An Introduction to the Metal and Engineering Curriculum Framework
Stage 6 Syllabus in the New HSC

The Metal and Engineering Curriculum Framework Stage 6 Syllabus replaces the Metal and Engineering strand in the current Industry Studies Syllabus and TAFE-delivered HSC Content Endorsed Courses in this industry area. It is for implementation in 2000 and will be first examined in 2001.

Part A of the syllabus provides descriptions of course requirements, assessment advice and specifications for the optional HSC examination. Also included is information that was formerly available in the TAS KLA handbook.

Part B of the syllabus (to be supplied separately) contains the units of competency for the Metal and Engineering Curriculum Framework. The units of competency are transcribed directly from the Metal and Engineering Training Package. Accompanying each unit of competency is an additional section entitled HSC Requirements and Advice. This section:

- describes units of competency and the HSC requirements for the various HSC Metal and Engineering courses
- prescribes the scope of learning that is expected from Stage 6 students
- identifies possible teaching and learning resources.

Schools and colleges will be advised on how to obtain Part B of the syllabus, the support document and the competency record book.

What is an industry curriculum framework?

Industry curriculum frameworks have been developed to provide students with the opportunity to gain credit towards the NSW Higher School Certificate and credit towards national vocational qualifications under the Australian Qualifications Framework (AQF).

Industry curriculum frameworks are based on national training packages. They define how units of competency drawn from training packages are arranged into vocational education and training (VET) courses for the purpose of gaining unit credit for the HSC. Wherever possible, VET courses in industry curriculum frameworks are aligned to national AQF VET qualifications.
**What is similar to current courses?**

The Metal and Engineering Curriculum Framework provides the opportunity to develop a course that is broadly consistent with the Metal and Engineering strand of Industry Studies. There is scope for a range of courses similar to the existing TAFE delivered HSC Content Endorsed Courses.

**What are the overall improvements?**

The Metal and Engineering Curriculum Framework provides students with a wider variety of options and the opportunity to gain higher qualifications than Industry Studies — Metal and Engineering. Other improvements include:

- potential to complete AQF Certificate I in Engineering
- potential for partial completion of AQF Certificate II in Engineering — Production
- potential to complete AQF Certificate II in Engineering — Production
- a range of course structures that facilitate delivery by schools, TAFE and other Registered Training Organisations
- a range of course structures providing Preliminary and/or HSC unit credit
- an optional HSC Examination that will allow students to include Metal and Engineering (240 indicative hours) in the calculation of their UAI.

**Aim**

The Metal and Engineering Curriculum Framework has been developed in response to the needs of the industry and to provide training and education opportunities for the full range of HSC students. Students will be able to acquire a range of technical, personal and organisational skills valued both within and beyond the workplace. They will also acquire underpinning skills and knowledge related to functional areas within the manufacturing, engineering and related service industries. Through study in this subject students will gain experience that can be applied to a range of contexts including work, study and leisure and which can be used in making informed career choices.

**Course structures and outcomes**

<table>
<thead>
<tr>
<th>Course (indicative hours)</th>
<th>Potential AQF outcome</th>
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</thead>
<tbody>
<tr>
<td>Metal and Engineering 120</td>
<td>Statement of Attainment</td>
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<tr>
<td>Metal and Engineering 180</td>
<td>Certificate I</td>
</tr>
<tr>
<td>Metal and Engineering 240</td>
<td>Certificate I and/or Statement of Attainment</td>
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<tr>
<td>Metal and Engineering Specialist Studies 60 (extension)</td>
<td>Certificate I and/or Statement of Attainment</td>
</tr>
<tr>
<td>Metal and Engineering Specialist Studies 120 (extension)</td>
<td>Certificate II and/or Statement of Attainment</td>
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**Unit values and delivery patterns**

A unit of study for the HSC comprises 60 indicative hours of course time. Because the courses within the framework are not divided into Preliminary and HSC components, courses may be counted as either Preliminary units or HSC units, provided that a student’s overall pattern of study meets HSC requirements.
requirements. For example, Metal and Engineering (120 indicative hours) may be counted as 2 Preliminary units only, as 2 HSC units only or as 1 Preliminary unit and 1 HSC unit. Under the provisions of HSC Pathways, students may be entered for Preliminary and HSC units of study in the same calendar year.

**Content and outcomes**

An industry curriculum framework for the Higher School Certificate describes the range of units of competency that have been identified as being suitable for the purposes of the Higher School Certificate. A course within an industry framework describes how the available units of competency must be arranged to gain unit credit towards the award of the Higher School Certificate.

The Metal and Engineering Curriculum Framework allows students to develop a broad range of skills and knowledge appropriate for entry level workers in the manufacturing, engineering and related service industries.

The qualifications within the Metal and Engineering Training Package are based on content and structural rules of the Metal and Engineering Competency Standards.

**Course requirements**

Units of competency drawn from the Metal and Engineering Training Package determine the content and define the outcomes of learning for courses within the framework.

For the purposes of the Higher School Certificate, courses have been described in terms of their indicative duration as 120, 180, 240, or 60 (for extension courses only) indicative hours courses.

Work placement is a mandatory course requirement. The following work placement requirements apply to each course within the curriculum framework:

- Metal and Engineering (240 indicative hours) requires a minimum of 76 hours in a workplace
- Metal and Engineering (180 indicative hours) requires a minimum 53.2 hours (seven 7.6 hour working days) in a workplace
- Metal and Engineering (120 indicative hours) requires a minimum of 38 hours in a workplace
- Metal and Engineering Specialist Studies (120 indicative hours) requires an additional minimum 38 hours in a workplace
- Metal and Engineering Specialist Studies (60 indicative hours) requires an additional minimum 15.2 hours (two 7.6 hour working days) in a workplace.

**Assessment**

The courses within the Metal and Engineering Curriculum Framework are competency based courses. The Board of Studies and the Vocational Education and Training Accreditation Board (VETAB) require that a competency based approach to assessment be used and that a record be held by the Registered Training Organisation of the competencies achieved. Schools and colleges will be required to report to the Board on the units of competency achieved.

To achieve an AQF Certificate or Statement of Attainment, a student or worker must be **assessed as competent** according to the requirements set out in the Metal and Engineering Training Package. A qualified assessor, under the auspices of the Registered Training Organisation that is to issue the qualification, must conduct the assessment.
The HSC examination for Metal and Engineering (240 indicative hours) is optional. It will consist of a 2 hour written paper. Students will indicate during Year 12 whether they intend to attempt the examination. The examination is independent of the competency assessment undertaken during the course and has no impact on a student’s eligibility for AQF qualifications.

**What will be needed to teach this subject?**

- *Metal and Engineering Curriculum Framework Stage 6 Syllabus Part A*
- *Metal and Engineering Curriculum Framework Stage 6 Syllabus Part B*
- Competency Record Book (student log) for students
- Examination Supplement (the sample examination and marking guidelines).

Specific advice and details on matters such as teacher qualifications and resource requirements will be detailed in the *Industry Curriculum Framework Information Package*. This publication will be provided to schools by their relevant school authority.

Current resources available in schools will continue to be useful; however, some adjustment will need to occur in how they are used.

A further subject specific document is being developed by the Board of Studies for distribution later in the year. This will assist teachers with the implementation of the revised syllabuses.

A list of a number of resources will be placed on the Board’s website, [http://www.boardofstudies.nsw.edu.au](http://www.boardofstudies.nsw.edu.au).

Cross-sectoral professional development workshops (Department of Education and Training, Catholic Education Commission and members of the Association of Independent Schools) for Metal and Engineering Stage 6 will be held. Venues and dates for these workshops have been published on the [New HSC website](http://www.newhsc.schools.nsw.edu.au) and distributed to schools. The materials from the workshops will be available on this website.

*CURRICULUM SUPPORT for Teaching in Vocational Education 7–12* — a publication distributed each term by the Department of Education and Training — will carry an HSC supplement.

*Assessment and Reporting Bulletin* — published each term as a joint venture of the Department of Education and Training, the Catholic Education Commission and the Association of Independent Schools — will build on principles outlined in Board of Studies’ newsletters and assessment support materials.