Electrotechnology

Consultation Feedback Report

October 2012
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Executive Summary

A new national Electrotechnology Training Package (UEE11) was released in March 2012. In response to the new Training Package, the Board of Studies undertook a major revision of its Stage 6 Electrotechnology Curriculum Framework.

It was proposed that the revised Electrotechnology Curriculum Framework would provide pathways to the following VET qualifications:

- Certificate II in Electrotechnology (Career Start) (UEE22011)
- Certificate II in Sustainable Energy (Career Start) (UEE22111)
- Certificate II in Computer Assembly and Repair (UEE20511)
- Certificate II in Data and Voice Communications (UEE20711)
- Certificate II in Technical Support (UEE21711)
- Statement of Attainment towards Certificate III in Electrotechnology Electrician (UEE30811)
- Statement of Attainment towards Certificate III in Electrical Fitting (UEE33011).

Proposals were set out in an Electrotechnology Scoping Paper. Feedback was invited from stakeholders during the period 30 July to 17 August 2012.

The seven qualifications identified were considered appropriate for study by school students through the Framework and had the capacity to meet the differing needs of various groups and cohorts of school students across the state. There were mixed opinions on whether the Certificate III qualification pathways should be available to all students or school-based apprentices only.

As a result of consultation and advice from the Electrotechnology Industry Curriculum Committee (ICC), Certificate III qualification pathways will only be available to students undertaking a school-based apprenticeship.

The following Certificate III qualification has also been added to the revised Framework:

- Statement of Attainment towards Certificate III in Data and Voice Communications (UEE30411).

Detailed comments were also sought on the proposed structures for the Electrotechnology (240 indicative hours) course and the Electrotechnology Extension (60 indicative hours) course. In general, stakeholders were supportive of the 240-hour course. Support for the 60-hour Extension course was divided. As a result of consultation and advice from the ICC, the Extension course has been removed from the revised Electrotechnology Curriculum Framework.

The majority of stakeholders supported the seven mandatory units of competency proposed for inclusion in the Framework. Of the survey respondents, half were either unsure or did not want UEEEEK142A Apply environmentally and sustainable procedures in the energy sector included as mandatory, and a few respondents would prefer UEEENEE107A Use drawings, diagrams, schedules, standards, codes and specifications be included as an elective in the HSC course rather than mandatory. The ICC supported the inclusion of both UEEENEE107A and UEEEEK142A as mandatory units of competency for the 240-hour HSC course.

Stakeholders supported the inclusion of all of units of competency listed in the targeted Certificate II qualifications in the HSC elective pool. Most respondents felt that any units of competency listed in the targeted Certificate III qualifications should be available only to school-based apprentices and/or trainees.
The proposed hours for HSC work placement requirements received mixed support. Stakeholders mostly agreed with the work placement hours for both the Electrotechnology (120 indicative hours) course and Electrotechnology (240 indicative hours) course. Respondents were divided on whether additional work placement hours should be allocated to the Specialisation Study and Extension courses. The ICC considered the HSC minimum work placement hours and supported the requirements as presented. No additional hours were allocated to the Specialisation Study courses. (The Extension course has been removed from the revised Framework.)

The revised Stage 6 Electrotechnology Curriculum Framework follows the new format for Industry Curriculum Frameworks. HSC Content is now organised into focus areas. Each focus area describes the scope of learning for the HSC which has been drawn from the associated unit(s) of competency. Respondents felt this change was an improvement on the former syllabus format.

A second phase of public consultation on the final draft syllabus, including HSC Content, was conducted from 8 to 19 October 2012. This provided the opportunity for stakeholders to comment on key changes that had been made since the initial consultation, and to give feedback on the scope of the HSC Content (including content specifics, ordering and depth).

Also during this period, the HSC Content was reviewed, refined and validated by practitioners with current industry expertise.

Background

The Board of Studies NSW has revised the Stage 6 Electrotechnology Curriculum Framework. This is the result of the endorsement (8 December 2011) and release (16 March 2012) of the new national Electrotechnology Training Package (UEE11).

An Electrotechnology Scoping Paper which included AQF VET qualification pathways and HSC course structures proposed for inclusion in the revised Framework was available for comment over the period 30 July to 17 August 2012. This paper, as well as a qualification overview document, consultation survey and illustrative course planning samples for a Certificate II and Certificate III qualification, were available electronically via the Board’s website.

The following areas were the focus for consultation:

- AQF VET qualification pathways proposed for inclusion:
  - Certificate II in Electrotechnology (Career Start) (UEE22011)
  - Certificate II in Sustainable Energy (Career Start) (UEE22111)
  - Certificate II in Computer Assembly and Repair (UEE20511)
  - Certificate II in Data and Voice Communications (UEE20711)
  - Certificate II in Technical Support (UEE21711)
  - Statement of Attainment towards Certificate III in Electrotechnology Electrician (UEE30811)
  - Statement of Attainment towards Certificate III in Electrical Fitting (UEE33011)

- proposed HSC courses:
  - Electrotechnology (120 HSC indicative hours)
  - Electrotechnology (240 HSC indicative hours)
  - Electrotechnology Specialisation Study (60 or 120 HSC indicative hours)
  - Electrotechnology Extension (60 HSC indicative hours)

- (in relation to listed criteria) appropriateness of the proposed:
  - HSC mandatory units of competency for the 240-hour course
  - HSC elective units of competency

- proposed mandatory work placement requirements for each HSC course

- the new format for Stage 6 VET Industry Curriculum Frameworks.
During the consultation process, stakeholders were able to engage through a variety of forums including a face-to-face meeting and 3 video/telephone conferences. Stakeholders were also able to undertake an online survey.

During the consultation process:
- 6 written responses (surveys) were received from individuals and groups
- 39 people attended the face-to-face meeting and video/telephone conferences.

Refer to Appendix 1 for the profiles of consultation respondents and responses.

A range of key stakeholders was represented in the consultation. This included TAFE NSW teachers and personnel, non-government school teachers and personnel from industry, Registered Training Organisations (RTOs) and school systems.

The TAFE NSW Electrotechnology Project Advisory Group also provided comment during their August meeting. This group includes program managers and head teachers.

Comments were used to inform the development of the revised syllabus for the Electrotechnology Curriculum Framework.

A second phase of public consultation on the final draft syllabus, including HSC Content, was conducted from 8 to 19 October 2012. This provided the opportunity for stakeholders to comment on key changes that had been made since the initial consultation, and to give feedback on the scope of the HSC Content (including content specifics, ordering and depth).

Also during this period, the HSC Content was reviewed, refined and validated by practitioners with current industry expertise.

**Overview of the consultation feedback**

The feedback received through consultation with key stakeholders was positive overall. The main issue raised was whether the Certificate III qualification pathways should be available to all students or school-based apprentices only.

Respondents were invited to present views in relation to the proposed:
- AQF VET qualification pathways in the Framework
- Stage 6 Framework courses
- structure for the Electrotechnology (240 indicative hours) and Electrotechnology Extension (60 indicative hours) course
- work placement requirements
- HSC Content focus areas
- Electrotechnology HSC examination specifications.

Respondents were invited to provide other comments/suggestions for the revised Stage 6 Electrotechnology Curriculum Framework.
AQF VET qualification pathways

Seven qualifications within the new UEE11 Training Package are proposed as appropriate for study by school students in Stage 6. Certificate II in Electrotechnology (Career Start) (UEE22011) is the ‘standard’ qualification on which the Stage 6 Electrotechnology Curriculum Framework would continue to be based.

The response to the proposed qualification pathways was positive. A number of respondents thought that the Certificate III pathways should be available only to school-based apprentices.

Comments included:

‘Welcome the variety and the options of the qualifications … students in the ICT industry [computer assembly and repair and data and voice communication] have an opportunity to gain an ATAR through the Electrotechnology Curriculum Framework at a Certificate II level and keep within their areas of expertise …’
Survey E2

‘We believe that all of the qualifications are appropriate for students in both TAFE and school settings. The Certificate II in sustainable energy is appropriate for school-based learning and current industry environment. The inclusion of the two Certificate IIIIs means that they will be catering for school-based apprenticeships.’
Video/telephone conference E7

As a result of consultation and advice from at the ICC, Certificate III qualification pathways will only be available to students undertaking a school-based apprenticeship.

The following Certificate III qualification has also been added to the revised Framework:
• Statement of Attainment towards Certificate III in Data and Voice Communications (UEE30411).

Proposed structure for the Electrotechnology (240 indicative hours) course

HSC course structures define how units of competency are arranged for the purpose of HSC credit. It was proposed that the Electrotechnology Curriculum Framework (240 HSC indicative hours) course would contain HSC mandatory units of competency and HSC elective units of competency. The HSC mandatory units of competency would be studied by all students, with the associated HSC Content examined in the VET Electrotechnology HSC examination.

Comments included:
[in relation to Stage 6 Framework courses proposed] ‘The delivery requirements have worked well in the past and I see no reason to alter them.’
Survey E4

‘Certificate II courses are suitable for delivery. Certificate III courses designed for apprentices are not …’
Survey E4

300 HSC indicative hours face-to-face would be adequate for Stage 1/Year 1.
Meeting E1
HSC mandatory units of competency

The majority of stakeholders supported the seven mandatory units of competency proposed for inclusion in the Framework. Of the survey respondents, half were either unsure or did not want UEEENEEK142A Apply environmentally and sustainable procedures in the energy sector included as mandatory, and a few respondents would prefer UEEEEE107A Use drawings, diagrams, schedules, standards, codes and specifications be included as an elective in the HSC course rather than mandatory.

Comments on the mandatory units of competency included:

Good to see a unit of competency related to renewable energies included as mandatory.
Video/telephone conference E6

Agree with the mandatory units of competency.
Video/telephone conference E6

‘These are essential [units] that employers require.’
Survey E7

All mandatory units of competency are most suitable for inclusion.
Video/telephone conference E9

‘The proposed mandatory units of competency...is well supported. The inclusion of UEEEEE107A Use drawings, diagrams, schedules, standards, codes and specifications is a positive one as it provides an opportunity for students to develop knowledge and skills that we believe are fundamental to a worker in the electrotechnology industry...The inclusion of UEEENEEK142A Apply environmentally and sustainable procedures in the energy sector is welcomed and in accordance with other industry areas.’
Written response E15

The ICC supported the inclusion of both UEEEEE107A and UEEENEEK142A as mandatory units of competency for the 240-hour HSC course.

HSC elective units of competency

HSC elective units of competency need to be able to be achieved by students within the likely VET course delivery and work placement arrangements available and appropriate for study by school students.

The proposed HSC elective units of competency are drawn from the targeted qualifications considered suitable for inclusion in the Framework. From this elective pool respondents were asked to identify which units of competency were:

- suitable for any student undertaking courses from the Framework
- suitable only for students undertaking a school-based traineeship (Certificate II)
- suitable only for students undertaking Stage1/Year1 of an apprenticeship (Certificate III).

Stakeholders supported the inclusion of all units of competency listed in the targeted Certificate II qualifications in the HSC elective pool. Most respondents felt that any units of competency listed in the targeted Certificate III qualifications should be available only to school-based apprentices and/or trainees.
Proposed structure for the Electrotechnology Extension (60 indicative hours) course

The purpose of the proposed Extension course is to provide non school-based apprenticeship students with the opportunity to complete a ‘typical’ Stage 1/Year 1 of an apprenticeship (when delivered in combination with the 240 indicative hours course) through institutional-based delivery.

This course would be available only to students who were currently entered in, or have completed, the 240 indicative hours course with an enrolment in a Certificate II qualification.

The qualification outcome for the Extension course would be either a Statement of Attainment towards Certificate III in Electrotechnology Electrician or Certificate III in Electrical Fitting. Students would undertake two units of competency – UEENEEG101A Solve problems in electromagnetic devices and related circuits and UEENEEG106A Terminate cables, cords and accessories for low voltage circuits.

Respondents were asked to comment on the appropriateness of the proposed Extension course. Comments included:

*Extension course must be kept as TAFE [Gymea] has strong interest from students and would not like to lose these students.*
Video/telephone conference E1

*Completion of this unit [UEENEEG101A] would allow for easier integration as a Stage 2 apprentice if commenced on completion of their HSC.*
Survey E5

*Don’t support non-SBA students in the Extension course especially with no additional work placement requirement.*
Video/telephone conference E6

*Certificate III pathway options should not be available to non school-based apprentices or trainees because they would be disadvantaged when seeking employment. Employers would not want to hire students who held units of competency from Certificate III if they had not undertaken adequate work placement and 70 hours is not enough.*
Meeting E8

*Certificate III options should be available for non school-based apprentices but there must be extra work placement for these students as they will be up against students who have had experience in the industry as school-based apprentices when it comes to getting a job.*
Video/telephone conference E9

As a result of consultation and feedback from the ICC, the Extension course has been removed from the revised Electrotechnology Curriculum Framework.

**HSC work placement requirements**

Minimum mandatory work placement hours were proposed for each of the HSC courses. Stakeholders were asked to comment on the appropriateness of the proposed mandatory work placement requirements.

The proposed hours for HSC work placement requirements received mixed support. Stakeholders mostly agreed with the work placement hours for both the Electrotechnology (120 indicative hours)
course and Electrotechnology (240 indicative hours) course. Respondents were divided on whether additional work placement hours should be allocated to the Specialisation Study and Extension courses.

Comments included:

‘Great way to contextualise work …’
Survey E2

We are supportive of work placement. Many dedicated students actually seek more hours.
Video/telephone conference E3

For the extension course, if a work placement was added, it should be noted that it would be difficult to source work placements related to UEENEEG101A Solve problems in electromagnetic devices and related circuits. Predominate application is in motor rewind shops. Tend to use simulation within the class environment/workshop.
Video/telephone conference E3

‘… students should undertake additional work placement hours during school holidays. Realistically they need more than 35 hours work placement per 120 indicative hours.’
Survey E5

Like the idea of no extra hours of work placement for Specialisation Study courses. Although employers are slowly coming on board it is still difficult to get them.
Video/telephone conference E6

Agree with the ‘no additional work placement hours’ for specialisation study courses as it is very difficult to get employers already.
Meeting E8

The ICC considered the proposed HSC minimum work placement hours and supported the requirements as presented. No additional hours were allocated to the Specialisation Study courses. (The Extension course has been removed from the revised Framework.)

**New format for Stage 6 VET Curriculum Framework syllabuses**

**Proposed HSC Content for Electrotechnology**

A new format is now being used to describe HSC Content on which the HSC VET examinations are based.

It was proposed that the HSC Content for Electrotechnology be organised into six focus areas. Each focus area would prescribe the scope of learning for the HSC drawn from associated unit(s) of competency. Students undertaking the Electrotechnology (240 indicative hours) course would be required to address all focus areas.

Respondents were asked to comment on the proposed focus areas and associated unit(s).

Comments included:

Agree with the focus area names.
Video/telephone conference E6
Like the new format.
Video/telephone conference E6

The new syllabus format is good and easy to read.
Video/telephone conference E9

‘The organisation of the course into 6 focus areas is welcomed as it provides a clearer mode for implementing the industry developed units of competency into a HSC course. This combined with the new format adopted … should be well received by teachers …’
Written response E15

Proposed Electrotechnology HSC examination specifications

The Electrotechnology HSC examination would be based on the HSC Content and employability skills for the Certificate II qualifications in the Framework. The examinable outcomes and content would be detailed in the syllabus.

It was proposed that the HSC examination specifications would remain the same as the current format, consisting of a two-hour written paper with four sections:

- objective response questions (15 marks)
- short-answer questions (35 marks)
- one extended response question (15 marks)
- one structured extended response question (15 marks).

Respondents were asked to comment on the proposed Electrotechnology examination specifications. No comments were made.

Other comments/suggestions regarding the draft revised Stage 6 Electrotechnology Curriculum Framework

Comments included:

“Overall, in terms of content, structure and curriculum focus areas, I can see no problem in the delivery of this BOS TVET course as it aligns with the Certificate II qualification and the intent and purposes of the ISC (EE-Oz Training Standards). There are a great range of opportunities to offer students under this new BOS Curriculum Framework than there were in the UEE07 version. This may allow us to offer a greater range of specialisation areas to schools.”
Written response E13
## Issues raised in consultation and response/actions taken

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<tr>
<td>AQF VET qualifications proposed for inclusion in the Framework</td>
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| Certificate III courses designed for apprentices are not suitable for students not in a school-based apprenticeship. The workplace evidence will usually not be sufficient to determine competence. Enrolment of school students in Certificate III courses may have two undesirable outcomes:  
  • when an RTO cannot assess competence, students are rightly disappointed  
  • should an RTO assess competence without sufficient evidence, other RTOs and employers will have no confidence in the assessment. | E4, E14 | The Certificate III pathways included in the revised Framework will be available only for school-based apprentices.  
Competency-based progression is not currently within the award for this industry. The Industry Skills Council (ISC) EE-Oz has commenced the Managing Apprentice Progression Project with the aim of supporting apprentice competency-based progression and ensure confidence in outcomes. Details of the project are available at [www.ee-oz.com.au](http://www.ee-oz.com.au). |
| Concern regarding availability of Statement of Attainment towards Certificate III. From my understanding, industry does not want students to go beyond Certificate II (based on industrial awards). | E2     |                                                                                                                                                                                                             |
| Electrotechnology (240 indicative hours) course                       |        |                                                                                                                                                                                                             |
| ➢ HSC mandatory units of competency                                  |        |                                                                                                                                                                                                             |
| HSC indicative hours allocated to UEENE EEEE104A *Solve problems in d.c. circuits* are too low.  
50 HSC indicative hours does not reflect the rigour of the underpinning knowledge. Students being set up to fail. | E1     | The HSC indicative hours assigned to each unit of competency recognise the level and standard of the unit of competency including the depth of content.  
As a result of consultation and advice from the ICC, the HSC indicative hours allocated to UEENE EEEE104A *Solve problems in d.c. circuits* have been increased from 50 to 60. |
| 30 HSC indicative hours allocated to UEENE EEEE102A *Fabricate, assemble and dismantle utilities industry components* are too low. | E3     | The ICC confirmed the HSC indicative hours allocated to UEENE EEEE102A *Fabricate, assemble and dismantle utilities industry components* are appropriate. |
| UEENE EEEK142A *Apply environmentally and sustainable procedures in the energy sector* may be a difficult challenge for students as they are not working in the industry. Energy auditing, managing energy use and sustainable products requires in-depth understanding of the industry. | E3, E5 | The ICC supported the inclusion of UEENE EEEK142A *Apply environmentally and sustainable procedures in the energy sector* as a mandatory unit of competency for the HSC 240-hour course, noting:  
• it is a core unit of competency for all qualifications available in the revised Framework |
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| Potential unit of competency to be a focus for students while on work placement. | E11    | • it is appropriate for study by school students  
• it is able to be achieved by students within the likely VET course delivery and work placement arrangements available  
• resources are currently being developed for this unit by TAFE NSW. |
| UEEEEE107A Use drawings, diagrams, schedules, standards, codes and specifications and UEEEEK142A Apply environmentally and sustainable procedures in the energy sector should not be included as they are from Certificate III Electrical Stage 1 Semester 2 program. This course should only contribute to Certificate III Electrical Stage 1 Semester 1 program. | E12    | Inclusion of UEEEEE107A Use drawings, diagrams, schedules, standards, codes and specifications should be included as an elective for the HSC, not mandatory.  
• it is a core unit of competency for two of the five Certificate II and all three Certificate III pathways available through the revised Framework  
• the unit represents how electricians ‘communicate’ with each other  
• it is appropriate for study by school students  
• it is able to be achieved within the likely VET course delivery and work placement arrangement available  
• it provides depth and rigour to the course. |
| The mandatory core is too big. As the students are not working full-time in the industry they will need additional time to adequately cover the content and achieve competence. | E12    | The HSC mandatory units of competency are expected learning for the industry. The ICC confirmed the suitability of the suite of mandatory units and the allocation of HSC indicative hours. |
| Include units of competency to cover:  
• Senior first aid certificate  
• Induction WorkCover card. | E2     | The following units of competency are available as HSC elective units of competency in the revised Framework:  
• CPCCOHS1001A Work safely in the construction industry  
• HLTCPR211A Perform CPR  
• HLTFA311A Apply first aid.  
The construction induction certificate (CIC card) will be issued by WorkCover NSW upon provision of evidence from an RTO that competence has been achieved in CPCCOHS1001A. |

**HSC elective units of competency**

How does the Board select electives? | E1     | The HSC elective pool for a Framework contains units of competency from the targeted qualifications considered suitable for inclusion.  
HSC elective units of competency need to be:
<table>
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<th>ISSUE</th>
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<tbody>
<tr>
<td>The project team responsible for the development of the Framework</td>
<td></td>
<td>seeks advice from stakeholders during the development of the consultation scoping paper and draft syllabus regarding the appropriateness of the units of competency.</td>
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<tr>
<td>For the Electrotechnology Curriculum Framework, it also needed to be</td>
<td></td>
<td>determined which units of competency are:</td>
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<tr>
<td>suitable for any student undertaking courses from the Framework</td>
<td></td>
<td>suitable only for students undertaking a school-based traineeship (Certificate II)</td>
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<tr>
<td>suitable only for students undertaking a school-based apprenticeship</td>
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<td>(Certificate III).</td>
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<tr>
<td>Query suitability of UEENEEG106A Terminate cables, cords and accessories for low voltage circuits:</td>
<td></td>
<td>With appropriate teaching and learning strategies, the ICC was supportive of the inclusion of UEENEEG106A Terminate cables, cords and accessories for low voltage circuits and UEENEEP024A Attach cords and plugs to electrical equipment for connection to single phase 230 Volt supply as electives in the HSC course.</td>
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<tr>
<td>• current practice [in TAFE NSW] is that we don’t teach terminate (connect up) for low voltage circuits (ie anything above 50V a.c. and 120V d.c.) due to potential danger</td>
<td>E3, E5</td>
<td>UEENEEG106A Terminate cables, cords and accessories for low voltage circuits is only available to students undertaking a school-based apprenticeship.</td>
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<tr>
<td>• if students are taught to wire up lighting and power circuits there is the potential that they will try at home without supervision</td>
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<tr>
<td>• the theory of how circuits work is OK and is taught through other units of competency – the actual physical task of wiring (terminate) is not done. Only school-based trainees and/or apprentices should undertake this unit which requires the reinforcement of direct workplace supervision.</td>
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<tr>
<td>Query suitability of UEENEEP024A Attach cords and plugs to electrical equipment for connection to single phase 230 Volt supply due to potential danger (similar reasons to that noted above).</td>
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</tr>
<tr>
<td>UEENEEJ103A Establish the basic operating conditions of vapour compression systems should only be available for school-based trainees and/or apprentices.</td>
<td>E7</td>
<td>The ICC was supportive of UEENEEJ103A Establish the basic operating conditions of vapour compression systems being available as an HSC elective for all students, not just school-based apprentices/trainees (SBA/Ts).</td>
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<td>ISSUE</td>
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<tr>
<td>Do not support the inclusion of any Certificate III units of competency for non school-based apprentices or trainees.</td>
<td>E8</td>
<td>Any unit of competency included in the revised Framework specific to Certificate III – ie not listed in the qualification packaging rules for any of the Certificate II qualifications – is available only to SBAs. (Refer to the Syllabus, Table 5, Additional units of competency for school-based apprentices.)</td>
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<td>Electrotechnology Extension (60 indicative hours) course</td>
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<td>Don’t support non-SBA students doing equivalent of Stage 1/Year 1. Industry would not treat students favourably post-school if they had completed this course without having undertaken it as part of a school-based apprenticeship. Certificate III pathway options should not be available to non school-based apprentices or trainees because they would be disadvantaged when seeking employment. Employers would not want to hire students who held units of competency from Certificate III if they had not undertaken adequate work placement.</td>
<td>E6, E8, E11</td>
<td>As a result of consultation and discussion at the ICC, the proposed Electrotechnology Extension (60 indicative hours) course containing UEENEG101A Solve problems in electromagnetic devices and related circuits and UEENEG106A Terminate cables, cords and accessories for low voltage circuits has been removed from the revised Framework. It was determined that significant time in the workplace (such as the on-the-job requirement of an SBA) is required to provide the necessary evidence to be deemed competent in these units. UEENEG101A Solve problems in electromagnetic devices and related circuits and UEENEG106A Terminate cables, cords and accessories for low voltage circuits will still be available in the revised Framework as HSC electives for students undertaking an SBA.</td>
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<tr>
<td>Proposed mandatory work placement requirements</td>
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<td>Students need more than 35 hours work placement per 120 indicative hours.</td>
<td>E5</td>
<td>The ICC considered the HSC minimum work placement hours and supported the requirements as presented.</td>
</tr>
<tr>
<td>It will be difficult to collect adequate workplace evidence to sign-off students as competent against some of the units of competency with only 70 hours of work placement.</td>
<td>E12</td>
<td>No additional hours were allocated to the Specialisation Study courses.</td>
</tr>
<tr>
<td>There must be additional work placement for students undertaking the Extension course. If students can attain Stage 1 Certificate III equivalent, then this should be supported by a similar amount of workplace time.</td>
<td>E9, E11, E14</td>
<td>As a result of consultation and advice from the ICC, the proposed Extension course has been removed from the revised Framework.</td>
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<td>ISSUE</td>
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<tr>
<td><strong>Other</strong></td>
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<td><strong>Implementation</strong></td>
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<td>If students don’t ‘pass’ a unit of competency [ie they are not deemed competent] they cannot continue with the course. How does a student continue in the course if they don’t achieve competence in prerequisite units of competency?</td>
<td>E1</td>
<td>The HSC VET industry curriculum frameworks are based on units of competency and qualifications contained in nationally endorsed Training Packages and provide students with dual accreditation. Students can get HSC unit credit as well as AQF VET qualifications. The HSC course requirements outline the requirements for students to gain HSC unit credit that contribute towards their HSC pattern of study. The qualification packaging rules describe the number and range of units of competency required for eligibility for an AQF VET. The requirements for the completion of an HSC VET course are different to the requirements for AQF VET qualification completion. For a student to be considered to have satisfactorily completed a course within the Electrotechnology Curriculum Framework they must meet the: • HSC VET course requirements (refer to Section 2 of the syllabus) • requirements for satisfactory course completion (refer to the Board’s Assessment Certification Examination (ACE) website) – there must be sufficient evidence that the student has: − followed the course developed by the Board − applied themselves with diligence and sustained effort to the set tasks and experiences provided in the course − achieved some or all of the course outcomes − undertaken the mandatory work placement.</td>
</tr>
<tr>
<td>What do indicative hours mean? They don’t match with nominal hours. Indicative hours are now used by some institutions for funding purposes for delivery. If this is correct, then the hours are too low. If HSC indicative hours are not intended to be used for funding then this should be made clear to RTO coordinators.</td>
<td>E1 E11</td>
<td>HSC indicative hours have a different purpose to nominal hours or delivery hours so are not necessarily the same. Units of competency drawn from Training Packages are not defined in terms of duration. The amount of time required by individual students to achieve competency will vary according to their aptitude and experience. Where a training program is designed for delivery by an RTO, the RTO will specify the length of the training program according to the delivery strategies</td>
</tr>
</tbody>
</table>
For the purposes of the HSC, courses must be described in terms of their HSC indicative hours. For this reason, HSC indicative hours for unit credit towards the HSC have been assigned to each unit of competency within the Electrotechnology Curriculum Framework. The HSC indicative hours recognise the level and standard of the unit of competency including the depth of content. It is emphasised that the assignment of HSC indicative hours does not imply that all students will fulfil all requirements of a unit of competency within these hours. RTOs may determine that additional or fewer hours are required for the achievement of particular competencies. However, this does not alter the HSC indicative hours allocated, only the delivery hours. It is likely that students will need to spend additional time practising skills in a work environment or simulated work environment and in completing projects and assignments in order to fulfil Training Package assessment requirements.

<table>
<thead>
<tr>
<th>ISSUE</th>
<th>SOURCE</th>
<th>ACTION/RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>How much of a 240-hour course is required to be ‘face-to-face’?</td>
<td>E1</td>
<td>The RTO responsible for delivery can provide advice to teachers/trainers regarding the requirements for training and assessment of HSC VET courses. The Board’s Assessment Certification Examination (ACE) website provides information to principals, teachers, parents and students about the rules and procedures set by the Board of Studies for secondary education in New South Wales.</td>
</tr>
<tr>
<td><strong>Workplace experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A TAFE institute requires actual on-the-job work performance (as opposed to simulated work performance) for many units of competency in the UEE11 Training Package.</td>
<td>E14</td>
<td>The RTO is responsible for designing a program to meet course requirements. The work placement component of the HSC course provides an opportunity for the collection of evidence of work performance.</td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not aware of the syllabus consultation. Communication channels through the Industry Curriculum Committee (ICC) and school systems don’t appear to be working.</td>
<td>E8</td>
<td>A communication strategy was discussed and implemented by ICC members prior to the second phase of consultation on the final draft syllabus in October.</td>
</tr>
</tbody>
</table>
Appendix 1 – Profile of consultation responses

A1 Profile of consultation participants

A1.1 Face-to-face meeting participants
The Board conducted a consultation workshop at the NSW Utilities & Electrotechnology Industry Training Advisory Body 2012 Annual Conference in Port Stephens on the 6 August. Participant profiles are as follows:

<table>
<thead>
<tr>
<th>Total participants</th>
<th>31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney metro</td>
<td>26</td>
</tr>
<tr>
<td>Regional</td>
<td>5</td>
</tr>
<tr>
<td>Government school</td>
<td>0</td>
</tr>
<tr>
<td>Non-government school</td>
<td>0</td>
</tr>
<tr>
<td>TAFE NSW</td>
<td>21</td>
</tr>
<tr>
<td>School system</td>
<td>0</td>
</tr>
<tr>
<td>State Training Services</td>
<td>2</td>
</tr>
<tr>
<td>Industry</td>
<td>6</td>
</tr>
<tr>
<td>Registered training organisation (RTO)</td>
<td>2</td>
</tr>
</tbody>
</table>

A1.2 Video/telephone conference participants
Three video/telephone conferences were conducted. Participant profiles are as follows:

<table>
<thead>
<tr>
<th>Total participants</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney metro</td>
<td>3</td>
</tr>
<tr>
<td>Regional</td>
<td>5</td>
</tr>
<tr>
<td>Government school</td>
<td>0</td>
</tr>
<tr>
<td>Non-government school</td>
<td>2</td>
</tr>
<tr>
<td>TAFE NSW</td>
<td>2</td>
</tr>
<tr>
<td>School system</td>
<td>4</td>
</tr>
</tbody>
</table>

A2 Profile of survey responses
Six responses to the Electrotechnology consultation survey were received by 17 August 2012.

A2.1 Individual survey responses
There were five individual responses – three from TAFE NSW, one from a school, one from an RTO and one from industry. There was one group response from non-government school teachers.

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1 Four video/telephone conferences were scheduled. One was cancelled as no registrations were received.
A3 Quantitative analysis of survey responses

A3.1 HSC mandatory units of competency for the 240 indicative hours course

Respondents were asked to indicate the appropriateness of the proposed mandatory units of competency to be studied by all students.

(a) UEEEEE101A  Apply Occupational Health and Safety regulations, codes and practices in the workplace

<table>
<thead>
<tr>
<th>Include</th>
<th>Unsure</th>
<th>Not include</th>
<th>Nil response</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

(b) UEEEEE102A  Fabricate, assemble and dismantle utilities industry components

<table>
<thead>
<tr>
<th>Include</th>
<th>Unsure</th>
<th>Not include</th>
<th>Nil response</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

(c) UEEEEE104A  Solve problems in d.c. circuits

<table>
<thead>
<tr>
<th>Include</th>
<th>Unsure</th>
<th>Not include</th>
<th>Nil response</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

(d) UEEEEE105A  Fix and secure electrotechnology equipment

<table>
<thead>
<tr>
<th>Include</th>
<th>Unsure</th>
<th>Not include</th>
<th>Nil response</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

(e) UEEEEE107A  Use drawings, diagrams, schedules, standards, codes and specifications

<table>
<thead>
<tr>
<th>Include</th>
<th>Unsure</th>
<th>Not include</th>
<th>Nil response</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

(f) UEEEEE148A  Carry out routine work activities in an energy sector environment

<table>
<thead>
<tr>
<th>Include</th>
<th>Unsure</th>
<th>Not include</th>
<th>Nil response</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

(g) UEEEEEK142A Apply environmentally and sustainable procedures in the energy sector

<table>
<thead>
<tr>
<th>Include</th>
<th>Unsure</th>
<th>Not include</th>
<th>Nil response</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
A3.2 Work placement

(a) The minimum work placement (35 hours) assigned to the Electrotechnology Curriculum Framework 120 HSC indicative hours course is appropriate.

<table>
<thead>
<tr>
<th>Agree</th>
<th>Unsure</th>
<th>Disagree</th>
<th>Nil response</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

(b) The minimum work placement (70 hours) assigned to the Electrotechnology Curriculum Framework 240 HSC indicative hours course is appropriate.

<table>
<thead>
<tr>
<th>Agree</th>
<th>Unsure</th>
<th>Disagree</th>
<th>Nil response</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

(c) No additional hours assigned to the Electrotechnology Specialisation Study (60 indicative hours) course is appropriate.

<table>
<thead>
<tr>
<th>Agree</th>
<th>Unsure</th>
<th>Disagree</th>
<th>Nil response</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

(d) No additional hours assigned to the Electrotechnology Specialisation Study (120 indicative hours) course is appropriate.

<table>
<thead>
<tr>
<th>Agree</th>
<th>Unsure</th>
<th>Disagree</th>
<th>Nil response</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

(e) No additional hours assigned to the Electrotechnology Extension Course (60 indicative hours) course is appropriate.

<table>
<thead>
<tr>
<th>Agree</th>
<th>Unsure</th>
<th>Disagree</th>
<th>Nil response</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
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