform tasks within proposed times</i>; ➔ identify changed conditions and adapt <i>plans and actions to attempt to meet minor new requirements</i>; ▲ undertake a range of methods to evaluate selected <i>plans devised</i> and adapted <i>to complete activities</i> in specified contexts; ○ demonstrate improvement in <i>planning and completion processes</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider and select <i>strategies to achieve objectives</i>, and use to responsibly <i>perform tasks within proposed times</i>; ➔ identify changed conditions and adapt <i>plans and actions</i> to (**) meet minor new requirements; ▲ undertake a broad range of methods to evaluate effectiveness of selected <i>plans devised</i> and adapted <i>to complete activities</i> in specific contexts; ○ demonstrate improvement in <i>planning and completion processes</i> in some aspects identified for attention in previous evaluations.

SENIOR SECONDARY 3 DESCRIPTORS

CRITERION 7 COMMUNICATE IDEAS AND INFORMATION

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a broad range of (**) <i>methods and styles</i>, and use to <i>communicate ideas and information clearly and accurately (**)</i>; ➔ attempt to adjust <i>communication</i> to changed conditions to which attention is drawn by others; ▲ undertake a checklist evaluation of selected <i>communication</i> in specific contexts; ○ (**) demonstrate improvement in <i>communication</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider and select <i>methods and styles</i>, and use to <i>communicate ideas and information clearly and accurately</i>; ➔ identify changed conditions and adapt <i>communication</i> to attempt to meet minor new requirements; ▲ undertake a range of methods to evaluate selected and adapted <i>communication</i> in specific contexts; ○ demonstrate improvement in <i>communication</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider and select <i>methods and styles</i>, and use to <i>communicate ideas and information clearly, accurately and responsibly</i>; ➔ identify changed conditions and adapt <i>communication</i> to (**) meet minor new requirements; ▲ undertake a broad range of methods to evaluate effectiveness of selected and adapted <i>communication</i> in specific contexts; ○ demonstrate improvement in <i>communication</i> in some aspects identified for attention in previous evaluations.

SENIOR SECONDARY 3 DESCRIPTORS

CRITERION 8 WORK CONSTRUCTIVELY WITH OTHERS

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ choose from a broad range of <i>personal approaches</i>, and use to <i>sensitively cooperate with others to achieve agreed purposes (**)</i>; ➔ attempt to adjust <i>personal behaviour</i> to changed conditions to which attention is drawn by others; ▲ undertake a checklist evaluation of selected <i>personal behaviours</i> and <i>approaches used to participate in group activities</i> in specific contexts; ○ (**) demonstrate improvement in <i>group participation skills</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider and select <i>personal approaches</i>, and use to <i>sensitively cooperate with others to achieve agreed purposes</i>; ➔ identify changed conditions in <i>group structures and relationships and assist group processes to attempt to meet minor new requirements</i>; ▲ undertake a range of methods to evaluate selected and adjusted <i>personal behaviours</i> and <i>approaches used to participate in group activities</i> in specific contexts; ○ demonstrate improvement in <i>group participation skills</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider and select <i>personal approaches</i>, and use to <i>sensitively and responsibly cooperate with others to achieve agreed purposes</i>; ➔ identify changed conditions in <i>group structures and relationships and assist group processes</i> to (**) meet minor new requirements; ▲ undertake a broad range of methods to evaluate effectiveness of selected and <i>adjusted personal behaviours</i> and <i>approaches used to participate in group activities</i> in specific contexts; ○ demonstrate improvement in <i>group participation skills</i> in some aspects identified for attention in previous evaluations.

SENIOR SECONDARY 3 DESCRIPTORS

CRITERION 9 DEMONSTRATE AN UNDERSTANDING OF TECHNOLOGICAL CHANGE

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <p>☆ show some understanding of how products are designed and the ideas which have influenced their development;</p> <p>➡ indicate the relative importance of design ideas and where they are applied.</p>	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <p>☆ identify new products and explain the ideas that have contributed to their development;</p> <p>➡ justify their selection of selected products.</p>	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <p>☆ identify new products and explain the ideas and processes that have contributed to their development;</p> <p>➡ justify their selection of particular products.</p>

SENIOR SECONDARY 3 DESCRIPTORS

CRITERION 10 DEMONSTRATE AN UNDERSTANDING OF DESIGN PRINCIPLES

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <p>☆ demonstrate the ability to make design decisions in order to plan for the completion of design projects.</p>	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <p>☆ demonstrate the ability to make informed design decisions in order to (**) complete design tasks.</p>	<p>In familiar settings and with minimum teacher supervision and occasional guidance, a student can:</p> <p>☆ demonstrate the ability to make appropriate informed design decisions in order to complete whole design tasks.</p>

CRITERIA STANDARDS TABLE OF CONTENTS

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Note:

Each criterion has standards described at the appropriate level(s) of difficulty. Each set of standards has three sub-sets of outcomes (descriptors) distinguished by the ratings, C, B or A. Symbols beside each descriptor enable descriptors to be tracked through levels. Collectively, the descriptors define the requirements for achievement of the rating. Teachers need to exercise judgement to ensure that the standards have been met.

The descriptors indicate progress and achievement and may be used by students as well as by teachers. The items have symbols to match the meaning of the descriptors across ratings and levels.

Within the descriptors the items presented in bold print indicate precisely where the outcomes specified in one rating are more difficult than in the one that precedes it. Where (**) is shown in the descriptors, it indicates that a word or phrase has been omitted from the previous rating to add to the difficulty of the rating. Where they are included, teacher notes at the bottom of the descriptors highlight these changes.

In the generic criteria, the wording of the stem determines where each level is more demanding than the level that precedes it. The words in standard font are common to all generic criteria at corresponding levels and ratings. The words in italics are those that describe attributes unique to a generic criterion.

A Teaching and Learning Guide in a separate document, provides suggested tasks, examples of activities and other materials to support the delivery of the course.

SENIOR SECONDARY 4 DESCRIPTORS

CRITERION 1 COLLECT AND CATEGORISE INFORMATION

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select, and use <i>methods to collect and categorise specific and current information</i>; ➔ identify changed conditions and adapt use of <i>collected information</i> to meet minor new requirements; ▲ use a broad range of methods to evaluate effectiveness of adapted <i>collected information and the categories to which it is assigned</i> in specific contexts; ○ demonstrate improvement in <i>collecting and categorising processes</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select, and use <i>methods to collect and categorise specific and current information</i>; ➔ identify changed conditions and adapt use of <i>collected information</i> to suitably meet minor new requirements; ▲ use a broad range of methods to evaluate effectiveness of adapted <i>collected information and the categories to which it is assigned</i> in specific contexts; ○ demonstrate improvement in <i>collecting and categorising strategies</i> in most aspects identified for attention in previous evaluations. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select, and use <i>methods to collect and categorise specific, current and detailed information</i>; ➔ identify changed conditions and adapt use of <i>collected information</i> to respond appropriately to (**) new requirements; ▲ (**) evaluate effectiveness of adapted <i>collected information and the categories to which it is assigned</i> in specific contexts; ○ demonstrate improvement in <i>collecting and categorising strategies</i> in most aspects identified for attention in previous evaluations.

SENIOR SECONDARY 4 DESCRIPTORS

CRITERION 2 SELECT AND USE TECHNOLOGIES

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select and use <i>technologies to develop ideas and designs carefully and responsibly</i>; ➔ identify changed conditions and adapt <i>the selection and use of technologies</i> to meet minor new requirements; ▲ use a broad range of methods to evaluate effectiveness of selected and adapted <i>technologies</i> in specific contexts; ○ demonstrate improvement in <i>application of technologies</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select and use <i>technologies to develop ideas and designs carefully and responsibly</i>; ➔ identify changed conditions and adapt <i>the selection and use of technologies</i> to suitably meet minor new requirements; ▲ use a broad range of methods to evaluate effectiveness of selected and adapted <i>technologies</i> in specific contexts; ○ demonstrate improvement in <i>application of technologies</i> in most aspects identified for attention in previous evaluations. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select and use <i>technologies to develop ideas and designs carefully, responsibly and imaginatively</i>; ➔ identify changed conditions and adapt <i>the selection and use of technologies</i> by responding appropriately to (**) new requirements; ▲ (**) evaluate effectiveness of selected and adapted <i>technologies</i> in specific contexts; ○ demonstrate improvement in <i>application of technologies</i> in most aspects identified for attention in previous evaluations.

SENIOR SECONDARY 4 DESCRIPTORS

CRITERION 3 UNDERSTAND AND APPLY OCCUPATIONAL HEALTH, HYGIENE AND SAFETY PROCEDURES

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ always wear appropriate safety equipment; ➔ always behave in a safe and acceptable manner with regard to personal and group safety; ▲ use materials, tools and equipment correctly; ○ identify appropriate solutions that are offered when problems arise. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ explain the need for safe and healthy work practices in the workplace environment; ➔ be aware of some of the consequences that might result from a lack of compliance; ▲ generally adhere to requirements of both personal and group safety; ○ offer solutions for problems that arise. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ understand the need for safe and healthy work practices in the workplace environment; ➔ be aware of many of the consequences that might result from a lack of compliance; ▲ generally adhere to all requirements of both personal and group safety; ○ offer solutions for problems that arise.

SENIOR SECONDARY 4 DESCRIPTORS

CRITERION 4 DEVELOP SKILLS, UNDERSTANDING AND KNOWLEDGE OF SYSTEMS

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <p>☆ show some degree of independence and thought when working on tasks that involve systems.</p>	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <p>☆ (**) effectively initiate tasks with a knowledge of systems.</p>	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <p>☆ effectively initiate tasks with an understanding and knowledge of systems.</p>

SENIOR SECONDARY 4 DESCRIPTORS

CRITERION 5 EXAMINE AND RESOLVE ISSUES

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select, and use <i>strategies to anticipate and solve minor problems; clearly identify more complex issues and consider, select and responsibly use strategies seeking to resolve them;</i> ➔ identify changed conditions <i>and select and apply acquired problem-solving strategies</i> to meet minor new requirements; ▲ use a broad range of methods to evaluate effectiveness of selected and adapted <i>issues resolution strategies</i> in specific contexts; ○ demonstrate improvement in <i>issues resolution</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select, and use <i>strategies to anticipate and solve minor problems; clearly identify more complex issues and consider, select and responsibly use strategies seeking to resolve them;</i> ➔ identify changed conditions <i>and select and apply acquired problem-solving strategies</i> to suitably meet minor new requirements; ▲ use a broad range of methods to evaluate effectiveness of selected and adapted <i>issues resolution strategies</i> in specific contexts; ○ demonstrate improvement in <i>issues resolution</i> in most aspects identified for attention in previous evaluations. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select, and use <i>strategies to anticipate and solve minor problems; clearly identify more complex issues and consider, select and responsibly use strategies seeking to resolve them;</i> ➔ identify changed conditions <i>and select and apply acquired problem-solving strategies by responding appropriately</i> to (**) new requirements; ▲ (**) evaluate effectiveness of selected and adapted <i>issues resolution strategies</i> in specific contexts; ○ demonstrate improvement in <i>issues resolution</i> in most aspects identified for attention in previous evaluations.

SENIOR SECONDARY 4 DESCRIPTORS

CRITERION 6 PLAN, ORGANISE AND COMPLETE ACTIVITIES

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select and use <i>strategies to achieve objectives, to responsibly perform tasks within proposed times</i>; ➔ identify changed conditions and adapt <i>plans and actions</i> to meet minor new requirements; ▲ use a broad range of methods to evaluate effectiveness of selected <i>plans devised</i> and adapted <i>to complete activities</i> in specific contexts; ○ demonstrate improvement in <i>planning and completion processes</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select and use <i>strategies to achieve objectives, to responsibly perform tasks within proposed times</i>; ➔ identify changed conditions and adapt <i>plans and actions</i> to suitably meet minor new requirements; ▲ use a broad range of methods to evaluate effectiveness of selected <i>plans devised</i> and adapted <i>to complete activities</i> in specific contexts; ○ demonstrate improvement in <i>planning and completion strategies</i> in most aspects identified for attention in previous evaluations. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select and use <i>strategies to achieve objectives, to responsibly manage activities within proposed times</i>. ➔ identify changed conditions and adapt <i>plans and actions</i> to respond appropriately to (**) new requirements; ▲ (**) evaluate effectiveness of selected <i>plans devised</i> and adapted <i>to complete activities</i> in specific contexts; ○ demonstrate improvement in <i>planning and completion strategies</i> in most aspects identified for attention in previous evaluations.

SENIOR SECONDARY 4 DESCRIPTORS

CRITERION 7 COMMUNICATE IDEAS AND INFORMATION

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select and use <i>methods and styles</i> to <i>communicate ideas and information clearly, accurately and responsibly</i>; ➔ identify changed conditions and adapt <i>communication</i> to attempt to meet minor new requirements; ▲ use a broad range of methods to evaluate effectiveness of selected and adapted <i>communication</i> in specific contexts; ○ demonstrate improvement in <i>communication</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select and use <i>methods and styles</i> to <i>communicate ideas and information clearly, accurately and responsibly</i>; ➔ identify changed conditions and adapt <i>communication</i> to suitably meet minor new requirements; ▲ use a broad range of methods to evaluate effectiveness of selected and adapted <i>communication</i> in specific contexts; ○ demonstrate improvement in <i>communication</i> in most aspects identified for attention in previous evaluations. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select and use <i>methods and styles</i> to <i>communicate ideas and information clearly, accurately, responsibly and precisely</i>; ➔ identify changed conditions and adapt <i>communication</i> to respond appropriately to (**) new requirements; ▲ (**) evaluate effectiveness of selected and adapted <i>communication</i> in specific contexts; ○ demonstrate improvement in <i>communication</i> in most aspects identified for attention in previous evaluations.

SENIOR SECONDARY 4 DESCRIPTORS

CRITERION 8 WORK CONSTRUCTIVELY WITH OTHERS

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select, and use <i>personal approaches</i> to sensitively and responsibly cooperate with others to achieve agreed purposes; ➔ identify changed conditions in <i>group structures and relationships</i> and assist group processes to meet minor new requirements; ▲ use a broad range of methods to evaluate effectiveness of selected and <i>adjusted personal behaviours</i> and approaches used to participate in group activities in specific contexts; ○ demonstrate improvement in <i>group participation skills</i> in some aspects identified for attention in previous evaluations. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select, and use <i>personal approaches</i> to sensitively and responsibly cooperate with others to achieve agreed purposes; ➔ identify changed conditions in <i>group structures and relationships</i> and assist group processes to suitably meet minor new requirements; ▲ use a broad range of methods to evaluate effectiveness of selected and <i>adjusted personal behaviours</i> and approaches used to participate in group activities in specific contexts; ○ demonstrate improvement in <i>group participation skills</i> in most aspects identified for attention in previous evaluations. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ consider, select, and use <i>personal approaches</i> to sensitively and responsibly engage with others to achieve agreed purposes; ➔ identify changed conditions in <i>group structures and relationships</i> and assist group processes by responding appropriately to (**) new requirements; ▲ (**) evaluate effectiveness of selected and <i>adjusted personal behaviours</i> and approaches used to participate in group activities in specific contexts; ○ demonstrate improvement in <i>group participation skills</i> in most aspects identified for attention in previous evaluations.

SENIOR SECONDARY 4 DESCRIPTORS

CRITERION 9 DEMONSTRATE AN UNDERSTANDING OF TECHNOLOGICAL CHANGE

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ identify new products and explain the ideas and processes that have contributed to their development; ➔ justify their selection of particular products. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ examine the broad issues relating to technological change; ➔ give explanations and summary of issues that show the effect of technology. 	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <ul style="list-style-type: none"> ☆ examine the broad issues relating to technological change; ➔ give precise explanations and summary of issues that show the effect of technology.

SENIOR SECONDARY 4 DESCRIPTORS

CRITERION 10 DEMONSTRATE AN UNDERSTANDING OF DESIGN PRINCIPLES

Rating 'C'	Rating 'B'	Rating 'A'
<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <p>☆ demonstrate the ability to make appropriate informed design decisions in order to complete whole design tasks.</p>	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <p>☆ demonstrate the ability to evaluate a design task through to the successful completion of projects within specific limitations.</p>	<p>In familiar and unfamiliar settings, without recourse to teacher supervision but with occasional guidance, a student can:</p> <p>☆ demonstrate the ability to fully evaluate a design task through to the successful completion of projects within specific limitations.</p>

T A S M A N I A N

C E R T I F I C A T E

O F E D U C A T I O N

Design in Wood

Senior Secondary

2C, 2B, 2A 3C, 3B, 3A 4C, 4B, 4A



TEACHING AND LEARNING GUIDE

The Teaching and Learning Guide must be read in conjunction with the course document. It contains advice to assist teachers delivering the course and can be modified as required.

TEACHING AND LEARNING GUIDE TABLE OF CONTENTS

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EXPANDED COURSE OUTLINE

Designing, Making and Appraising

Designing, making and appraising is a process through which students develop ideas and create imaginative solutions for learning tasks. They should participate in decisions about what, why and how projects should be undertaken and how the product might be improved.

When students design, make and appraise they:

- investigate issues and situations
- devise proposals and alternatives
- communicate ideas and actions
- produce products
- evaluate impacts and consequences.

Materials and Equipment

- classification and properties of common timbers
- timber based products in common use
- selection of appropriate timber
- common terminology associated with timbers
- common joining processes
- common hardware
- surface finishing techniques and finishes
- basic woodworking hand tools
- recognition and strictly supervised use of portable power tools
- simple maintenance and care of hand tools and equipment
- marking out and measuring equipment (basic numeracy).

Information

Students should gain knowledge and understanding of wood related information using a variety of communication mediums depending upon the purpose of the task. Students should gather, access, store, process and transfer information.

Systems

Systems are a series of steps, sequences, or combinations of elements that work together to achieve specified outcomes.

Working with systems gives students opportunities to:

- observe procedures, dismantle components, construct articles, modify products, operate machines, control equipment, make projects, assemble parts, organise processes and manage activities
- examine how systems are designed and applied
- control and monitor the efficient and effective operation of systems.

Interest Areas

Interest areas are starting points for students to develop curiosity, initiative, ingenuity and resourcefulness in areas of personal interest.

Suggested topics through which the content can be addressed are listed over-page.

Suggested Topics

multi media storage	jewellery/hair clasps/brooches
desk / locker tidies	kitchen products
games/puzzles	souvenirs
models and replicas	framing
aeroplanes	lamp shades
CO2 powered vehicles	clocks and time pieces
water craft	wood turning/carving
electronic / wood projects	laminating/inlay work
planter boxes/stands	veneering
architectural models	recycling
science experiments	folk art
towers & bridges	repairs and restoration
structural testing	sports goods
pet enclosures	hydroponics
outdoor furniture	kites
toys	pace frames
sculpture	musical instruments
containers for collections	vacuum forming products
mass produced items	

'A' DESIGN TIME AREAS OF SPECIALISATION

For Tasmanian Qualifications Authority reporting purposes the specialisations (strands) will be identified as:

01	Basic Woodworking Skills
02	Timber Joining Processes
03	Cabinet Making
04	Design in Wood
05	Wood Crafts
06	Manufacturing in Wood
07	Construction in Timber
08	Forest Management, Processing and Conservation

When advising the Tasmanian Qualifications Authority of student awards, the explicit and appropriate strand name must be reported.

Basic Woodworking Skills

Students will be encouraged to gain a basic understanding of woodworking tools and equipment and to recognise timber species and some of their properties. They should recognise the purposes of basic wood machines, and portable power tools. Skills and techniques should be applied to the construction of a wood project.

Timber Joining Processes

Students will be encouraged to gain an understanding of common joining processes, surface finishing and preparation of timber.

Cabinet Making

Students will be encouraged to gain an understanding of preparation of timber, wood joinery, finishing techniques, basic woodwork hand and power tools.

Design in Wood

Students will be encouraged to gain an understanding of principles of design, problem solving, including: function, shape, strength, finish, proportion and ornamentation

Wood Crafts

Students will be encouraged to gain an understanding of different techniques such as wood turning, carving, toy making through using a range of wood working tools, equipment, machines. It is an expectation that different joining and surface finishes will be applied.

Manufacturing in Wood

Students will be encouraged to gain an understanding of enterprise, group designed projects, mass production, quality control and marketing of a wood based products.

Construction in Timber

Students will be encouraged to gain an understanding of building and construction, terminology associated with timber and timber based products and new materials in common use in timber related industries.

Forest Management, Processing and Conservation

Students will be encouraged to gain an understanding of the forestry management, harvesting techniques, downstream processing and ecological sustainability.

ASSESSMENT INFORMATION

Teachers should provide:

- a range of ways of assessing students' performance
- assessment activities integral to a teaching program
- a means of assuring trustworthy and consistent information about students' achievements
- a means whereby teachers can benchmark their assessments against assessments of other teachers
- a means of moderating teachers' judgments at school and between schools
- a number of opportunities for students to demonstrate their learning
- opportunities for students to demonstrate achievement over a range of profile levels.

Teaching and Learning Considerations

Technology programs in schools involve students in generating ideas and acting on them, as well as in using and developing processes and products which satisfy human needs.

They enable students to:

- respond critically and resourcefully to challenges
- devise creative ways of generating and applying ideas
- translate ideas into worthwhile outcomes
- find innovative solutions to community needs
- focus on the design of techniques and products
- deal with uncertainty in an informed way
- cooperate in flexible teams
- appreciate cultural differences
- learn throughout their lives
- use local, national, regional and international networks.

Learning Processes and Approaches

When planning learning experiences to support these courses, teachers will need to consider the ways these experiences will allow students to investigate, communicate and participate effectively.

There are many approaches to foster student learning. Diversification and a combination of different teaching styles may be the most effective way to reach significant numbers of students.

Some teaching strategies which may be appropriate include:

- cooperative and collaborative learning
- problem solving
- teacher demonstration and explanation
- values sharing and clarification
- practical activities which focus on the production of products
- discussions and issues forums
- negotiated studies
- product analysis P.M.I. (Plus Minus and Interesting)
- unpacking designs in products
- use of multi media
- de Bono's six hat thinking.

Many sources of information can be used to assess student learning in technology studies. These include:

- small group presentations
- recording of ideas and thoughts in a journal
- structured conversations with a teacher
- working models and devices
- folios of designs and finished work
- design specifications and modifications
- oral presentations and reports
- sketches and drawings of ideas and products
- recording of interviews and on the job conversations.

EXPLANATION OF CRITERIA

CRITERION 1 COLLECT AND CATEGORISE INFORMATION

This TCE generic criterion focuses on the development of students' investigative skills. Students will gather relevant information from different sources, examine the information and organise it into different categories.

Students should gain knowledge and understanding of wood related information using a variety of communication mediums depending upon the purpose of the task. Students should gather, access, store, process and transform information.

CRITERION 2 SELECT AND USE TECHNOLOGIES

This criterion focuses on students' acquisition of technological skills to further their learning and to prepare them to adapt to escalating technological change.

The technology learning referred to in this criterion comprises both the traditional notion of acquiring skills to use tools and equipment associated with learning in specialised fields, and the knowledge and skills associated with computer technologies now universally required by all students to a greater or lesser extent in all learning areas.

CRITERION 3 UNDERSTAND AND APPLY OCCUPATIONAL HEALTH, HYGIENE AND SAFETY PROCEDURES

As part of their Technology studies students should be made aware of good health and safety principles and practices that will stand them in good stead both in the workforce and daily life. It is expected that students will avoid accidents in the classroom and that teachers will conduct positive safety programs for their students. This will enable students to develop a sense of responsibility and give them the ability to assess potential danger in various circumstances.

Teachers should be familiar with health, hygiene and safety standards as outlined in local, State and Federal laws.

CRITERION 4 DEVELOP SKILLS, UNDERSTANDING AND KNOWLEDGE OF SYSTEMS

Systems are a series of steps, sequences, or combinations of elements that work together to achieve specified outcomes.

Working with systems gives students opportunities to:

- observe procedures, dismantle components, construct articles, modify products, operate machines, control equipment, make projects, assemble parts, organise processes and manage activities
- examine how systems are designed and applied
- control and monitor the efficient and effective operation of systems.

CRITERION 5 EXAMINE AND RESOLVE ISSUES

This TCE generic criterion focuses on the development of students' ability to develop knowledge and skills that will enable them to examine and resolve issues/solve problems.

CRITERION 6 PLAN, ORGANISE AND COMPLETE ACTIVITIES

This TCE generic criterion focuses on the development of students' ability to plan, organise, complete and reflect upon activities. Students will be expected to plan and set goals, design strategies to undertake and complete tasks effectively, achieve goals and evaluate the effectiveness of their planning procedures.

When students plan, organise and complete activities they:

- investigate issues and situations
- devise proposals and alternatives
- communicate ideas and actions
- undertake activities and tasks
- evaluate products.

CRITERION 7 COMMUNICATE IDEAS AND INFORMATION

This TCE generic criterion focuses on the development of students' ability to communicate effectively in spoken and written forms.

Students should gain knowledge and understanding of wood related information using a variety of communication mediums depending upon the purpose of the task. Students should gather, access, store, process and transform information.

CRITERION 8 WORK CONSTRUCTIVELY WITH OTHERS

This TCE generic criterion focuses on the development of students' ability to work collaboratively and constructively in a range of structured and unstructured situations.

When working with others and in teams, students will interact effectively with other people both on a one-to-one basis and in groups, including understanding and responding to the needs of a situation and working effectively as a member of a team to achieve a shared goal. Students will:

- generally remain on task
- listen to others' opinions and viewpoints
- carry out designated roles within teams
- share materials and equipment.

CRITERION 9 DEMONSTRATE AN UNDERSTANDING OF TECHNOLOGICAL CHANGES**CRITERION 10 DEMONSTRATE AN UNDERSTANDING OF DESIGN PRINCIPLES**

REFERENCES AND RESOURCES