



Stage 6 Syllabus

Information Technology Curriculum Framework

Part A

Course Structures and Requirements

for implementation from 2007

Information Technology (120 indicative hours)
Information Technology (240 indicative hours)
Information Technology Specialisation Study
(60 or 120 or 180 or 240 indicative hours)

2006

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Contents

1	Introduction to Industry Curriculum Frameworks.....	5
2	Documents Associated with Industry Curriculum Frameworks	6
	2.1 Industry Curriculum Framework documents.....	6
3	The Higher School Certificate Program of Study.....	7
4	Vocational Education and Training (VET) in the NSW HSC	8
	4.1 The national context	8
	4.2 Determination of AQF VET qualifications for HSC students.....	8
5	Rationale	9
6	Aim	10
7	Information Technology Curriculum Framework	11
	7.1 Training Package qualifications	11
	7.2 AQF VET qualifications available in the Information Technology Curriculum Framework	11
8	Course Structures.....	13
	8.1 Courses within the Information Technology Curriculum Framework	13
	8.1.1 The selection of units of competency	13
	8.2 Allocation of HSC indicative hours of credit.....	14
	8.3 Prerequisites within the Information and Communications Technology Training Package (ICA05)	14
	8.4 Recognition of Prior Learning (RPL).....	15
	8.5 Information Technology (120 indicative hours).....	16
	8.6 Information Technology (240 indicative hours).....	18
	8.7 Information Technology Specialisation Study (60 or 120 or 180 or 240 indicative hours).....	21
9	Outcomes and Content.....	25
	9.1 Units of competency.....	25
	9.2 Course delivery.....	25
10	Work Placement.....	27
	10.1 Work placement requirements.....	27
	10.2 Part-time work	28
11	Assessment Requirements and Advice	29
	11.1 Competency-based assessment.....	29
	11.2 HSC examination: Information Technology	29
	11.3 Examinable outcomes and content	29
12	HSC Requirements and Certification	31
	12.1 Course completion requirements	31
	12.2 Preliminary and HSC unit credit	31
	12.3 Reporting achievement in the HSC	31

13	Other Information	32
13.1	Providing for all students.....	32
13.1.1	Students with special education needs.....	32
13.1.2	Gender and cultural considerations.....	33
13.1.3	Part-time school-based trainees	33
13.2	Key competencies.....	33
13.3	Articulation to further training	34
14	AQF VET Qualifications	35
15	Minimum Requirements for AQF VET Qualifications	37
	ICA20105 Certificate II in Information Technology.....	37
	ICA30105 Certificate III in Information Technology	40
	Table 5 Status of units of competency from the HSC courses for the AQF VET qualifications in the Framework.....	44
16	Glossary	47

1 Introduction to Industry Curriculum Frameworks

Industry curriculum frameworks give students the opportunity to gain credit towards the NSW Higher School Certificate (HSC) and credit towards national vocational qualifications under the Australian Qualifications Framework (AQF).

Industry curriculum frameworks are based on nationally endorsed Training Packages. They specify the range of industry-developed units of competency from the relevant Training Packages that are suitable for the HSC. They also define how units of competency are arranged in HSC Vocational Education and Training (VET) courses to gain unit credit for the HSC.

This Industry Curriculum Framework document contains the HSC Information Technology VET courses to be delivered for the HSC by schools, TAFE NSW colleges and other Registered Training Organisations (RTOs) on behalf of schools or TAFE NSW colleges.

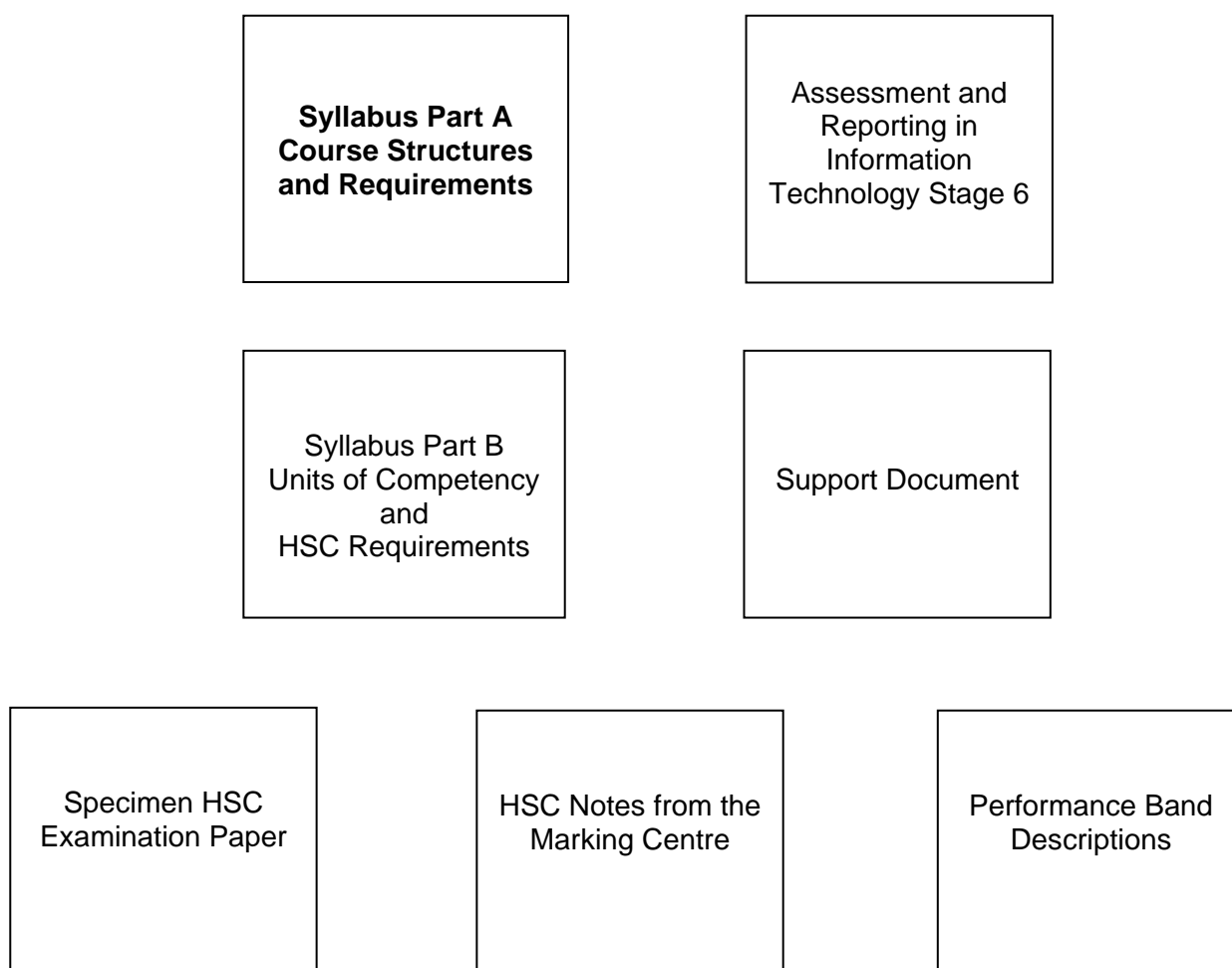
2 Documents Associated with Industry Curriculum Frameworks

The purpose of the industry curriculum framework documents is to assist teachers and trainers to develop teaching and assessment programs, and to help manage competency achievement by HSC candidates.

Part A of the *Information Technology Curriculum Framework Stage 6 Syllabus* describes how students may achieve unit credit towards the HSC and credit towards a vocational qualification. It contains general advice about the Information Technology Curriculum Framework and describes course structures and requirements, including work placement. This document should be used as the first reference when planning to implement courses for the HSC.

The set of documents associated with the Framework is shown below.

2.1 Industry Curriculum Framework documents



3 The Higher School Certificate Program of Study

The purpose of the HSC program of study is to:

- provide a curriculum structure which encourages students to complete secondary education
- foster the intellectual, social and moral development of students, in particular developing their:
 - knowledge, skills, understanding and attitudes in the fields of study they choose
 - capacity to manage their own learning
 - desire to continue learning in formal or informal settings after school
 - capacity to work with others
 - respect for the cultural diversity of Australian society
- provide a flexible structure within which students can prepare for:
 - further education and training
 - employment
 - full and active participation as citizens
- provide formal assessment and certification of students' achievements
- provide a context within which schools also have the opportunity to foster students' physical and spiritual development.

4 Vocational Education and Training (VET) in the NSW HSC

4.1 The national context

VET programs offered for the HSC are consistent with the National Training Framework (NTF). The NTF is the system of vocational education and training that:

- applies nationally
- is made up of the Australian Quality Training Framework (AQTF) and nationally endorsed Training Packages. The AQTF is the agreed quality framework for the national VET system.

The Australian Qualifications Framework (AQF) is the policy framework that defines all qualifications recognised nationally in post-compulsory education and training in Australia. VET qualifications achieved through HSC VET courses are recognised within the AQF.

4.2 Determination of AQF VET qualifications for HSC students

The HSC VET industry curriculum frameworks are based on units of competency and qualifications contained in nationally endorsed Training Packages. These AQF VET qualifications are determined by the qualification rules for each Training Package, referred to as *qualification packaging rules*. The qualification packaging rules describe the number and range of units of competency required for eligibility for an AQF VET qualification.

Course structures for the HSC are described in each VET industry curriculum framework syllabus. In order to have satisfactorily completed a framework course, students must follow the course structure, attempt the required units of competency with diligence and sustained effort, and fulfil work placement requirements.

The rules and structure of HSC VET courses are not always identical to the qualification packaging rules. In some cases more units of competency are required for the HSC course than are required for successful completion of the AQF VET qualification.

In some HSC courses, students might not achieve all of the units of competency specified for the HSC, but may still be eligible for the AQF VET qualification as a result of meeting the requirements of the packaging rules for that qualification.

Sections 8.5, 8.6 and 8.7 outline the Information Technology course structures within the Information Technology Curriculum Framework.

Section 15 outlines the qualification packaging rules for each AQF VET qualification available through the Information Technology Curriculum Framework (reproduced directly from the Training Package) and should be consulted when selecting specialisation study units of competency.

5 Rationale

ICT has become truly ‘all pervasive’ and is fast becoming the ‘new literacy’ as ICT competencies are increasingly necessary for profitability in business and survival in society. ... The ICT workforce falls into two broad categories: the ICT specialist and the ICT user ... ICT underpins all Australian industries and helps businesses and individuals achieve national objectives, including:

- progress towards a knowledge-based nation
- innovation and education as economic drivers
- enhanced employability through transferable knowledge and skills
- access to and use of the information economy
- ICT resources pool to underpin a strong, vibrant ICT industry.¹

The Information and Communications Technology Training Package (ICA05) offers AQF VET qualifications from Certificate I to Advanced Diploma and specifies the competencies required for various specialised occupations. These include Database Design and Development, Multimedia, Network Security, Networking, Programming, Project Management, Software Development, Support, System Analysis and Design, Systems Administration, Testing, Website Development and Websites. The Information Technology Curriculum Framework is based on units of competency from this Training Package.

Courses within the Information Technology Curriculum Framework provide an opportunity for students to gain Certificates II and III in Information Technology as part of their HSC. Apart from being nationally recognised, these AQF VET qualifications articulate into higher-level qualifications in ICT which students may pursue post-school.

Certificate II provides foundation general computing and employment skills that enable participation in an information technology environment in any industry. Certificate III provides the skills and knowledge for an individual to be competent in introductory ICT ‘technical’ functions. It is designed to support information activities in the workplace and to achieve a degree of self-sufficiency as an advanced ICT ‘user’, giving employees a degree of confidence in an individual’s usefulness in the workplace. The inclusion of courses in information technology in the HSC based on industry-recognised AQF VET qualifications will allow students to access both long-term and short-term employment opportunities.

The Framework also provides an optional HSC examination, which allows results from the course Information Technology (240 indicative hours), to contribute to the calculation of the Australian Tertiary Admission Rank (ATAR).

Learning in each HSC Information Technology course within the Framework provides opportunities for students to develop relevant technical, vocational and interpersonal competencies suitable for employment and further training in ICT. It also provides skills, knowledge and experiences – such as teamwork, communication and occupational health and safety – that are transferable to other industry areas.

¹ DEST, 2005, *Information and Communications Technology Training Package (ICA05) Volume 1 Section 1.1*, pp1-2 & 1-13.

6 Aim

The Information Technology Curriculum Framework is designed to enable students to acquire a range of technical, practical, personal and organisational skills valued both within and beyond the workplace. They will also acquire underpinning skills and knowledge related to work, employment and further training within the information and communications technology industry. Through the study of this subject, students will gain experiences that can be applied to a range of contexts, including work, study and leisure and that will assist them to make informed career choices.

7 Information Technology Curriculum Framework

7.1 Training Package qualifications

The Information Technology Curriculum Framework is based on the national Information and Communications Technology Training Package (ICA05).

The Information and Communications Technology Training Package incorporates six nationally recognised qualification levels ranging from AQF Certificate I in Information Technology to an Advanced Diploma of Information Technology.

7.2 AQF VET qualifications available in the Information Technology Curriculum Framework

The AQF VET qualifications available in the Information Technology Curriculum Framework are listed in Table 1 below. Section 15 of this document outlines the qualification packaging rules for the qualifications available through courses within the Framework.

A Statement of Attainment will be issued for achievement of single or multiple units of competency. At a later date, a person can undertake further skill development or training and be assessed against additional competencies until they have achieved all the competencies required for an AQF VET qualification. Registered Training Organisations (RTOs) must recognise and give credit for the competencies recorded on a Statement of Attainment.

Table 1

Qualifications available within the Information Technology and Communications Training Package (ICA05)		Qualifications available within the Information Technology Curriculum Framework	
<i>National code</i>	<i>Qualification name</i>	<i>Certificate</i>	<i>Statement of Attainment</i>
ICA10105	Certificate I in Information Technology	-	-
ICA20105	Certificate II in Information Technology	✓	✓
ICA30105	Certificate III in Information Technology	✓	✓
ICA40105	Certificate IV in Information Technology (General)	-	-
ICA40205	Certificate IV in Information Technology (Support)	-	-
ICA40305	Certificate IV in Information Technology (Websites)	-	-
ICA40405	Certificate IV in Information Technology (Networking)	-	-
ICA40505	Certificate IV in Information Technology (Programming)	-	-
ICA40605	Certificate IV in Information Technology (Testing)	-	-
ICA40705	Certificate IV in Information Technology (Systems Analysis and Design)	-	-
ICA40805	Certificate IV in Information Technology (Multimedia)	-	-
ICA50105	Diploma of Information Technology (General)	-	-
ICA50205	Diploma of Information Technology (Project Management)	-	-

Qualifications available within the Information Technology and Communications Training Package (ICA05)		Qualifications available within the Information Technology Curriculum Framework	
<i>National code</i>	<i>Qualification name</i>	<i>Certificate</i>	<i>Statement of Attainment</i>
ICA50305	Diploma of Information Technology (Systems Administration)	-	-
ICA50405	Diploma of Information Technology (Networking)	-	-
ICA50505	Diploma of Information Technology (Database Design and Development)	-	-
ICA50605	Diploma of Information Technology (Website Development)	-	-
ICA50705	Diploma of Information Technology (Software Development)	-	-
ICA50805	Diploma of Information Technology (Systems Analysis and Design)	-	-
ICA50905	Diploma of Information Technology (Multimedia)	-	-
ICA60105	Advanced Diploma of Information Technology	-	-
ICA60205	Advanced Diploma of Information Technology (Network Security)	-	-

8 Course Structures

8.1 Courses within the Information Technology Curriculum Framework

An industry curriculum framework describes the units of competency that have been identified as being suitable for the purposes of the HSC. Units of competency in the Information Technology Curriculum Framework are detailed in **Sections 8.5, 8.6 and 8.7**.

Each course in a framework describes how the available units of competency can be grouped to gain units of credit towards the HSC.

The Information Technology Curriculum Framework contains the following courses:

- Information Technology (120 indicative hours)
- Information Technology (240 indicative hours)
- Information Technology Specialisation Study (60 or 120 or 180 or 240 indicative hours).

The maximum number of Preliminary and/or HSC units available from this Framework is eight units. That is, courses can total up to 480 hours. In addition to courses within the Framework students may undertake locally designed Board Endorsed VET courses drawing from the Information and Communications Technology Training Package (ICA05). Such courses may provide additional HSC credit for students.

Compulsory units of competency are those that all students must attempt in their study of the HSC course (refer to Section 8, Tables 2 and 3). **Core** units of competency are those required by the Information and Communications Technology Training Package for a student to be eligible for the vocational qualification (refer to Section 15).

8.1.1 The selection of units of competency

Units of competency should be selected within course structures to maximise students' eligibility for AQF VET qualifications. **Section 15** provides the qualification packaging rules for the qualifications available through the Information Technology Curriculum Framework (reproduced directly from the Training Package). **Table 5** (pp 44–46) lists the status of each unit of competency in relation to the qualifications. This information should be consulted when selecting units of competency for a specialisation study.

As some units of competency in the Information Technology Curriculum Framework have been imported from other national Training Packages it is important that teachers are aware of all VET courses students are studying to ensure that they do not complete the same unit of competency in another VET course. The other Training Packages include Business Services (BSB01), Printing and Graphic Arts (ICP05) and Telecommunications (ICT02).

An integrated or holistic approach to course delivery should be adopted. Examples of integrated approaches to programming and assessment strategies, as well as advice on curriculum materials that may be used to support the delivery of courses within the Information Technology Curriculum Framework, are contained in the *Information Technology Curriculum Framework Support Document* (www.boardofstudies.nsw.edu.au). This information is provided as a guide to RTOs delivering HSC courses within the Framework.

8.2 Allocation of HSC indicative hours of credit

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. When a training program is designed for delivery by an RTO, the RTO will determine the length of the training program according to the curriculum resources/delivery strategies chosen.

However, for the purposes of the HSC, courses must be described in terms of their indicative hours. For this reason, indicative hours for unit credit towards the HSC have been assigned to each unit of competency within the Framework. It is emphasised that the assignment of 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 indicative hours allocated, only the delivery hours. It is also expected that students will need to spend additional time practising skills in a work environment and in completing projects and assignments, in order to fulfil Training Package assessment requirements.

Tables 2, 3, and 4 (Section 8) list the indicative hours assigned to each unit of competency included in the Information Technology Curriculum Framework for the purpose of unit credit towards the HSC ².

8.3 Prerequisites within the Information and Communications Technology Training Package (ICA05)

The following advice is contained in the Information and Communications Technology Training Package (ICA05)³:

The nature of some ICT ‘technical’ units and qualifications in ICA05 are such that it would be unrealistic to expect an individual to even commence learning, let alone be successful in the subject unit, without some preexisting knowledge and skills. Many of the qualifications therefore show two types of prerequisites:

- those that are relevant to every qualification from Certificate III upwards (core units from Certificate II in Information Technology); and
- those that are ‘unit-specific’.

The competencies in ICA05 may be attained in a number of ways including through:

- formal or informal education and training
- experiences in the workplace
- general life experience, and/or
- any combination of the above.

² It is anticipated that students entering HSC courses within the Information Technology Curriculum Framework are likely to have current ICT knowledge, skills and experience relevant to units of competency within the HSC courses. It is for this reason, in particular, that five (5) indicative hours were allocated to each of the following units of competency: ICAU1128A *Operate a personal computer*, ICAU2005A *Operate computer hardware* and ICAU2006A *Operate computing packages*. For further advice regarding guidelines and procedures for recognition of prior learning (RPL) refer to Section 8.4 of this document; ANTA, 2005, *AQTF Standards for Registered Training Organisations*, Standard 8, p 10; and your school system/sector authority or RTO.

³ DEST, 2005, *Information and Communications Technology Training Package (ICA05) Volume 1 Section 1.4* pp 1-41, 1-47 Section 1.5 pp 1-121.

The following units of competency are prerequisites for all qualifications at Certificate III in Information Technology and above as they contain the basic fundamentals of ICT ‘foundation’ knowledge and skills:

BSBCMN106A	Follow workplace safety procedures
ICAU1128A	Operate a personal computer
ICAD2012A	Design organisational documents using computing packages
ICAU2005A	Operate computer hardware
ICAU2006A	Operate computing packages
ICAU2013A	Integrate commercial computing packages
ICAU2231A	Use computer operating system
ICAW2001A	Work effectively in an IT environment
ICAW2002A	Communicate in the workplace

Students must achieve these units of competency prior to commencing higher-level qualifications (ie Certificate III upwards).

Students must achieve a unit-specific prerequisite prior to attempting the higher order unit of competency.

8.4 Recognition of Prior Learning (RPL)

Competencies already held by individuals can be formally assessed against the units of competency in this Training Package, and should be recognised regardless of how, when or where they were achieved⁴.

Students undertaking HSC courses within the Information Technology Curriculum Framework are likely to have current ICT knowledge, skills and experience relevant to the units of competency within the courses. This may be particularly relevant to the core units from Certificate II in Information Technology (prerequisite units of competency for Certificate III in Information Technology – as listed above).

For RPL (assessment-only pathway) the student provides current, quality evidence of their competency against the relevant unit of competency. This evidence may take a variety of forms. **Where the outcomes of this process indicate that the student is competent, structured training is not required.**

⁴ DEST, 2005, *Information and Communications Technology Training Package (ICA05) Volume 1 Section 1.5* p 1-122.

8.5 Information Technology (120 indicative hours)

Purpose

The purpose of this course is to provide students with an opportunity to develop basic information and communications technology knowledge and skills.

Course structure

This course comprises ten compulsory units of competency.

Section 15 outlines the qualification packaging rules for each qualification available through the Information Technology Curriculum Framework.

120 indicative hour courses are accredited for a total of two units at the Preliminary and/or HSC level.

Course requirements

- Students must attempt **ALL** of the compulsory units of competency.
- Students must complete a minimum of 35 hours of mandatory work placement.

Table 2 Information Technology (120 indicative hours)

COMPULSORY Attempt ALL units			
Unit code	Unit title	Unit-specific prerequisite	HSC indicative hours of credit
BSBCM106A	Follow workplace safety procedures §	–	0
ICAU1128A	Operate a personal computer	–	5
ICAD2012A	Design organisational documents using computing packages	ICAU1128A #	20
ICAU2005A	Operate computer hardware	ICAU1128A #	5
ICAU2006A	Operate computing packages	–	5
ICAU2013A	Integrate commercial computing packages	ICAU1128A #	15
ICAU2231A	Use computer operating system	ICAU1128A #	15
ICAW2001A	Work effectively in an IT environment	–	20
ICAW2002A	Communicate in the workplace	–	15
ICAU3004A	Apply occupational health and safety procedures	–	20

§ The knowledge and skills required by BSBCM106A *Follow workplace safety procedures* have been incorporated into the HSC requirements and advice of ICAU3004A *Apply occupational health and safety procedures*. This unit should be assessed concurrently with ICAU3004A.

ICAU1128A *Operate a personal computer* is a unit-specific prerequisite. Students must have achieved this unit of competency prior to attempting the higher order unit of competency (refer to Sections 8.3 and 15).

Depending on the achievement of units of competency, the possible qualification outcome is:

- Statement of Attainment towards Certificate II in Information Technology (ICA20105).

AQF VET qualifications

To receive AQF VET qualifications, students must meet the assessment requirements of the Information and Communications Technology Training Package (ICA05). A qualified assessor must conduct the assessment.

Qualification packaging rules are in Section 15 of this document.

Further information on assessment is in Section 11 of this document and in the document *Assessment and Reporting in Information Technology Stage 6*.

8.6 Information Technology (240 indicative hours)

Purpose

The purpose of this course is to provide students with the opportunity to gain knowledge and skills to enable the individual to be an effective ICT user and/or employee.

Course structure

This course comprises 16 compulsory units of competency (including nine prerequisite units of competency for Certificate III in Information Technology upwards – refer to Section 8.3).

Section 15 outlines the qualification packaging rules for each qualification available through the Information Technology Curriculum Framework.

240 indicative hour courses are accredited for a total of four units at the Preliminary and/or HSC level.

Course requirements

- Students must attempt **ALL** of the compulsory units of competency.
- Students must complete a minimum of 70 hours of mandatory work placement.

An external written Higher School Certificate examination will be conducted for this course. This examination is optional. In the year they will complete the course, students will specify whether or not they choose to undertake the external written examination (refer to Sections 11.2 and 11.3).

<p>Only units of competency appearing in bold in Table 3 (next page) will be included in the optional HSC examination (refer to Section 11.3).</p>
--

Table 3 Information Technology (240 indicative hours)

COMPULSORY Attempt ALL units			
Unit code	Unit title	Unit-specific prerequisite	HSC indicative hours of credit
BSBCM106A	Follow workplace safety procedures * §	–	0
ICAU1128A	Operate a personal computer *	–	5
ICAD2012A	Design organisational documents using computing packages *	ICAU1128A #	20
ICAU2005A	Operate computer hardware *	ICAU1128A #	5
ICAU2006A	Operate computing packages *	–	5
ICAU2013A	Integrate commercial computing packages *	ICAU1128A #	15
ICAU2231A	Use computer operating system *	ICAU1128A #	15
ICAW2001A	Work effectively in an IT environment *	–	20
ICAW2002A	Communicate in the workplace *	–	15
ICAD3218A	Create user documentation	–	20
ICAI3020A	Install and optimise operating system software	–	20
ICAS3031A	Provide advice to clients	–	30
ICAS3234A	Care for computer hardware	–	20
ICAT3025A	Run standard diagnostic tests	–	10
ICAU3004A	Apply occupational health and safety procedures	–	20
ICAB4169A	Use development software and IT tools to build a basic website	–	20

* These units of competency are prerequisites for Certificate III in Information Technology. Students must have achieved these units of competency prior to attempting ICAB4169A *Use development software and IT tools to build a basic website* (an elective for Certificate III).

Please note, students are not required to achieve the prerequisites prior to attempting ICAD3218A, ICAI3020A, ICAS3031A, ICAS3234A, ICAT3025A and ICAU3004A as they are electives for Certificate II in Information Technology (as well as contributing to Certificate III). Refer to Sections 8.3 and 15.

§ The knowledge and skills required by BSBCM106A *Follow workplace safety procedures* (prerequisite for Certificate III in Information Technology) have been incorporated into the HSC requirements and advice of ICAU3004A *Apply occupational health and safety procedures*. This unit should be assessed concurrently with ICAU3004A.

ICAU1128A *Operate a personal computer* is a unit-specific prerequisite. Students must have achieved this unit of competency prior to attempting the higher order unit of competency (refer to Sections 8.3 and 15).

Depending on the achievement of units of competency, the possible qualification outcomes are:

- Certificate II in Information Technology (ICA20105)
- Statement of Attainment towards Certificate III in Information Technology (ICA30105).

AQF VET qualifications

To receive AQF VET qualifications, students must meet the assessment requirements of the Information and Communications Technology Training Package (ICA05). A qualified assessor must conduct the assessment.

Qualification packaging rules are in Section 15 of this document.

Further information on assessment is in Section 11 of this document and in the document *Assessment and Reporting in Information Technology Stage 6*.

8.7 Information Technology Specialisation Study (60 or 120 or 180 or 240 indicative hours)

Purpose

The purpose of the Specialisation Study is to provide students with the opportunity to gain further credit towards Certificate III. Depending on the selection and achievement of units of competency, students who undertake the Specialisation Study (180 or 240 indicative hours), the possible qualification outcome is Certificate III in Information Technology (Applications or Network Administration or Support).

This qualification provides the skills and knowledge for an individual to be competent in introductory ICT ‘technical’ functions, support information activities in the workplace and achieve a degree of self-sufficiency as an ICT ‘user’.

The Specialisation Study is available to all students undertaking Information Technology (240 indicative hours) but is intended specifically for students with particular interest in, and aptitude for, the industry.

The maximum number of Preliminary and/or HSC units available from this Framework is eight units. That is, courses can total up to 480 hours. In addition to courses within the Framework students may undertake locally designed Board Endorsed VET courses drawing from the Information and Communications Technology Training Package (ICA05). Such courses may provide additional HSC credit for students.

Before offering the Specialisation Study, schools should ensure that the RTO undertaking delivery has the scope to deliver the relevant qualification or relevant units of competency.

Course structure

The Specialisation Study consists of units of competency drawn from the pool of 29 Specialisation Study units of competency listed in Table 4.

Details of the units of competency listed in Table 4 are not included in Part B of the Syllabus. They are available in the Information and Communications Technology Training Package (ICA05) or at www.ntis.gov.au.

Section 15 provides the qualification packaging rules for the qualifications available through the Information Technology Curriculum Framework. Table 5 (pp 44–46) lists the status of each unit of competency in relation to the qualifications. This section should guide the selection of units of competency to meet qualification requirements. It is recommended that the combination of units of competency should be chosen to focus on an occupational outcome.

The Specialisation Study (60 indicative hours) course is accredited for a total of one unit at the Preliminary or HSC level. The Specialisation Study (120 indicative hours) course is accredited for a total of two units at the Preliminary and/or HSC level. The Specialisation Study (180 indicative hours) course is accredited for a total of three units at Preliminary and/or HSC level. The Specialisation Study (240 indicative hours) course is accredited for a total of four units at Preliminary and/or HSC level.

Course requirements

Students may only undertake a Specialisation Study if they are currently enrolled in, or have completed, the Information Technology (240 indicative hours) course.

Students are not able to commence a Specialisation Study until they have achieved all prerequisite units of competency for Certificate III in Information Technology (see Sections 8.3 and 15). The prerequisite units of competency are:

BSBCM106A	Follow workplace safety procedures
ICAU1128A	Operate a personal computer
ICAD2012A	Design organisational documents using computing packages
ICAU2005A	Operate computer hardware
ICAU2006A	Operate computing packages
ICAU2013A	Integrate commercial computing packages
ICAU2231A	Use computer operating system
ICAW2001A	Work effectively in an IT environment
ICAW2002A	Communicate in the workplace

As a result of these prerequisite requirements it is highly unlikely that students will be able to be concurrently enrolled in Information Technology (240 indicative hours) and Information Technology Specialisation Study (60 or 120 or 180 or 240 indicative hours) from the beginning of Year 11. It is more likely that the majority of students would commence their Specialisation Study after Term 3 Year 11.

Specialisation Study (60 indicative hours) course:

- Units should be selected to a minimum of 60 indicative hours.
- Students must complete a minimum of 14 *additional* hours of mandatory work placement.

Specialisation Study (120 indicative hours) course:

- Units should be selected to a minimum of 120 indicative hours.
- Students must complete a minimum of 35 *additional* hours of mandatory work placement.

Specialisation Study (180 indicative hours) course:

- Units should be selected to a minimum of 180 indicative hours.
- Students must complete a minimum of 49 *additional* hours of mandatory work placement.

Specialisation Study (240 indicative hours) course:

- Units should be selected to a minimum of 240 indicative hours.
- Students must complete a minimum of 70 *additional* hours of mandatory work placement.

Table 4 Specialisation study units of competency

Unit code	Unit title	Unit-specific prerequisite/s	HSC indicative hours of credit
ICAB3018A	Develop macros and templates for clients using standard products	ICAU3126A #	40
ICAI3021A	Connect internal hardware components	–	30
ICAI3101A	Install and manage network protocols	–	30
ICAI3110A	Implement system software changes	ICAI3020A #	20
ICAS3024A	Provide basic system administration	–	20
ICAS3032A	Provide network systems administration	ICAI3101A # ICAS3024A #	20
ICAS3034A	Determine and action network problems	ICAS3024A # ICAT3025A #	20
ICAS3115A	Maintain equipment and software in working order	–	20
ICAS3120A	Configure and administer a network operating system	ICAI3020A # ICAS3024A # ICAS3032A #	30
ICAS3121A	Administer network peripherals	–	20
ICAU3019A	Migrate to new technology	–	20
ICAU3028A	Customise packaged software applications for clients	ICAU3126A #	30
ICAU3126A	Use advanced features of computer applications	–	30
ICPMM321A	Capture a digital image	–	30
ICTCC330A	Manage customer relationships	–	15
ICAB4135A	Create a simple mark-up language document to specification	–	20
ICAB4225A	Automate processes	–	40
ICAD4190A	Maintain information standards	–	20
ICAD4217A	Create technical documentation	–	20
ICAI4029A	Install network hardware to a network	–	40
ICAI4030A	Install software to networked computers	–	40
ICAI4097A	Install and configure a network	ICAI3101A #	40
ICAS4108A	Complete database back-up and recovery	–	20
ICAS4127A	Support system software	ICAI3020A #	20
ICAS4134A	Provide first-level remote help desk support	ICAS3031A #	30
ICAS4191A	Maintain website performance	–	20
ICAS4201A	Transfer content to a website using commercial packages	–	20
ICAT4185A	Create a website testing procedure	–	20
ICAU4207A	Apply web authoring tool to convert client data for websites	–	20

This unit of competency is a unit-specific prerequisite. Students must achieve this unit of competency prior to attempting the higher order unit of competency (refer to Sections 8.3 and 15).

Depending on the selection and achievement of units of competency, the possible qualification outcomes are:

- Statement of Attainment towards Certificate III in Information Technology (ICA30105)
- Certificate III in Information Technology (ICA30105).

AQF VET qualifications

To receive AQF VET qualifications, students must meet the assessment requirements of the Information and Communications Technology Training Package (ICA05). A qualified assessor must conduct the assessment.

Qualification packaging rules are in Section 15 of this document.

Further information on assessment is in Section 11 of this document and in the document *Assessment and Reporting in Information Technology Stage 6*.

9 Outcomes and Content

9.1 Units of competency

Details about individual units of competency in the Information Technology (240 indicative hours) course for the HSC in the Information Technology Curriculum Framework are contained in Part B of the Syllabus. Part B details unit of competency content and HSC requirements and advice.

The text for each unit of competency in the Information Technology Curriculum Framework is reproduced directly from the Information Technology Training Package (ICA05). Each unit of competency consists of:

- elements of competency
- performance criteria
- a range statement
- an evidence guide, including:
 - resources
 - critical aspects of evidence
 - assessment guidance
 - knowledge and skills
 - role context.

In addition, there is a column headed *HSC Requirements and Advice* that prescribes the scope of learning and the minimum learning experiences expected for each unit of competency for the purposes of the HSC. These must be addressed by all students studying the Information Technology (120 and 240 indicative hours) courses.

The units of competency able to be delivered and assessed are determined by the scope of the registration of each RTO. Teachers and trainers should check their RTO's scope of registration before determining which units of competency are to be included in their teaching and assessment programs. School principals should seek documentary evidence of the scope of any external RTO delivering the HSC course. Scope of registration can be checked on the National Training Information Services (NTIS) website (www.ntis.gov.au).

Information about the delivery of VET courses for the HSC by RTOs other than schools or TAFE NSW colleges are contained in the Board of Studies *Assessment, Certification and Examination (ACE) Manual* and relevant Board of Studies Official Notices.

9.2 Course delivery

RTOs offering training programs that deliver HSC Information Technology Framework courses must consult Part B of the Syllabus and take into consideration the details provided in the *HSC Requirements and Advice* column (including key terms and concepts) as well as the following requirements for each unit of competency:

- the elements of competency
- the performance criteria
- the range statement
- all aspects of the evidence guide.

RTOs should pay particular attention to the information under *Prerequisites* (to ensure these requirements have been met) and under *Knowledge and skills*.

The *HSC Requirements and Advice* column prescribes what learning experiences **must** be included for the HSC. The range statement frequently makes reference to ‘may include’. In the examinable units of competency this has been clarified in the HSC Requirements and Advice column to prescribe what learning experiences must be included for the HSC.

It is the responsibility of the RTO to determine both the resources required for course delivery, and the AQF VET qualifications that must be held by teachers and trainers delivering courses within the Information Technology Curriculum Framework on behalf of the RTO.

Separate advice on learning materials, resource requirements and teacher qualifications is available from school system/sector authorities.

Further advice on curriculum materials that may be used to support the delivery of courses within the Information Technology Curriculum Framework is contained in the *Information Technology Support Document* (www.boardofstudies.nsw.edu.au). This information is provided as a guide to RTOs delivering HSC courses within the Framework.

10 Work Placement

Work placement is a mandatory HSC requirement within this Framework and appropriate hours have been assigned to each course.

Learning in the workplace will enable students to:

- progress towards the achievement of industry competencies
- develop appropriate attitudes towards work
- learn a range of behaviours appropriate to the industry
- practise skills acquired in the classroom or workshop
- develop additional skills and knowledge, including the key competencies (refer to Section 13.2, p 33).

The mandatory work placement requirements for courses in this Framework are not intended to indicate the time required for the achievement of units of competency. The amount of learning in the workplace that is needed to achieve a unit of competency will vary from student to student. Assessment of the units of competency is to be undertaken by qualified assessor(s) either in a work placement setting or through classroom delivery.

10.1 Work placement requirements

Students must complete the following work placement for Information Technology courses:

- Information Technology (120 indicative hours) – a minimum of 35 hours in a workplace
- Information Technology (240 indicative hours) – a minimum of 70 hours in a workplace
- Information Technology Specialisation Study (60 indicative hours) – a minimum of 14 *additional* hours in a workplace
- Information Technology Specialisation Study (120 indicative hours) – a minimum of 35 *additional* hours in a workplace
- Information Technology Specialisation Study (180 indicative hours) – a minimum of 49 *additional* hours in a workplace
- Information Technology Specialisation Study (240 indicative hours) – a minimum of 70 *additional* hours in a workplace.

Work placement is to be undertaken in an information and communications technology environment. It is permissible for up to 50% to be undertaken in a simulated work placement.

Non-completion of work placement is grounds for the withholding of the course. Schools are advised to follow the issuing of ‘N’ determinations as outlined in the Board of Studies *Assessment, Certification and Examinations (ACE) Manual*.

It is the responsibility of the school and/or other RTO to determine how course outcomes are best achieved and to structure delivery accordingly. If additional work placement or classroom time is required to enable individual students or class groups to achieve the competencies, this will be determined by the deliverer, but it does not affect the indicative HSC hours.

Further information and advice on the implementation of work placement are contained in policy statements or guidelines available from the relevant school system/sector authority or the RTO.

10.2 Part-time work

Under some circumstances, students' part-time work in an appropriate workplace may be used to fulfil work placement requirements. For further details, teachers and principals should consult the *Assessment, Certification and Examinations (ACE) Manual* or relevant Board of Studies Official Notices.

11 Assessment Requirements and Advice

11.1 Competency-based assessment

The VET courses within the Information Technology Curriculum Framework are competency-based. Advice on appropriate assessment practice in relation to the Information Technology Curriculum Framework is contained in the *Assessment and Reporting in Information Technology Stage 6* document.

This document, as well as other resources and advice related to assessment in Information Technology Stage 6, is available at the Board's website at http://www.boardofstudies.nsw.edu.au/syllabus_hsc/info-technology.html

11.2 HSC Examination: Information Technology

The HSC examination in Information Technology is optional. Only students who have completed the Information Technology (240 indicative hours) course are eligible to sit for the HSC examination. Students who undertake the examination can have their HSC mark contribute to their ATAR.

The HSC examination specifications, which describe the format of the external HSC examination, are contained in the *Assessment and Reporting in Information Technology Stage 6* document.

The HSC examination is independent of the competency-based assessment undertaken during the course and has no impact on student eligibility for AQF VET qualifications.

11.3 Examinable outcomes and content

The HSC examination in Information Technology is based on a set of examinable units of competency from the Information Technology (240 indicative hours) course and the associated key competencies.

The HSC examination is based on the following components of each examinable unit of competency:

- elements of competency
- performance criteria
- range statement⁵
- evidence guide, including:
 - resources
 - critical aspects of evidence
 - assessment guidance
 - knowledge and skills
 - role context

⁵ The range statement frequently uses the term 'may include'. This has been clarified in the *HSC Requirements and Advice* column to specify the learning experiences that must be included for the examinable units of competency. Only the learning that is compulsory according to the Training Package and/or *HSC Requirements and Advice* can be examined.

- minimum prescribed learning contained in HSC requirements and advice, described as:
 - key terms and concepts, and
 - learning experiences that must be addressed for the HSC.

The examinable units of competency are:

Unit code	Unit title
ICAD2012A	Design organisational documents using computing packages
ICAU2013A	Integrate commercial computing packages
ICAU2231A	Use computer operating system
ICAW2001A	Work effectively in an IT environment
ICAW2002A	Communicate in the workplace
ICAD3218A	Create user documentation
ICAI3020A	Install and optimise operating system software
ICAS3031A	Provide advice to clients
ICAS3234A	Care for computer hardware
ICAT3025A	Run standard diagnostic tests
ICAU3004A	Apply occupational health and safety procedures

The text of the examinable units of competency, including the HSC requirements and advice, is contained in the *Information Technology Curriculum Framework Stage 6 Syllabus – Part B*.

12 HSC Requirements and Certification

12.1 Course completion requirements

For a student to be considered to have satisfactorily completed a course within the Information Technology Curriculum Framework 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 by the school/RTO
- achieved some or all of the course outcomes
- undertaken the mandatory work placement.

Refer the Board's [Assessment, Certification and Examination \(ACE\) Manual](#) for further information.

12.2 Preliminary and HSC unit credit

To facilitate flexibility of VET in the HSC, courses within the Information Technology Curriculum Framework may be delivered as Preliminary units, as HSC units or as a combination of Preliminary and HSC units.

12.3 Reporting achievement in the HSC

Advice on reporting achievement in relation to the Information Technology Curriculum Framework is contained in the *Assessment and Reporting in Information Technology Stage 6* document.

This document is available at the Board's website at http://www.boardofstudies.nsw.edu.au/syllabus_hsc/info-technology.html

13 Other Information

13.1 Providing for all students

13.1.1 Students with special education needs

Courses in the Information Technology Curriculum Framework are available to all students.

Students with special education needs may access:

- all courses within the Information Technology Curriculum Framework under regular course arrangements⁶

OR

- units of competency selected through the individual transition-planning process from the relevant course units of competency⁷ detailed in Sections 8.5 and 8.6 of this document.

The latter option recognises that students with special education needs may require additional time to demonstrate the required level of competence.

The appropriate units of competency will be selected through the individual transition-planning process and should be directed towards the achievement of an AQF VET Certificate and an occupational outcome.

It is recommended that individual transition planning should prioritise the prerequisite units of competency (refer to Section 8.3) as they provide essential foundation skills for employment in the information and communications technology industry. Additional units of competency should then be selected according to the identified individual needs of the student.

Successful participation in courses within the Information Technology Curriculum Framework for students with special education needs will require:

- transition planning to meet individual needs
- prevocational preparation
- appropriate methods for course delivery and assessment
- ongoing partnerships between schools, students, parents, teachers, employers and others in the community.

To develop skills and knowledge to industry standard, students with special education needs may require extended time and additional support off the job and in the workplace.

Further advice on the implementation of the Information and Technology Curriculum Framework for students with special education needs is contained in the *Stage 6 Industry Curriculum Frameworks Support Document for Students with Special Education Needs (2005)*. This document is available on the Board of Studies website (www.boardofstudies.nsw.edu.au).

Work placement

Students with special education needs **must** undertake the minimum work placement requirements for courses within the Information Technology Curriculum Framework, detailed in the course requirements and in Section 10 of this document.

⁶ Alternatively, students may undertake a locally designed Board Endorsed Course.

⁷ Priority should be given to units of competency marked with an * in Table 2 (p 17) and Table 3 (p 19) as these units of competency are core for Certificate II and prerequisites for Certificate III.

Assessment

Students with special education needs are subject to the assessment requirements detailed in Section 11 of this document and in the document *Assessment and Reporting in Information Technology Stage 6*.

AQF VET qualifications

Eligibility for AQF VET qualifications is the same for all students. To receive AQF VET qualifications, students with special education needs must meet the assessment requirements of the Information Technology Training Package (ICA05). A qualified assessor must conduct the assessment.

13.1.2 Gender and cultural considerations

Industry curriculum frameworks have been developed to address the needs of a broad range of students. Teaching and assessment programs in the Information Technology Curriculum Framework should be developed to minimise any gender or cultural bias. Case studies, illustrative examples and other materials used for teaching and assessment should be selected on the basis that they do not reinforce gender or cultural stereotypes.

13.1.3 Part-time school-based trainees

The Information Technology Curriculum Framework includes provision for trainees to fulfil their requirements and gain an AQF VET qualification.

Trainees who are seeking credit towards the HSC for their training should undertake the Information Technology (240 indicative hours) course. In addition, students may undertake a 60 or 120 or 180 or 240 indicative hour Specialisation Study. Additional HSC credit is available through the locally designed Board Endorsed Course process. Such courses may draw from units of competency in the Information Technology Training Package (ICA05) and can be tailored/customised to align to a student's training plan as included in their Vocational Training Order (VTO).

Further information on requirements and arrangements for part-time school-based traineeships in the area of Information Technology is available from:

- school system/sector authorities
- the Department of Education and Training State Training Centres
- the apprenticeships and traineeships website (<http://apprenticeship.det.nsw.edu.au>)
- New Apprenticeship Centres.

13.2 Key competencies

The *key competencies* are competencies considered essential for effective participation in the emerging patterns of work and work organisations as well as in life generally. They focus on the capacity to apply knowledge and skills in an integrated way in work situations. Key competencies are generic in that they apply to work generally, rather than being specific to particular occupations or industries.

The key competencies are:

- collecting, organising and analysing information
- communicating ideas and information
- planning and organising activities
- working with others and in teams
- solving problems
- using mathematical ideas and techniques
- using technology.

Each unit of competency in this Industry Curriculum Framework identifies the relationship between the unit and the key competencies. This relationship is represented by performance levels 1, 2 and 3. The following provides a brief description of the performance levels.

Performance Level 1 describes the competence needed to undertake activities efficiently and with sufficient self-management to meet the explicit requirements of the activity and to make judgements about quality of outcome against established criteria.

Performance Level 2 describes the competence needed to manage activities requiring the selection, application and integration of a number of elements, and to select from established criteria to judge quality of process and outcome.

Performance Level 3 describes the competence needed to evaluate and reshape processes, to establish and use principles in order to determine appropriate ways of approaching activities, and to establish criteria for judging quality of process and outcome.

Key competencies are essential features of each of the units of competency and therefore consideration must be given to the ways in which they can be addressed when designing learning activities and assessment instruments.

Refer to Part B of the Syllabus for information regarding the key competencies for each unit of competency.

13.3 Articulation to further training

Students achieving units of competency in this Framework can apply to have those units recognised in other endorsed Training Package qualifications.

Students and teachers should investigate the qualifications within the Information and Communications Technology Training Package (ICA05) to identify possible training pathways. In some instances these may include higher-level courses at TAFE NSW or other RTOs which may provide for advanced standing in related university courses.

Students seeking to gain credit towards AQF VET qualifications in other industries may use the qualifications gained in Information Technology as evidence of competency for related units of competency in any national Training Package.

Further information on requirements and arrangements for post-school traineeships in the information technology and communication industry is available from the NSW Department of Education and Training State Training Centres and New Apprenticeship Centres.

14 AQF VET Qualifications

The various titles of AQF VET qualifications reflect levels of performance and degrees of responsibility in a workplace context. The level of a qualification thus provides an indication of the standard of achievement expected, which is comparable across industries and provides a context for assessment.

Industry curriculum frameworks relate to Certificates I to III. Brief descriptions of Certificates I, II and III, adapted from the *Australian Qualifications Framework Implementation Handbook*,⁸ are provided below.

Certificate I

Work is likely to be carried out under direct supervision. Breadth, depth and complexity of knowledge and skills would prepare a person to perform a defined range of activities, most of which would be routine and predictable.

An individual demonstrating competencies at this level would be able to:

- demonstrate knowledge by recall in a narrow range of areas
- demonstrate basic practical skills, such as the use of relevant tools
- perform a sequence of routine tasks given clear direction
- receive and pass on messages/information.

Certificate II

Work is likely to be carried out under direct supervision. Breadth, depth and complexity of knowledge and skills would prepare a person to perform in a range of varied activities or knowledge applications where the range of choices of action is clearly defined and of limited complexity.

An individual demonstrating competencies at this level would be able to:

- demonstrate basic operational knowledge in a moderate range of areas
- apply a defined range of skills
- apply known solutions to a limited range of predictable problems
- perform a range of tasks where choice is required between options within a limited range
- assess and record information from various sources
- take limited responsibility for their own outputs in work and learning.

Certificate III

Breadth, depth and complexity of knowledge and competencies would cover the selecting, adapting and transferring of skills and knowledge to new environments, and providing technical advice and some leadership in the resolution of specific problems. This would be applied across a range of roles in a variety of contexts, with some complexity in the extent and choice of options available.

⁸ Australian Qualifications Framework (AQF) Advisory Board, 2003, *Australian Qualifications Framework Implementation Handbook*, third edition, Carlton, VIC.

An individual demonstrating these competencies would be able to:

- perform a defined range of skilled operations, usually within a range of broader, related activities involving known routines, methods and procedures
- exercise some discretion and judgement in the selection of equipment, services or contingency measures
- operate within known time constraints
- take some responsibility for others
- participate in teams, including group or team coordination.

AQF VET Statements of Attainment and Certificates are ONLY issued on the basis of successful achievement of a unit of competency as determined by a qualified assessor.

15 Minimum Requirements for AQF VET Qualifications

The following pages outline the qualification packaging rules for the AQF VET qualifications available in this Framework. This information is reproduced directly from the **Information and Communications Technology Training Package (ICA05)**. It is included so that the minimum requirements for achieving the industry qualification are clear. Students who meet these requirements will be eligible for the relevant AQF VET Certificate, whether or not they have met the additional requirements of the HSC course.

Please note: Only the shaded units of competency are available in the Information Technology Curriculum Framework. HSC course requirements are outlined in Section 8.

ICA20105: Certificate II in Information Technology

Description

This qualification provides the foundation ICT skills and knowledge for an individual to be an effective ICT user or employee. The qualification has a fundamental ICT knowledge and skills base which is pivotal for all other qualifications in ICA05. The 8 core units contain those basic ICT skills and knowledge required for effective entry into all ICA05 qualifications from Certificate III upwards.

The qualification replaces 2 Certificates II in IT from ICA99 V3, specifically:

- ICA20199 Certificate II in Information Technology
- ICA20201 Certificate II in Information Technology (Applications).

The qualification introduces OH&S and soft skills such as communication into the 8 core units. Electives make up 40 per cent of the qualification and are to be selected predominantly from ICA05 but with the option of up to half of the electives coming from other packages. A number of electives provide effective entry into the Certificate III in IT. It is possible to achieve this qualification during the final years of secondary school education subject to the demonstration of competency to a standard expected in the workplace.

Job roles

The qualification provides foundation general computing and employment skills that enable participation in an information technology environment in any industry. Small to medium enterprises (SMEs) will find the contents of this qualification useful at an ICT user level. In its own right such a qualification could equip an individual to undertake roles such as office assistant or to work in records management at a junior level; however its usefulness is most likely to be found in supplementing functions in roles prevalent in other industries.

Entry Requirements

Training providers using this package must ensure that the underpinning knowledge and skills required for entry into units of competency (both core and elective) in this qualification are covered. Prerequisite arrangements for non-ICA05 core and elective units in this qualification must be checked with the originating Training Package.

Prerequisite knowledge and skills are required for the following units:

<i>Code and Title</i>	<i>Prerequisite knowledge and skills required</i>
ICAD2012A Design organisational documents using computing packages	ICAU1128A Operate a personal computer
ICAU2005A Operate computer hardware	
ICAU2013A Integrate commercial computing packages	
ICAU2231A Use computing operating system	

Qualification structure

To attain the *ICA20105 Certificate II in Information Technology* 14 units must be achieved:

- 8 core units; plus
- 6 elective units.

Achieve 8 Core Units

BSBCMN106A	Follow workplace safety procedures
ICAD2012A	Design organisational documents using computing packages
ICAU2005A	Operate computer hardware
ICAU2006A	Operate computing packages
ICAU2013A	Integrate commercial computing packages
ICAU2231A	Use computer operating system
ICAW2001A	Work effectively in an IT environment
ICAW2002A	Communicate in the workplace

Achieve 3 Elective Units Chosen From the Following Electives List

ICAD2003A	Receive and process oral and written communication
ICAD3218A	Create user documentation
ICAI2015A	Install software applications
ICAI3021A	Connect internal hardware components
ICAS2008A	Maintain inventories for equipment, software and documentation
ICAS2009A	Interact with clients
ICAS2010A	Apply problem solving techniques to routine malfunctions
ICAS2014A	Connect hardware peripherals
ICAS2016A	Record client support requirements
ICAS2017A	Maintain system integrity
ICAS2243A	Detect and protect from spam and destructive software
ICAS3034A	Determine and action network problems
ICAS3115A	Maintain equipment and software in working order
ICAS3121A	Administer network peripherals
ICAS3234A	Care for computer hardware
ICAT3025A	Run standard diagnostic tests
ICAU2007A	Maintain equipment and consumables

ICAU3004A	Apply occupational health and safety procedures
ICAU3019A	Migrate to new technology
ICAW2011A	Work individually or as a team member to achieve organisational goals
ICPKN315A	Apply knowledge and requirements of the multimedia sector
ICPMM321A	Capture a digital image
ICPMM263A	Access and use the internet

Achieve 3 Elective Units Chosen from the Following Sources (listed in recommended order)

- ICA20105 Electives list above; and/or
- from elsewhere in the ICA05 Information and Communications Technology Training Package ICA05 (at Certificate II or Certificate III); and/or
- preferred Training Packages (BSB01 Business Services; ICT02 Telecommunications; CUF01 Film, TV, Radio and Multimedia; ICP05 Printing and Graphic Arts; WRR02 Retail; CUV03 Visual Arts, Craft and Design (at Certificate II or Certificate III); and/or
- any other Training Package (at Certificate II or Certificate III) based on documented industry or enterprise need.

Please note: Only the shaded units of competency are available in the Information Technology Curriculum Framework. HSC course requirements are outlined in Section 8.

ICA30105: Certificate III in Information Technology

Description

This qualification provides the skills and knowledge for an individual to be competent in introductory ICT ‘technical’ functions and is designed to support information activities in the workplace and to achieve a degree of self-sufficiency as an advanced ICT ‘user’. The will give employers a degree of confidence in an individual’s usefulness in the workplace as it has a strong suite of 6 common core ICT units building on the prerequisite knowledge and skills from the 8 Certificate II in IT core units.

The qualification provides for a number of electives at Certificate IV in IT level thus offering a degree of stretch in learning plus potential pathways into higher level qualifications. A small number of electives can be chosen beyond the ICT Training Package and it is possible to achieve this qualification during the final years of secondary school education, subject to the demonstration of competency to a standard expected in the workplace.

The qualification replaces 3 Certificates III in IT from ICA99 V3 specifically:

- ICA30199 Certificate III in Information Technology (Software Applications)
- ICA30299 Certificate III in Information Technology (General)
- ICA30399 Certificate III in Information Technology (Network Administration).

It has 3 specialist streams with direct relevance to workplace roles.

Applications Stream

Provides skills in advanced use of applications and could provide basic application software support within an organisation. This stream may provide for natural progression into several Certificate IV in IT qualifications including Multimedia or Programming.

Network Administration Stream

Develops skills in the administration and maintenance of the user environment for a computer network. Graduates could work as a network administrator within an organisation. There are several vendor courses that may be integrated in this qualification. This stream may provide for natural progression into several Certificate IV in IT qualifications including Networking or Websites.

Support Stream

Provides skills in basic use of a range of technologies to provide first level diagnostic support to people using ICT. This stream may provide for natural progression into several Certificate IV in IT qualifications including Support or Websites.

Job Roles

Depending on the stream selected, graduates from this qualification could work in basic personal computer (PC) support, basic network/system administration or in first level help desk roles. Additionally, using a selection of retail or sales units from other Training Packages, people could work in ICT retailing or vendor product support. Small to medium enterprises (SMEs) will find the outcomes of this qualification useful at advanced ICT user or introductory technical support levels.

Possible job titles include:

- Call Centre Support Representative
- Client Support Officer
- Computer Operator
- Customer Liaison
- Customer Service Representative
- Help Desk Technician
- Help Desk Officer
- ICT Operations Support
- ICT User Support
- IT Technician
- Maintenance Technician
- PC Support
- PC Support Specialist
- Sales Support Technician
- Support Technician
- Technical Support
- User Support Specialist

Entry Requirements

Training providers using this package must ensure that the underpinning knowledge and skills required for entry into units of competency (both core and elective) in this qualification are covered. Prerequisite arrangements for non-ICA05 core and elective units in this qualification must be checked with the originating Training Package.

Prerequisite requirements

The following units are prerequisites for this qualification as they contain the basic fundamentals of ICT knowledge and skills for all qualifications at Certificate III in IT and above:

BSBCMN106A	Follow workplace safety procedures
ICAD2012A	Design organisational documents using computing packages
ICAU1128A	Operate a personal computer
ICAU2005A	Operate computer hardware
ICAU2006A	Operate computing packages
ICAU2013A	Integrate commercial computing packages
ICAU2231A	Use computer operating system
ICAW2001A	Work effectively in an IT environment
ICAW2002A	Communicate in the workplace

A number of units within this qualification have prerequisites. These are detailed as follows:

<i>Code and Title</i>	<i>Prerequisite knowledge and skills required</i>
ICAI3110A Implement system software changes	ICAI3020A Install and optimise operating system software [#]
ICAS3032A Provide network systems administration	ICAI3101A Install and manage network protocols ICAS3024A Provide basic system administration
ICAS3034A Determine and action network problems	ICAS3024A Provide basic system administration ICAT3025A Run standard diagnostic tests
ICAS3120A Configure and administer a network operating system	ICAI3020A Install and optimise operating system software ICAS3024A Provide basic system administration ICAS3032A Provide network systems administration [#]
ICAU3028A Customise packaged software applications for clients	ICAU3126A Use advanced features of computer applications

[#] This unit has prerequisite knowledge and skills in its own right.

Qualification Structure

To attain the *ICA30105 Certificate III in Information Technology* 14 to 16 units must be achieved (depending on the specialist stream chosen):

- 6 common core units; plus
- 4 specialist core stream units – Applications, or
- 6 specialist core stream units – Network Administration, or
- 5 specialist core stream units – Support; plus
- 4 elective units

Achieve 6 Common Core Units

ICAD3218A	Create user documentation
ICAI3020A	Install and optimise operating system software
ICAS3031A	Provide advice to clients
ICAS3234A	Care for computer hardware
ICAT3025A	Run standard diagnostic tests
ICAU3004A	Apply occupational health and safety procedures

Achieve all Core Units in 1 of the 3 Specialist Core Streams

(Applications, Network Administration or Support)

Specialist Core Stream – Applications (4 Units)	
ICAU3019A	Migrate to new technology
ICAU3028A	Customise packaged software applications for clients
ICAU3126A	Use advanced features of computer applications
ICAI3110A	Implement system software changes

Specialist Core Stream – Network Administration (6 Units)	
ICAI3101A	Install and manage network protocols
ICAS3024A	Provide basic system administration
ICAS3032A	Provide network systems administration
ICAS3034A	Determine and action network problems
ICAS3120A	Configure and administer a network operating system
ICAS3121A	Administer network peripherals

Specialist Core Stream – Support (5 Units)	
ICAI3021A	Connect internal hardware components
ICAS3024A	Provide basic system administration
ICAS3115A	Maintain equipment and software in working order
ICAU3019A	Migrate to new technology
ICTCC330A	Manage customer relationship

Achieve 2 Elective Units Chosen from the Following Sources (listed in recommended order)

- other *ICA30105* streams not already selected; and/or
- *ICA30105* Electives list below; and/or
- elsewhere in the ICA05 Information and Communications Technology Training Package (at Certificate III or Certificate IV)

Achieve 2 Elective Units Chosen from the Following Sources (listed in recommended order)

- any of the above core or elective sources; and/or
- preferred Training Packages (at Certificate III or Certificate IV) (BSB01 Business Services; ICT02 Telecommunications; CUF01 Film, TV, Radio and Multimedia; ICP05 Printing and Graphic Arts; WRR02 Retail; CUV03 Visual Arts, Craft and Design) and/or
- any other Training Package (at Certificate III or Certificate IV) based on documented industry or enterprise need.

Electives

ICAB3018A	Develop macros and templates for clients using standard products
ICAB4135A	Create a simple mark-up language document to specification
ICAB4169A	Use development software and IT tools to build a basic website
ICAB4225A	Automate processes
ICAD4190A	Maintain information standards
ICAD4217A	Create technical documentation
ICAI3021A	Connect internal hardware components
ICAI3110A	Implement system software changes
ICAI4029A	Install network hardware to a network
ICAI4030A	Install software to networked computers
ICAI4097A	Install and configure a network
ICAS4108A	Complete database back-up and recovery
ICAS4127A	Support system software
ICAS4134A	Provide first-level remote help desk support
ICAS4191A	Maintain website performance
ICAS4201A	Transfer content to a website using commercial packages
ICAT4185A	Create a website testing procedure
ICAU4207A	Apply web authoring tool to convert client data for websites
ICTCC330A	Manage customer relationship

Please note: Only the shaded units of competency are available in the Information Technology Curriculum Framework. HSC course requirements are outlined in Section 8.

Table 5 Status of units of competency from the HSC courses for the AQF VET qualifications in the Framework

Unit Code	Unit title	HSC indicative hours	IT Curriculum Framework	Certificate II in Information Technology	Certificate III in Information Technology		
					Applications	Network Administration	Support
<i>Qualification packaging rules</i>				<i>8 common core 3 listed electives 3 listed &/or other electives</i>	<i>6 common core 4 specialist core 4 electives</i>	<i>6 common core 6 specialist core 4 electives</i>	<i>6 common core 5 specialist core 4 electives</i>
BSBCM106A	Follow workplace safety procedures	0	compulsory (120 & 240)	core	qualification prerequisite	qualification prerequisite	qualification prerequisite
ICAU1128A	Operate a personal computer	5	compulsory (120 & 240)	unit prerequisite	qualification prerequisite	qualification prerequisite	qualification prerequisite
ICAD2012A	Design organisational documents using computing packages [∇]	20	compulsory (120 & 240)	core	qualification prerequisite	qualification prerequisite	qualification prerequisite
ICAU2005A	Operate computer hardware [∇]	5	compulsory (120 & 240)	core	qualification prerequisite	qualification prerequisite	qualification prerequisite
ICAU2006A	Operate computing packages	5	compulsory (120 & 240)	core	qualification prerequisite	qualification prerequisite	qualification prerequisite
ICAU2013A	Integrate commercial computing packages [∇]	15	compulsory (120 & 240)	core	qualification prerequisite	qualification prerequisite	qualification prerequisite
ICAU2231A	Use computer operating system [∇]	15	compulsory (120 & 240)	core	qualification prerequisite	qualification prerequisite	qualification prerequisite
ICAW2001A	Work effectively in an IT environment	20	compulsory (120 & 240)	core	qualification prerequisite	qualification prerequisite	qualification prerequisite
ICAW2002A	Communicate in the workplace	15	compulsory (120 & 240)	core	qualification prerequisite	qualification prerequisite	qualification prerequisite
ICAD3218A	Create user documentation	20	compulsory (240)	listed elective	common core	common core	common core
ICAI3020A	Install and optimise operating system software	20	compulsory (240)	other elective	common core	common core	common core
ICAS3031A	Provide advice to clients	30	compulsory (240)	other elective	common core	common core	common core
ICAS3234A	Care for computer hardware	20	compulsory (240)	listed elective	common core	common core	common core

Information Technology Curriculum Framework Stage 6 Syllabus – Part A

Unit Code	Unit title	HSC indicative hours	IT Curriculum Framework	Certificate II in Information Technology	Certificate III in Information Technology		
					Applications	Network Administration	Support
ICAT3025A	Run standard diagnostic tests	10	compulsory (240)	listed elective	common core	common core	common core
ICAU3004A	Apply occupational health and safety procedures	20	compulsory (120 & 240)	listed elective	common core	common core	common core
ICAB4169A	Use development software and IT tools to build a basic website	20	compulsory (240)	–	elective	elective	elective
ICAB3018A	Develop macros and templates for clients using standard products [∇]	40	elective (SS)	other elective	elective	elective	elective
ICAI3021A	Connect internal hardware components	30	elective (SS)	listed elective	elective	elective	specialist core
ICAI3101A	Install and manage network protocols	30	elective (SS)	other elective	elective	specialist core	elective
ICAI3110A	Implement system software changes [∇]	20	elective (SS)	other elective	specialist core	elective	elective
ICAS3024A	Provide basic system administration	20	elective (SS)	other elective	elective	specialist core	specialist core
ICAS3032A	Provide network systems administration [∇]	20	elective (SS)	other elective	elective	specialist core	elective
ICAS3034A	Determine and action network problems [∇]	20	elective (SS)	listed elective	elective	specialist core	elective
ICAS3115A	Maintain equipment and software in working order	20	elective (SS)	listed elective	elective	elective	specialist core
ICAS3120A	Configure and administer a network operating system [∇]	30	elective (SS)	other elective	elective	specialist core	elective
ICAS3121A	Administer network peripherals	20	elective (SS)	listed elective	elective	specialist core	elective
ICAU3019A	Migrate to new technology	20	elective (SS)	listed elective	specialist core	elective	specialist core
ICAU3028A	Customise packaged software applications for clients [∇]	30	elective (SS)	other elective	specialist core	elective	elective
ICAU3126A	Use advanced features of computer applications	30	elective (SS)	other elective	specialist core	elective	elective

Information Technology Curriculum Framework Stage 6 Syllabus – Part A

Unit Code	Unit title	HSC indicative hours	IT Curriculum Framework	Certificate II in Information Technology	Certificate III in Information Technology		
					Applications	Network Administration	Support
ICPMM321A	Capture a digital image	30	elective (SS)	listed elective	elective	elective	elective
ICTCC330A	Manage customer relationship	15	elective (SS)	other elective	elective	elective	specialist core
ICAB4135A	Create a simple mark-up language document to specification	20	elective (SS)	–	elective	elective	elective
ICAB4225A	Automate processes	40	elective (SS)	–	elective	elective	elective
ICAD4190A	Maintain information standards	20	elective (SS)	–	elective	elective	elective
ICAD4217A	Create technical documentation	20	elective (SS)	–	elective	elective	elective
ICAI4029A	Install network hardware to a network	40	elective (SS)	–	elective	elective	elective
ICAI4030A	Install software to networked computers	40	elective (SS)	–	elective	elective	elective
ICAI4097A	Install and configure a network [∇]	40	elective (SS)	–	elective	elective	elective
ICAS4108A	Complete database back-up and recovery	20	elective (SS)	–	elective	elective	elective
ICAS4127A	Support system software [∇]	20	elective (SS)	–	elective	elective	elective
ICAS4134A	Provide first-level remote help desk support [∇]	30	elective (SS)	–	elective	elective	elective
ICAS4191A	Maintain website performance	20	elective (SS)	–	elective	elective	elective
ICAS4201A	Transfer content to a website using commercial packages	20	elective (SS)	–	elective	elective	elective
ICAT4185A	Create a website testing procedure	20	elective (SS)	–	elective	elective	elective
ICAU4207A	Apply web authoring tool to convert client data for websites	20	elective (SS)	–	elective	elective	elective

[∇] These units of competency have prerequisites. See pp 14–15, 17, 19, 23, 38 and 41 of this document.

16 Glossary

ANTA	Australian National Training Authority. Ceased operation 30 June 2005. The responsibilities and functions of ANTA have transferred to DEST.
AQF	Australian Qualifications Framework. The AQF is the policy framework that defines all qualifications recognised nationally in post-compulsory education and training in Australia. The AQF comprises titles and guidelines that define each qualification, together with principles and protocols covering cross-sectoral qualification linkages and the issuing of qualifications and statements of attainment.
AQTF	Australian Quality Training Framework. The AQTF is a comprehensive approach to national recognition of vocational education and training (VET). It is based on a quality-assured approach to the registration of providers who assess competency outcomes and issue qualifications. It includes mutual recognition, processes for registering training organisations, and quality assurance.
assessment guidelines	An endorsed component of a Training Package which underpins assessment and which sets out the industry approach to valid, reliable, flexible and fair assessment.
AVETMISS	Australian Vocational Education and Training Management Information Statistical Standard.
competency	The ability to perform tasks and duties to the standard expected in employment.
competency standard	An industry-determined specification of performance which sets out the skills, knowledge and attitudes required to operate effectively in employment. Competency standards are made up of units of competency (which are themselves made up of elements of competency) together with performance criteria, a range of variables, and an evidence guide. Competency standards are an endorsed component of a Training Package.
compulsory units of competency	Units that must be studied for the Higher School Certificate.
core units of competency	Units of competency required by the Training Package to be eligible for the AQF VET qualification.
DEST	Department of Education, Science and Training.
elements of competency	The basic building blocks of a unit of competency which describe the key activities or elements of the work covered by the unit.

ICFIP	<p>Industry Curriculum Framework Information Package.</p> <p>A document produced by the school system authorities to provide schools with information on teacher qualifications and resource requirements that must be adhered to for the delivery of vocational courses. It also includes quality assurance checklists that must be completed each year to demonstrate compliance with the Australian Quality Training Framework.</p>
Industry Skills Councils (national)	<p>The Industry Skills Councils have two key roles:</p> <ul style="list-style-type: none">• providing accurate industry intelligence to the VET sector about current and future skill needs and training requirements; and• supporting the development, implementation and continuous improvement of quality nationally recognised training products and services, including Training Packages.
ITAB (state)	<p>Industry Training Advisory Body.</p> <p>Independent incorporated associations or companies that assist with the development of training.</p>
national recognition	<p>National recognition is:</p> <ul style="list-style-type: none">• the recognition and acceptance by an RTO of AQF qualifications and statements of attainments issued by other RTOs, enabling individuals to receive national recognition of qualifications and statements of attainment; and• the recognition for national operation of training organisations registered under the AQTF standards.
NTF	<p>National Training Framework.</p>
NTIS	<p>National Training Information Service.</p> <p>The national register for recording information about RTOs, Training Packages and accredited courses. (www.ntis.gov.au)</p>
OHS	<p>Occupational Health and Safety.</p>
QRRRC	<p>Qualifications, Recognition and Resource Requirements Committee.</p> <p>The QRRRC:</p> <ul style="list-style-type: none">• determines the teacher qualifications and resource requirements for the delivery of VET courses in NSW schools• has responsibility for recognising teacher qualifications and recommending appropriate professional development for VET teachers• includes representatives from the school systems, industry, TAFE NSW and the Office of the Board of Studies.
qualification	<p>Formal certification in the VET sector by an RTO and means that a person has achieved all the units of competency or modules comprising learning outcomes stated for the qualification in:</p> <ul style="list-style-type: none">• a nationally endorsed Training Package for which details of the qualification have been registered by DEST; or• an accredited course that provides training for the qualification.

recognition of prior learning (RPL)	Recognition of competencies currently held, regardless of how, when or where the learning occurred. RPL assesses the individual's prior learning to determine the extent to which that individual is currently competent against the required learning outcomes, competency outcomes or standards for entry to, and/or partial or total completion of the qualification.
RTO	Registered Training Organisation. A training organisation registered by a registering body in accordance with the AQTF, within a defined scope of registration. (Includes TAFE NSW, private providers and schools.)
scope of registration	The defined scope for which a training organisation is registered that identifies the particular services and products that can be provided. An RTO may be registered to provide either: <ul style="list-style-type: none">• training delivery and assessment services and products and issue AQF qualifications and statements of attainment; or• assessment services and products and issue AQF qualifications and statements of attainment. The scope of registration is further defined by AQF qualifications and/or endorsed units of competency.
Statement of Attainment	Formal certification in the VET sector by an RTO under the AQF that a person has achieved: <ul style="list-style-type: none">• part of a qualification, or• one or more units of competency from a nationally endorsed Training Package, or• all the units of competency or modules comprising learning outcomes for an accredited course that does not meet the requirements for a qualification.
Training Packages	An integrated set of nationally endorsed competency standards, assessment guidelines and AQF qualifications for a specific industry, industry sector or enterprise.
training plan	A program of training and assessment which is required under an apprenticeship/traineeship training contract. The apprenticeship/traineeship training contract is registered with the appropriate state/territory government department or agency as may be required by state/territory legislation.
unit of competency	The specification of knowledge and skill and the application of that knowledge and skill to the standard of performance expected in the workplace.
VET	Vocational Education and Training.
VETAB	The Vocational Education and Training Accreditation Board.
VTO	Vocational Training Order