

**B O A R D O F S T U D I E S**  
NEW SOUTH WALES

# **Information Technology Curriculum Framework**

## **Stage 6 Syllabus**

### **Part A**

**for implementation from 2000**

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

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## **1 Introduction to Industry Curriculum Frameworks**

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

Industry curriculum frameworks are based on national training packages. They contain industry developed units of competency from the relevant training packages suitable for the purposes of the Higher School Certificate. They also define how units of competency are arranged into Vocational Education and Training (VET) courses for the purpose of gaining unit credit for the Higher School Certificate. Wherever possible, VET courses in industry curriculum frameworks are aligned to national vocational qualifications.

This industry curriculum framework incorporates all HSC Information Technology VET courses, including:

- courses delivered by schools
- courses delivered by TAFE colleges
- courses delivered by other Registered Training Organisations (RTOs) on behalf of schools or TAFE colleges.

## 2 Documentation Associated with Industry Curriculum Frameworks

The documentation associated with industry curriculum frameworks has been written to assist teachers and trainers develop teaching and assessment programs and to help in the management of competency achievement of Higher School Certificate candidates.

The purpose of Part A of the *Information Technology Curriculum Framework Stage 6 Syllabus* is to identify arrangements of units of competency that will enable students to achieve unit credit towards the Higher School Certificate and credit towards a vocational qualification. It contains general advice about this industry curriculum framework and describes course structures and requirements, including work placement. This document should be referred to in the first instance when planning the implementation of VET courses for the Higher School Certificate.

The documentation suite associated with this industry curriculum framework is illustrated in Figure 1 below.

### Industry Curriculum Framework Documentation

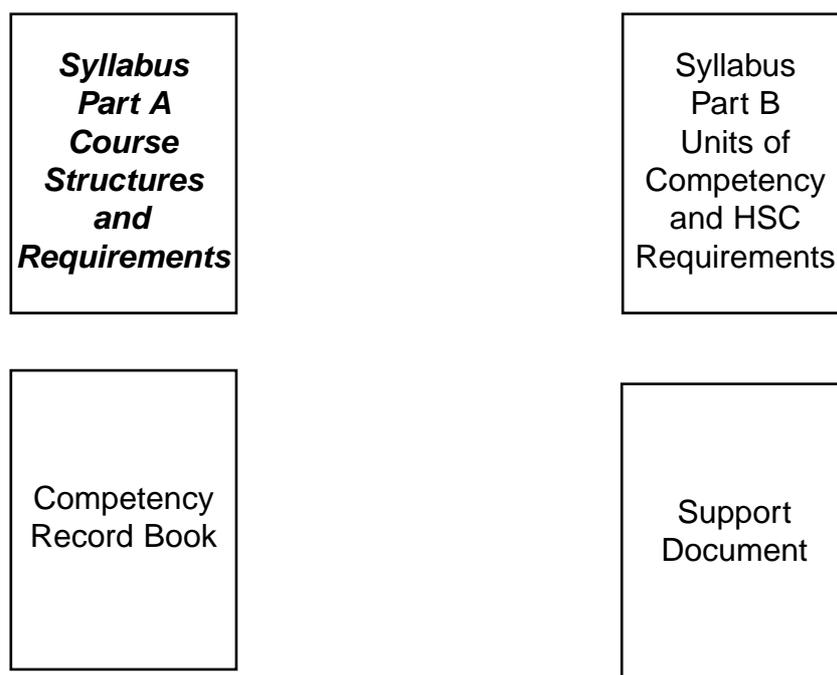


Figure 1 Board of Studies documentation associated with this industry curriculum framework

### **3 The Higher School Certificate Program of Study**

The purpose of the Higher School Certificate 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 together 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 Higher School Certificate

### 4.1 The National Training Framework

All accredited VET programs, including those for HSC students, must meet the requirements of the National Training Framework (NTF).

The key components of the National Training Framework are:

- **The Australian Qualifications Framework (AQF)**

Under the AQF, VET qualifications in each industry area are standard across Australia. To facilitate this, the award of a particular AQF Diploma, Certificate or Statement of Attainment depends on the person who seeks a qualification meeting specified industry competency standards. Competency standards have been developed by the relevant industry to reflect the real requirements for employment and effective work performance and are expressed in national industry training packages.

- **National Training Packages**

All training packages contain three mandatory or 'endorsed' components:

- units of competency, which express the industry competency standards and include elements of competency, performance criteria, a range of variables and an evidence guide
- assessment guidelines, which set out conditions for establishing that competency has been met
- qualifications, explaining each qualification and relationships between them.

Training packages may also contain a range of materials designed to assist with training and assessment. These are not mandatory and are known as 'non-endorsed components'.

- **The Australian Recognition Framework (ARF)**

Because training packages and AQF qualifications are standardised across Australia, they are also recognised in all parts of Australia. This is assured by the ARF, which ensures that the quality of training and assessment is consistent and reliable.

Under the ARF, an organisation wishing to provide training, assess competencies and issue VET qualifications under the AQF, must be a Registered Training Organisation (RTO). It is the responsibility of an RTO, whether it is a school or school system, a TAFE college or other training provider, to ensure that quality assurance requirements are met. These requirements include access to adequate resources and appropriately qualified staff in order to deliver and/or assess training programs that lead to the achievement of qualifications (or individual units of competency) that have been identified in the RTO's scope of registration. As part of its registration, each RTO must agree to recognise AQF qualifications issued by any other RTO.

## **4.2 Industry Curriculum Frameworks**

Industry curriculum frameworks have been developed to satisfy the requirements of the National Training Framework as well as the purposes of the NSW Higher School Certificate.

An industry curriculum framework describes the range of units of competency from the relevant training package that is endorsed by the Board of Studies for inclusion in the NSW Higher School Certificate. It also describes the groupings of units of competency that define specific HSC VET courses. These are determined largely by the qualifications available in the relevant training package and their suitability for school students attempting the Higher School Certificate. An industry curriculum framework must also meet a set of industry and school related criteria developed to promote the strengthening and extension of VET in the Higher School Certificate.

Units of competency are the components against which assessment and reporting occur for the purpose of gaining credit towards an AQF qualification. They are also the focus of courses within an industry curriculum framework. In this sense, the elements of competency, which collectively define the outcomes of each unit of competency, also define the outcomes and determine the content of HSC VET courses within each framework.

## 5 Rationale

Information technology is a rapidly evolving industry area that is experiencing considerable and sustained growth. As an industry, information technology receives attention from governments, other industries and the community at large, and in many respects provides products and services that have a critical influence upon the way we go about our daily activities. Government and industry reports released in the last few years clearly indicate a need to address the information technology skill shortages to ensure the industry remains in a position to meet future demand.

The Information Technology Curriculum Framework has been developed in response to the needs of the industry and to provide relevant training and education opportunities for the full range of students. It is based on units of competency in the National Information Technology Training Package ICA99. The qualification available to students who achieve the appropriate units of competency in this industry curriculum framework is the AQF Certificate II in Information Technology. Students may also be eligible for an AQF Statement of Attainment with credit towards an AQF Certificate III in Information Technology.

The study of courses in the Information Technology Curriculum Framework can lead to career opportunities in a range of occupation areas. Careers for which information technology competencies are required include:

- computing software and hardware development
- information systems management
- telecommunications
- printing and publishing
- accounting
- teaching and education
- research.

The focus of each of the courses in this industry curriculum framework is in the **support** and **management** of the use of information technology. Learning in each course provides opportunities for students to gain relevant technical, business and interpersonal competencies.

## 6 Aim

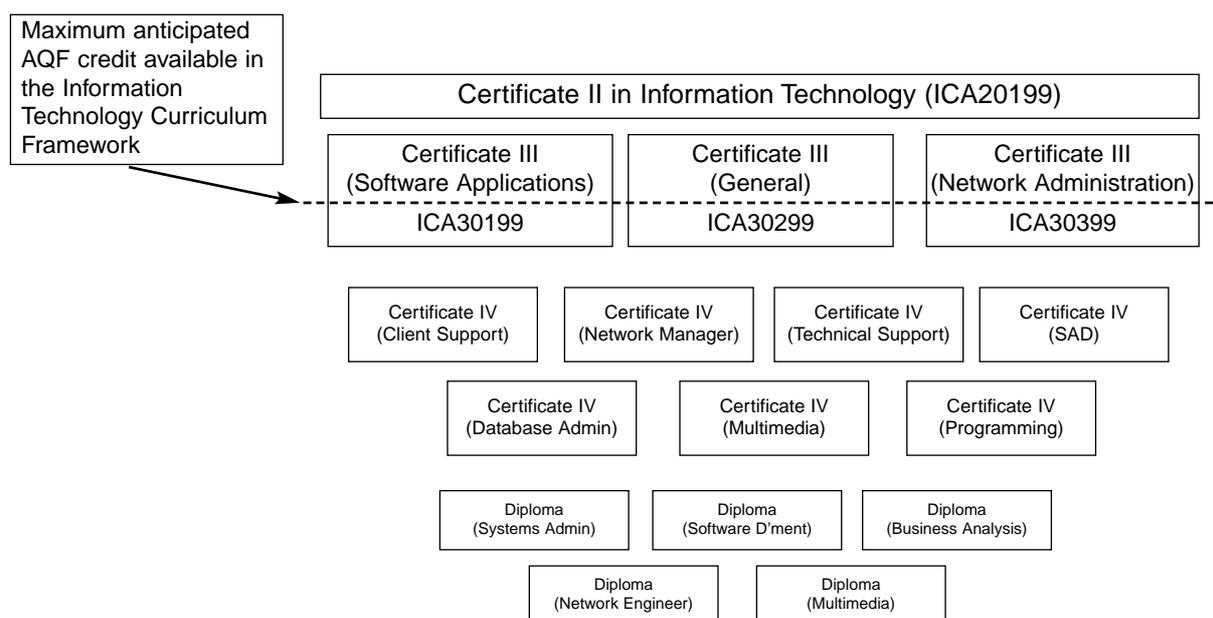
The Information Technology Curriculum Framework is designed to provide students with appropriate learning opportunities that will enable them to acquire a range of technical, personal and interpersonal skills valued both within and beyond the workplace as well as underpinning skills and knowledge related to the support and management of information technology.

## 7 Industry Curriculum Framework Structure

### 7.1 Training Package Qualifications Framework

The Information Technology Curriculum Framework is developed with reference to the Information Technology Training Package (ICA99). This training package incorporates 16 AQF qualifications ranging from Level II certificate through to Diploma. The qualifications framework appears in Figure 2.

#### Qualifications within the Information Technology Training Package



*Figure 2 Information technology qualifications framework, adapted from the Information Technology Training Package. It should be noted that people enter the information technology industry from a range of backgrounds. For this reason, progression paths from one qualification to the next are not identified in this diagram.*

*Consult the Information Technology Training Package ICA99 for recommended entry competencies into higher level qualifications.*

### 7.2 Characteristics of AQF Qualifications

AQF qualifications reflect a level of performance and degree of responsibility for one's own output and the output of others in a workplace context. The qualifications included in the AQF are defined in terms of units of competency and generally encompass attributes that might be broadly categorised as technical, interpersonal and environmental. The AQF levels relevant to the industry curriculum frameworks are Levels I to III. A brief description of Levels I, II and III, adapted from the *Australian Qualifications Framework Implementation Handbook*<sup>1</sup>, is provided over the page.

<sup>1</sup> Australian Qualifications Framework (AQF) Advisory Board, *The Australian Qualifications Framework Implementation Handbook*, 2nd ed, AQF Advisory Board, Carlton, VIC, 1998.

### **AQF Level 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.

### **AQF Level 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 application where there is a clearly defined range of contexts in which the choice of actions required is usually clear and there is limited complexity in the range of options to be applied.

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 between a limited range of options is required
- assess and record information from various sources
- take limited responsibility for one's own outputs in work and learning.

### **AQF Level III**

Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in 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.

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 actively in teams.

### 7.3 Summary of Units of Competency Included in the Information Technology Curriculum Framework

There are fifty units of competency that have been included in the Information Technology Curriculum Framework. These units have been drawn from seven of the ten available industry fields described in the training package and represent all the units included in AQF Certificates II and III.

The four AQF qualifications from which units of competency have been selected for this industry curriculum framework are:

- Certificate II in Information Technology — ICA20199
- Certificate III in Information Technology (Software Applications) — ICA30199
- Certificate III in Information Technology (General) — ICA30299
- Certificate III in Information Technology (Network Administration) — ICA30399

The details of each of the qualifications are in Appendix A.

The units of competency and the qualification(s) in which they are found are identified in Table 1 below.

Code	Unit Title	Field	Relationship to AQF qualification
PMX401A	Apply skills in project integration	IT Project Mgt	ICA30199
ICAITB070A	Create code for applications	Build	ICA30199
ICAITB002	Physical database requirements determined	Build	ICA30299
ICAITD003B	Receive and process oral and written communication	Documentation	ICA20199 ICA30399
ICAITD128A	Create user and technical documentation	Documentation	ICA30199 ICA30299 ICA30399
ICAITI016A	Build an Internet infrastructure	Implement	ICA30299
ICAITI097A	Install and configure a network	Implement	ICA30299
ICAITI101A	Install and manage network protocols	Implement	ICA30199 ICA30299 ICA30399
ICAITS106A	Change requests are actioned and completed	Support	ICA30399
ICAITS008B	Maintain equipment/software inventory	Support	ICA20199
ICAITS009B	Interact with clients	Support	ICA20199
ICAITS010B	Apply problem-solving techniques to achieve organisation goals	Support	ICA20199 ICA30399
ICAITS014B	Connect hardware peripherals	Support	ICA20199
ICAITS015A	Undertake capacity planning	Support	ICA30299
ICAITS015B	Install software applications	Support	ICA20199
ICAITS016B	Record client support requirements	Support	ICA20199 ICA30399

<b>Code</b>	<b>Unit Title</b>	<b>Field</b>	<b>Relationship to AQF qualification</b>
ICAITS017B	Maintain system integrity	Support	ICA20199
ICAITS020B	Install and optimise system software	Support	ICA30199 ICA30299
ICAITS021B	Connect internal hardware components	Support	ICA30199 ICA30299 ICA30399
ICAITS022B	Determine client computing problems and action	Support	ICA20199
ICAITS023B	Provide one-to-one instruction	Support	ICA30199 ICA30299 ICA30399
ICAITS024B	Provide basic system administration	Support	ICA30199 ICA30299 ICA30399
ICAITS025B	Run standard diagnostic tests	Support	ICA30199 ICA30299 ICA30399
ICAITS029B	Install network hardware to a network	Support	ICA30199 ICA30299
ICAITS030B	Install software to networked computers	Support	ICA30199 ICA30299
ICAITS031B	Provide advice to clients	Support	ICA30199 ICA30299 ICA30399
ICAITS032B	Provide network systems administration	Support	ICA30199 ICA30299 ICA30399
ICAITS034B	Determine and action network problem	Support	ICA30299 ICA30399
ICAITS115A	Maintain equipment and software in working order	Support	ICA30199 ICA30299 ICA30399
ICAITS117A	Maintain custom software	Support	ICA30299
ICAITS120A	Administer and configure a network operating system	Support	ICA30399
ICAITS121A	Administer network peripherals	Support	ICA20199 ICA30199 ICA30299 ICA30399
ICAITTW001B	Work effectively in an information technology environment	Team Work	ICA20199
ICAITTW002B	Communicate in the workplace	Team work	ICA20199
ICAITTW011B	Participate in a team and individually to achieve organisation goals	Team Work	ICA20199 ICA30399
ICAITTW027B	Relate to clients on a business level	Team Work	ICA30199 ICA30399
ICAITU004B	Apply Occupational Health and Safety procedures	Use	ICA20199

<b>Code</b>	<b>Unit Title</b>	<b>Field</b>	<b>Relationship to AQF qualification</b>
ICAITU005B	Operate computer hardware	Use	ICA20199
ICAITU006B	Operate computing packages	Use	ICA20199
ICAITU007B	Maintain equipment and consumables	Use	ICA20199
ICAITU012B	Design organisational documents using computing packages	Use	ICA20199
ICAITU013B	Integrate commercial computing packages	Use	ICA20199
ICAITU018B	Develop macros and templates for clients, using standard products	Use	ICA30199 ICA30299 ICA30399
ICAITU019B	Migrate to new use of technology	Use	ICA30199 ICA30299 ICA30399
ICAITU028B	Customise packaged software applications for clients	Use	ICA30199 ICA30299 ICA30399
ICAITU126A	Use advanced operation features of computer	Use	ICA30199 ICA30299 ICA30399
ICAITU127A	Operate system software	Use	ICA30199 ICA30299
ICPMM11bA	Identify components of multimedia	Use	ICA20199
ICPMM63bA	Access the Internet	Use	ICA20199
ICPMM65dA	Create web pages with multimedia	Use	ICA30199

*Table 1: The range of units of competency available in the Information Technology Curriculum Framework*

## 8 Course Structures

### 8.1 Courses within the Information Technology Curriculum Framework

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

There are five courses in the Information Technology Curriculum Framework. They are:

- Information Technology (120 indicative hours)
- Information Technology (180 indicative hours)
- Information Technology (240 indicative hours)
- Information Technology Specialisation Studies (60 indicative hours)
- Information Technology Specialisation Studies (120 indicative hours)

The following pages describe each of the courses in this industry curriculum framework. Figure 3 below summarises the course combinations available in the Information Technology Curriculum Framework.

Course	Extension course	Possibly leading to...
Information Technology (120 indicative hours)		Statement of Attainment with credit towards Certificate II
Information Technology (180 indicative hours)		Statement of Attainment with credit towards Certificate II
Information Technology (240 indicative hours) †		Certificate II
Information Technology (240 indicative hours) †	Information Technology Specialisation Studies (60 indicative hours)	Certificate II <b>plus</b> Statement of Attainment with credit towards Certificate III
Information Technology (240 indicative hours) †	Information Technology Specialisation Studies (120 indicative hours)	Certificate II <b>plus</b> Statement of Attainment with credit towards Certificate III
Information Technology Specialisation Studies (120 indicative hours)*		Statement of Attainment with credit towards Certificate III

† Optional external examination

\* Special entry considerations apply

Figure 3 Information Technology course combinations and possible AQF credit based on successful achievement of units of competency

## **8.2 Allocation of Hours for Unit Credit in the Higher School Certificate**

Units of competency drawn from industry 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 as well as the conditions under which learning takes place. Where a training program is designed for delivery by an RTO, the RTO will specify the length of the training program according to the curriculum resources/delivery strategies chosen.

However, for the purposes of the Higher School Certificate, courses must be described in terms of their duration. Courses are 240 indicative hour courses, 120 indicative hour courses or 60 indicative hour courses.

For this reason, the indicative hours for unit credit towards the Higher School Certificate have been assigned to each unit of competency within the industry curriculum framework. The allocation of indicative hours does not imply that all students will fulfil all requirements for a unit of competency within these hours. RTOs may determine that additional hours are required for the achievement of particular competencies. It is also expected that students will need to spend additional time in practising skills in a real or simulated work environment and in completing projects and assignments in order to fulfil industry assessment requirements.

The identified course structures list the indicative hours assigned to each unit of competency within the framework for the purpose of credit towards the Higher School Certificate. It should be noted that the total number of hours for Higher School Certificate credit in any given course may be slightly fewer or slightly more than the indicative hours identified for the course.

### 8.3 Information Technology (120 indicative hours)

#### Purpose

The purpose of this course is to provide students with an opportunity to develop competencies associated with the use and support of desktop applications relevant to an information technology setting.

#### Qualifications

Students who satisfy the course requirements and who achieve the units of competency described in the course structure will be eligible to receive unit credit towards their Higher School Certificate and an AQF Statement of Attainment in Information Technology. In addition, students will receive advanced standing towards an AQF Certificate Level II in Information Technology.

AQF Statements of Attainment and AQF qualifications are ONLY issued on the basis of successful achievement of units of competency as a result of assessment by a qualified assessor.

#### Course structure

Students must attempt all units of competency from Table 2 below.

#### Course requirements

Students must attempt each of the units of competency described in the course structure and undertake a minimum of 35 hours work placement, 14 hours of which may be in a simulated work placement program.

Information Technology (120 indicative hours)		
Code	Unit Title	Indicative Hours for HSC Credit
	<b>Attempt all units</b>	
ICAITW001B	Work effectively in an information technology environment	20
ICAITU004B	Apply Occupational Health and Safety procedures	10
ICAITU006B	Operate computing packages	20
ICAITU005B	Operate computer hardware	40
ICAITU012B	Design organisational documents using commercial computing packages	20
ICAITU013B	Integrate commercial computing packages	20

## **8.4 Information Technology (180 indicative hours)**

### **Purpose**

The purpose of this course is to provide students with an opportunity to develop competencies associated with the use and support of desktop applications and to develop additional competencies in an area of interest.

### **Qualifications**

Students who satisfy the course requirements and who achieve the units of competency described in the course structure will be eligible to receive unit credit towards their Higher School Certificate and an AQF Statement of Attainment in Information Technology. In addition, students will receive advanced standing towards an AQF Certificate Level II in Information Technology.

AQF Statements of Attainment and AQF qualifications are ONLY issued on the basis of successful achievement of units of competency as a result of assessment by a qualified assessor.

### **Course structure**

Students must attempt the unit of competency ICAITTW002B – Communicate in the workplace, plus one of four unit of competency groups from Table 3.

### **Course requirements**

Students must attempt each of the units of competency described in the course structure and undertake a minimum of 49 hours work placement, 21 hours of which may be in a simulated work placement program.

<b>Information Technology (180 indicative hours)</b>		
<b>Code</b>	<b>Unit Title</b>	<b>Indicative Hours for HSC Credit</b>
<b>Attempt all units</b>		
<b>ICAITTW001B</b>	<b>Work effectively in an information technology environment</b>	<b>20</b>
<b>ICAITU004B</b>	<b>Apply Occupational Health and Safety procedures</b>	<b>10</b>
<b>ICAITU006B</b>	<b>Operate computing packages</b>	<b>40</b>
<b>ICAITU005B</b>	<b>Operate computer hardware</b>	<b>20</b>
<b>ICAITU012B</b>	<b>Design organisational documents using commercial computing packages</b>	<b>20</b>
<b>ICAITU013B</b>	<b>Integrate commercial computing packages</b>	<b>20</b>
<b>ICAITTW002B*</b>	<b>Communicate in the workplace</b>	<b>20</b>

**PLUS all units of competency from either Group A, Group B, Group C or Group D**

<b>Group A</b>		
ICPMM63bA	Access the Internet	15
ICPMM11bA	Identify components of multimedia	15
ICAITD003B	Receive and process oral and written communication	15

<b>Group B</b>		
ICAITS010B	Apply problem-solving techniques to achieve organisational goals	15
ICAITTW011B	Participate in a team and individually to achieve organisational goals	15
ICAITS022B	Determine client computing problems and action	15

<b>Group C</b>		
ICPMM63bA	Access the Internet	15
ICAITS016B	Record client support requirements	15
ICAITS022B	Determine client computing problems and action	15

<b>Group D</b>		
<b>ICAITU007B</b>	<b>Maintain equipment and consumables</b>	<b>15</b>
<b>ICAITS017B</b>	<b>Maintain system integrity</b>	<b>15</b>
ICAITS121A	Administer network peripherals	15

*Table 3: Course structure for Information Technology (180 indicative hours). Units of competency shown in **bold** indicate core units within the AQF Certificate II in Information Technology.*

*\* Note that ICAITTW002B – Communicate in the workplace is NOT included in the course Information Technology (120 indicative hours).*

## **8.5 Information Technology (240 indicative hours)**

### **Purpose**

The purpose of this course is to provide students with opportunities to develop and enhance competencies relevant to employment in industries where information technology is used.

### **Qualifications**

Students who satisfy the course requirements and who achieve the units of competency described in the course structure will be eligible to receive unit credit towards their Higher School Certificate and an AQF Certificate Level II in Information Technology.

AQF Statements of Attainment and AQF qualifications are ONLY issued on the basis of successful achievement of units of competency as a result of assessment by a qualified assessor.

### **Course structure**

Students must attempt all core units from Table 4 as well as a minimum of four elective units of competency from Table 4.

### **Course requirements**

Students must attempt each of the units of competency described in the course structure and undertake a minimum of 70 hours work placement, 35 hours of which can be in a simulated work placement program.

### **Optional external examination**

Students undertaking this course may elect to sit for an external examination.

<b>Information Technology (240 indicative hours)</b>		
<b>Code</b>	<b>Unit Title</b>	<b>Indicative Hours for HSC Credit</b>
<b>Core</b> Attempt all units		
<b>ICAITTW001B</b>	<b>Work effectively in an information technology environment</b>	<b>20</b>
<b>ICAITU004B</b>	<b>Apply Occupational Health and Safety procedures</b>	<b>10</b>
<b>ICAITU006B</b>	<b>Operate computing packages</b>	<b>40</b>
<b>ICAITU005B</b>	<b>Operate computer hardware</b>	<b>20</b>
<b>ICAITU012B</b>	<b>Design organisational documents using commercial computing packages</b>	<b>20</b>
<b>ICAITU013B</b>	<b>Integrate commercial computing packages</b>	<b>20</b>
<b>ICAITU007B</b>	<b>Maintain equipment and consumables</b>	<b>15</b>
<b>ICAITTW002B</b>	<b>Communicate in the workplace</b>	<b>20</b>
<b>ICAITS014B</b>	<b>Connect hardware peripherals</b>	<b>10</b>
<b>ICAITS015B</b>	<b>Install software applications</b>	<b>20</b>
<b>ICAITS017B</b>	<b>Maintain system integrity</b>	<b>15</b>

<b>Electives</b>		
Choose a minimum of any four units		
ICAITD003B	Receive and process oral and written communication	15
ICAITS008B	Maintain equipment/software inventory	15
ICAITS009B	Interact with clients	15
ICPMM11bA	Identify components of multimedia	15
ICPMM63bA	Access the Internet	15
ICAITS016B	Record client support requirements	15
ICAITS010B	Apply problem-solving techniques to achieve organisational goals	15
ICAITTW011B	Participate in a team and individually to achieve organisational goals	15
ICAITS022B	Determine client computing problems and action	15
ICAITS121A	Administer network peripherals	15

Table 4: Course structure for Information Technology (240 indicative hours). Units of competency shown in **bold** indicate core units within the AQF Certificate II in Information Technology.

## **8.6 Information Technology Specialisation Studies (60 or 120 indicative hours)**

### **Purpose**

The purpose of Information Technology Specialisation Studies is to provide students with a range of opportunities to develop and enhance competencies in an area of specialisation relevant to employment where information technology is used. Students undertaking this course have the opportunity to receive credit towards one of the AQF Certificates Level III in Information Technology.

In addition, students undertaking either of these courses may be able to develop the necessary competencies to be eligible to undertake assessment for a vendor qualification.

### **Qualifications**

Students who satisfy the course requirements and who achieve the units of competency described in the course structure will be eligible to receive unit credit towards their HSC and credit towards an AQF Certificate Level III in Information Technology<sup>5</sup>.

AQF Statements of Attainment and AQF qualifications are ONLY issued on the basis of successful achievement of units of competency as a result of assessment by a qualified assessor.

### **Course structure**

Students enrolled in Information Technology Specialisation Studies (60 indicative hours) must attempt units of competency from Table 5 to a minimum value of 60 indicative hours.

Students enrolled in Information Technology Specialisation Studies (120 indicative hours) must attempt units of competency from Table 5 to a minimum value of 120 indicative hours.

**When choosing units of competency, students should be guided by the industry qualification framework for AQF Level III qualifications. This information is described in Table 5 and in Appendix A. Maximum credit for further training within this Qualifications Framework will be achieved by choosing units of competency that appear in each of the qualifications:**

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

**It should be noted, however, that students may choose any combination of units of competency for the purpose of the Higher School Certificate.**

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<sup>5</sup> Students who wish to be issued with an AQF Certificate Level II in Information Technology must be assessed as competent for each of the units of competency required for that qualification.

### **Course requirements**

Students enrolled in Information Technology Specialisation Studies must attempt each of the units of competency described in the course structure. Students will not, however, be able to receive Higher School Certificate unit credit for a unit of competency that they have already attempted as part of the Higher School Certificate in another course.

Students must undertake a minimum of 14 hours of work placement for the 60 indicative hour course, 7 hours of which may be in a simulated work placement program.

Students must undertake a minimum of 35 hours of work placement for the 120 indicative hour course, 14 hours of which may be in a simulated work placement program.

### **Course entry considerations**

Information Technology Specialisation Studies courses have been developed with reference to units of competency included in the AQF Certificates Level III in Information Technology and as such build upon previously achieved underpinning competencies included in the AQF Certificate Level II.

Information Technology Specialisation Studies (120 indicative hours) is available to students who have completed, or are enrolled in, Information Technology (240 indicative hours).

Information Technology Specialisation Studies (60 indicative hours) is an extension course. Course entry is only available to students who:

- have completed, or are enrolled in, Information Technology (240 indicative hours)

### **OR**

- have completed, or are enrolled in, Information Technology Specialisation Studies (120 hours indicative hours).

Under some circumstances, students may enrol directly in Information Technology Specialisation Studies (120 indicative hours) without having completed, or without being enrolled in, Information Technology (240 indicative hours). Under such circumstances, **it is strongly recommended** that students seek advice from a qualified information technology teacher/trainer/assessor as to their suitability for course entry. Typically, a student would attempt this course if they have been deemed competent at AQF Level II in Information Technology by a qualified assessor or are undertaking the course to enhance and/or complement other computing/information technology courses.

Code	Unit Title	Indicative Hours for HSC Credit	(C)ore and (E)lective Relationship with AQF Level III Qualifications		
			Cert III Software Application  ICA30199	Cert III General  ICA30299	Cert III Network Admin  ICA30399
Choose units to a minimum value of 60 indicative hours for Information Technology Specialisation Studies (60 indicative hours) or 120 indicative hours for Information Technology Specialisation Studies (120 indicative hours)					
PMX401A	Apply skills in project integration	40	C		
ICAITB070A	Create code for applications <sup>6</sup>	120	E		
ICAITB060A	Physical database requirements determined	50		C	
ICAITD003B	Receive and process oral and written communication ‡	20			E
ICAITD128A	Create user and technical documentation	30	C	C	C
ICAITI100A	Build an Internet infrastructure	50		E	
ICAITI097A	Install and configure a network	50		C	
ICAITI101A	Install and manage network protocols	30	E	E	C
ICAITS106A	Change requests are actioned and completed	60			E
ICAITS010B	Apply problem-solving techniques to achieve organisation goals ‡	15			E
ICAITS116A	Undertake capacity planning	50		E	
ICAITS020B	Install and optimise system software	20	C	C	
ICAITS021B	Connect internal hardware components	40	E	C	E
ICAITS023B	Provide one-to-one instruction	20	E	E	E
ICAITS024B	Provide basic system administration	20	E	C	C
ICAITS025B	Run standard diagnostic tests	10	C	C	C
ICAITS029B	Install network hardware to a network	40	E	E	
ICAITS030B	Install software to networked computers	40	E	E	
ICAITS031B	Provide advice to clients	40	C	C	C

<sup>7</sup> Careful consideration needs to be given to the selection of this unit of competency as part of the Higher School Certificate. ICAITB070A (Create code for applications) has been assigned 120 hours of Higher School Certificate credit, which is the maximum available Higher School Certificate credit. However, it is envisaged that achieving this unit of competency will exceed this allocated time by approximately 50%.

Code	Unit Title	Indicative Hours for HSC Credit	(C)ore and (E)lective Relationship with AQF Level III Qualifications		
			Cert III Software Application  ICA30199	Cert III General  ICA30299	Cert III Network Admin  ICA30299
ICAITS032B	Provide network systems administration	20	E	C	C
ICAITS034B	Determine and action network problems	20		E	C
ICAITS115A	Maintain equipment and software in working order	20	E	C	E
ICAITS117A	Maintain custom software	30		E	E
ICAITS120A	Administer and configure a network operating system	40			C
ICAITS121A	Administer network peripherals ‡	15	E	E	C
ICAITTW011B	Participate in a team and individually to achieve organisation goals ‡	15			E
ICAITTW027B	Relate to clients on a business level	20	E		E
ICAITU018B	Develop macros and templates for clients, using standard products	60	C	C	E
ICAITU019B	Migrate to new use of technology	20	C	C	E
ICAITU028B	Customise packaged software applications for clients	40	C	E	E
ICAITU126A	Use advanced operation features of computer	30	C	C	C
ICAITU127A	Operate system software	50	E	C	
ICPMM65dA	Create web pages with multimedia	20	E		

Table 5: Course structure for Information Technology Specialisation Studies.  
Units of competency identified with a ‡ indicate units for which credit is given in Information Technology (120, 180 or 240 indicative hours).

## 9 Outcomes and Content

### 9.1 Units of Competency

Details of individual units of competency included in the Information Technology Curriculum Framework for the Higher School Certificate are contained in Part B of this syllabus. The units determine both the outcomes of learning and its content for courses within the framework.

The text for each unit included is identical to that in the National Information Technology Training Package. For each unit of competency, the:

- elements of competency
- performance criteria
- range of variables and
- evidence guide including:
  - critical aspects of evidence
  - underpinning knowledge and skills
  - relationship to key competencies
  - context and method of assessment
  - resource implications

are transcribed directly from the training package.

Accompanying each unit of competency in Part B is an additional section entitled 'HSC Requirements'. This section prescribes the scope of learning expected of Stage 6 students. It also describes a range of resources that teachers might use in developing and delivering teaching and learning programs containing the unit, possible teaching and assessment strategies and the relationships between the unit and learning outcomes in other HSC courses.

The units of competency that can be delivered and assessed are determined by the scope of registration of the RTO. Teachers and trainers should check the scope of registration before determining which units of competency will be included in their teaching and assessment programs. Every RTO must be able to provide documentary evidence defining their scope of registration and this should be sought wherever a school student is accessing learning and assessment through an external provider other than a TAFE college.

For guidelines as to the delivery of training programs by RTOs other than schools or TAFE colleges, teachers and principals should consult the Board of Studies *Assessment, Certification and Examination (ACE) Manual* or relevant Board of Studies' Official Notices.

## **9.2 Course Delivery — Training Programs, Learning Materials, Resources and Teacher Qualifications**

It is the responsibility of the RTO to determine the learning materials that will be used to deliver courses within the Information Technology Curriculum Framework.

In many cases, it is expected that RTOs will choose to use the non-endorsed materials from the Information Technology Training Package. This curriculum has been developed in parallel with the endorsed components of the Information Technology Training Package and corresponds to units of competency on a one to one basis.

Alternatively, RTOs may develop their own training materials or use a combination of in-house and commercially produced curriculum resources.

Further advice on curriculum materials that may be used to support the delivery of courses within the Information Technology Curriculum Framework is listed with each unit of competency in Part B of this syllabus and in the Information Technology support document. This information is provided as a guide to RTOs and teachers delivering HSC courses within the curriculum framework. The use of the listed modules and other training materials is not mandatory.

It is also the responsibility of the RTO to determine the resources required for course delivery and the qualifications required by teachers and trainers delivering courses on behalf of the RTO.

Separate advice on:

- learning materials
- resource requirements
- teacher qualifications

is provided by school system authorities.

## 10 Work Placement

The courses in the VET industry curriculum frameworks have been designed to deliver specified units of competency. The units of competency have been drawn from the Industry Training Packages. They have associated indicative hours to guide schools and other deliverers.

**Work placement is a mandatory HSC requirement of each course within this framework and indicative hours have been assigned to the work placement requirement for 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 off the job in a classroom or workshop
- develop additional skills and knowledge, including the key competencies.

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 workplace learning required for competency achievement will vary from student to student. Assessment of the units of competency is to be undertaken by a qualified assessor(s) either in a work placement or in classroom delivery.

### Work Placement Requirement

Students are required to complete the following mandatory work placement:

Information Technology (240 indicative hours)

– a minimum of 70 hours in a workplace

Information Technology (180 indicative hours)

– a minimum of 49 hours in a workplace

Information Technology (120 indicative hours)

– a minimum of 35 hours in a workplace

Information Technology Specialisation Study (120 indicative hours)

– a minimum of 35 hours in a workplace

Information Technology (60 indicative hours)

– a minimum of 14 hours in a workplace

It is the responsibility of the school or RTO to determine how course outcomes are best to be achieved and structure delivery accordingly. If additional work placement or classroom time is required to enable individual or class groups of students to achieve the competencies this will be determined by the deliverer.

Further information and advice on the implementation of work placement is contained in policy statements or guidelines available from the relevant school system authority/RTO. Advice on the use of simulated work placements will be contained in the Information Technology Support Document.

### 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 Board of Studies' *Assessment, Certification and Examination (ACE) Manual* or relevant Board of Studies' Official Notices.

## 11 Assessment Requirements and Advice

Assessment is the process of gathering information and making judgements about student achievement for a variety of purposes. In the Higher School Certificate, those purposes include:

- assisting student learning
- evaluating and improving teaching and learning programs
- certifying satisfactory achievement and completion of courses
- reporting achievement in the Higher School Certificate.

For VET courses they also include assessment for the purpose of achieving AQF qualifications and Statements of Attainment.

The information in this section relates to the Board of Studies' requirements for assessing and reporting achievement in the Higher School Certificate. In this context, *assessing* refers to competency based assessment and to external examinations. *Reporting* refers to the documents used by the Board and RTOs to report both measures of achievement.

### 11.1 Competency Based Assessment

The courses within the Information Technology Curriculum Framework are competency based courses. The Board of Studies and the Vocational Education and Training Accreditation Board (VETAB) require that a competency based approach to assessment be used and that a record be held by the RTO of the competencies achieved.

In a competency based course, assessment of competencies is criterion referenced. This means that a participant's performance is judged against a prescribed standard — not against the performance of other participants.

The purpose of assessment is to judge competence on the basis of performance against the performance criteria set out under each element of competency. A participant is judged either **competent** or **not yet competent**. Assessment should be fair, valid and consistent.

Competency based assessment is based on the requirements of the workplace. Competence incorporates all aspects of work performance, including problem solving and the capacity to apply skills and knowledge in both familiar and new situations. Assessment of competence involves the assessment of skills and knowledge combined.

It is not necessary, nor is it necessarily desirable, for individual performance criteria to be demonstrated separately for assessment purposes. Rather, assessors should adopt an **integrated** or **holistic** approach to assessment. This means that a number of elements of competency or even several units of competency are assessed

together. This method of assessment is encouraged in line with the concept of competence as the integration of a wide range of skills, knowledge and attitudes and is emphasised in the Information Technology Training Package.

## 11.2 Training Package Requirements

To achieve an AQF Certificate or Statement of Attainment a student or worker must be **assessed as competent** according to the requirements set out in the national training package. The assessment must be conducted by a **qualified assessor** through the auspices of the RTO that is to issue the qualification.

### Assessment guidelines

The assessment guidelines of a training package are, along with qualifications and units of competency, one of the three **endorsed components** (mandatory components) of the package.

The role of the assessment guidelines is to provide the principles and guidance to ensure that assessment is fair, valid, consistent and to industry standard.

The full text of the assessment guidelines is contained in the National Information Technology Training Package and is on the National Training Information Service (NTIS) website ([www.ntis.gov.au](http://www.ntis.gov.au)).

### Unit assessment

Assessment may be conducted for individual units of competency or for groups of units of competency. Candidates assessed as competent in one or more individual units will be eligible for a Statement of Attainment showing partial completion of the relevant Certificate. In the case of unit assessment, evidence is also most relevant when provided through a holistic assessment activity that integrates the elements of competency for each unit.

In addition to the assessment guidelines, the Information Technology Training Package sets out detailed assessment requirements — the evidence guide — for each unit of competency and provides advice indicating where units can be assessed interdependently. These requirements are set out within the text of each unit of competency included in Part B of this syllabus package.

### Using qualified assessors

The assessment guidelines in the Information Technology Training Package specify that assessment must be conducted by a qualified assessor.

Within the Information Technology Curriculum Framework, there are two assessor qualification components:

- a minimum qualification as a workplace assessor
- a minimum level of technical competence, at least to the level being assessed.

It is important to note that the two components of assessor qualification need not be met by one individual. The 'qualified assessor' may consist of an **assessment team** in which one partner has assessor qualifications and knowledge and the other has technical competence in information technology.

The Information Technology Training Package is accompanied by a non-endorsed component. This resource contains suggested delivery strategies, including case studies and sample assessment instruments. In addition, the non-endorsed component of the training package includes a resource database. Non-endorsed components of the training package are available from Australian Training Products (ph: 03 9630 9836).

### **11.3 Competency Record Book**

The competency record book (student log) forms a permanent record of all units and elements of competency demonstrated by students undertaking courses within the Information Technology Curriculum Framework.

Achievement of elements of competency and units of competency should be progressively recorded in the competency record book. It should be noted that:

- all performance criteria need to be met to demonstrate the achievement of an element of competency
- all elements of competency must be achieved in order to demonstrate the achievement of a unit of competency.

### **11.4 Higher School Certificate Examination — Information Technology**

The Higher School Certificate examination in Information Technology is optional. It will consist of a written examination. Students will nominate during the HSC year to undertake the optional examination.

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

### **11.5 Higher School Certificate Examination Specifications**

The examination in Information Technology is a 2 hour written paper and is worth 100 marks. The paper is marked out of 80. The total marks gained are then converted to a final mark out of 100.

The paper will be based on three areas.

- 1 Core units of competency in Information Technology, including:
  - elements of competency
  - performance criteria
  - critical aspects of evidence
  - underpinning knowledge and skills.

These core units are:

ICAITTW001B	Work effectively in an information technology environment
ICAITTW004B	Apply Occupational Health & Safety procedures
ICAITU006B	Operate computing packages – applications desktop
ICAITU005B	Operate computer hardware
ICAITU012B	Design organisational documents using commercial computing packages
ICAITU013B	Integrate commercial computing packages
ICAITU007B	Maintain equipment and consumables
ICAITTW002B	Communicate in the workplace
ICAITS014B	Connect hardware peripherals
ICAITS015B	Install software applications
ICAITS017B	Maintain system integrity.

- 2 Minimum prescribed learning contained in the Higher School Certificate requirements for each unit of competency (see *Information Technology Curriculum Framework*, Part B), including:
  - minimum learning for the Higher School Certificate
  - key terms and concepts.
- 3 Associated key competencies.

The paper will consist of THREE sections.

Section I (15 marks)

- There are FIFTEEN multiple-choice questions.
- All questions in this section are compulsory.
- All questions are of equal value.

Section II (35 marks)

- The questions in this section are short response items, in parts.
- All questions in this section are compulsory.
- Question parts will range in value.

Section III (30 marks)

- The questions in this section are extended response items.
- Students must attempt TWO questions.
- All questions are of equal value.

## **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 as specified
- demonstrated that they have applied themselves to the set tasks and experiences with diligence and sustained effort
- undertaken the mandatory work placement
- achieved some or all of the course outcomes.

To gain an AQF qualification or Statement of Attainment, a student must demonstrate competence in ALL units of competency as required for that qualification or Statement of Attainment and have had the assessment undertaken by a qualified industry assessor.

### **12.2 Preliminary and HSC Unit Credit**

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

### **12.3 Higher School Certificate Record of Achievement**

Courses within the Information Technology Curriculum Framework will be listed on the Higher School Certificate Record of Achievement, together with the unit value of the course.

No mark will be listed for the achievement of competency but the Record of Achievement will refer to the AQF qualifications, which will be issued separately. The issuing of AQF Certificates and Statements of Attainment is subject to the requirements in section 11.2 above.

For students enrolled in the Board developed course in Information Technology and who have undertaken the Higher School Certificate examination in Information Technology (240 indicative hours), a scaled examination mark out of 100 will be recorded on the Higher School Certificate Record of Achievement. No school-based assessment mark will be recorded.

## 13 Other Information

### 13.1 Providing for all Students

#### **Students with special education needs**

Courses within the Information Technology Curriculum Framework are available to all students, including those with special education needs. Students following an HSC Special Program of Study may be allowed additional unit credit towards the HSC for courses within the framework.

Courses within industry curriculum frameworks will provide students with special education needs with access to pathways between school and work.

Successful participation in these courses for such students is dependent on:

- 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 competency to industry standard, students with special education needs may require extended time and additional support off the job and in the workplace. Careful planning is needed to ensure that students can maintain and apply the competencies being developed. Close links between school and work placement may also be necessary.

Further advice on the implementation of the Information Technology Curriculum Framework for students with special education needs is contained in the industry curriculum framework support document for students with special needs developed by the Board of Studies.

#### **Gender and cultural considerations**

Industry curriculum frameworks have been developed to address the needs of a broad range of students. For this reason, teaching and assessment programs in this industry curriculum framework should be, wherever possible, 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.

#### **Part-time trainees**

This industry curriculum framework has been developed to facilitate the recognition of learning undertaken by indentured part-time trainees.

The Board of Studies is able to endorse courses identified as part of the training arrangements for indentured part-time trainees. Advice regarding the nature and extent of endorsement will vary according to the proposed information technology traineeship program and is therefore not published here.

Further information about traineeships is available from the Department of Education and Training (DET), New Apprenticeship Centres (NACs) and the Board of Studies.

## 13.2 Key Competencies

The key competencies are competencies considered essential for effective participation in the emerging patterns of work and work organisation 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 work in particular occupations or industries. The key competencies referred to in the Information Technology Curriculum Framework are:

- collect, analyse and organise information
- communicate ideas and information
- plan and organise activities
- work with others and in teams
- use mathematical ideas and techniques
- solve problems
- use technology.

Each unit of competency included in this industry curriculum framework identifies the relationship between the unit and the key competencies. This relationship is represented by a performance level (1 to 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 re-shape 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 integral to 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.

### **13.3 Links Between the Information Technology Curriculum Framework and other HSC Courses**

Links exist between courses in the Information Technology Curriculum Framework and other subjects in the HSC curriculum. These links can be used to enhance student opportunities.

Students entering Year 11 will have completed 50 hours compulsory computing. To this end, a link exists between the Information Technology Curriculum Framework and the Stage 4 and Stage 5 curriculum.

Links also exist between courses in the Information Technology Curriculum Framework and Stage 6 Software Design and Development and Stage 6 Information Processes and Technology, particularly in the area of the use of application software. These links enable learning to be enhanced. Links also exist with the Business Services Curriculum Framework and the Tourism and Hospitality Curriculum Framework where application software is addressed.

### **13.4 Articulation to Further Training**

Students achieving units of competency within this industry curriculum framework will be eligible to receive advanced standing in further training in this industry area under the ARF.

Teachers and students should study the qualifications framework within the relevant training package to identify possible training pathways that are available.

Furthermore, students may in some cases receive academic credit at university in a related discipline. Such arrangements are often negotiated at a local level between the university and local schools. This information is likely to be available through careers teachers or school principals.

## 14 Glossary

ANTA	<b>Australian National Training Authority</b>
AQF	Australian Qualifications Framework — the AQF is a comprehensive policy framework defining all qualifications recognised nationally in post-compulsory education and training within Australia. The qualification level depends on the depth, complexity and degree of autonomy involved in the work. The Australian Qualifications Framework comprises guidelines that define each qualification, together with principles and protocols covering articulation, issuing of a qualification and transition arrangements.
ARF	<b>Australian Recognition Framework</b> — the ARF 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 that assess competency outcomes and issue qualifications. It includes mutual recognition, processes for registering training organisations and quality assurance. It replaces the National Framework for the Recognition of Training and is part of the National Training Framework.
assessment guidelines	The requirements of the assessment system in the industry's training package. This component is mandatory and needs to be read in conjunction with the assessment requirements of each competency standard.
AVETMISS	<b>Australian Vocational Education and Training Management Information Statistical Standard</b>
competency standards/units of competency	<p>The specification of knowledge and skill and the application of that knowledge and skill to the standards of performance required in the workplace, expressed as a competency standard. They provide a description of the skills, knowledge and attitudes required to perform particular kinds of work. Competency standards also define the outcomes for training delivery, assessment and the issue of qualifications and Statements of Attainment under the Australian Recognition Framework.</p> <p>Units of competency are composed of elements of competency. They include performance criteria (which specify the required level of performance), the range of variables (which indicates the context for performance) and the evidence guide (which indicates the context for assessment).</p>

	<p>Competencies are developed nationally as an endorsed component of training packages or, where no relevant training package exists, as the basis for defining the learning outcomes of an accredited course.</p>
compliance assessment	<p>A systematic and independent external assessment administered by a State Training Authority/State Recognition Authority to determine whether a Registered Training Organisation is operating effectively within its registered scope.</p>
element of competency	<p>The basic building blocks of the unit of competency. Elements of competency break down a unit of competency into workplace related tasks.</p>
ITAB	<p><b>Industry Training Advisory Body</b> — ITABs are independent incorporated associations or companies. The state ITABs work directly with industry enterprises and providers to implement training arrangements and assist with the development of training programs. The national ITABs are also concerned with the development of National Training Packages.</p>
mutual recognition	<p>This encompasses Registered Training Organisations, qualifications and training products:</p> <ul style="list-style-type: none"><li>• Registered Training Organisations — acceptance by a State Recognition Authority/State Training Authority enabling a Registered Training Organisation to operate within its jurisdiction on the basis of its primary registration</li><li>• qualifications — acceptance by a Registered Training Organisation of the recognition decisions of other Registered Training Organisations/State Recognition Authorities relating to the issue of qualifications and Statements of Attainment, enabling individuals to receive full recognition of their achievements, including credit transfer where appropriate</li><li>• training products — acceptance of recognised training products available in the training market. This includes endorsed training packages, training programs for training packages and accredited courses.</li></ul>
NTF	<p><b>National Training Framework</b></p>

NTIS	<p><b>National Training Information Service</b> — the NTIS is a relational database that provides up-to-date information on recognised vocational education and training, including details of endorsed training packages and their components (competency standards, assessment guidelines and qualifications and any non-endorsed components) together with details of Registered Training Organisations and their scope of registration. The web address for NTIS is <a href="http://www.ntis.gov.au">www.ntis.gov.au</a>.</p>
OH&S	<p><b>Occupational Health and Safety</b></p>
qualification	<p>The defined set of competencies that establishes a specified and identifiable point of achievement, relevant to industry and community needs, expressed in accordance with the titles of the Australian Qualifications Framework and recognised through endorsement as part of a training package or recognised through accreditation. The credential awarded by a Registered Training Organisation demonstrates the achievement of the defined set of competencies.</p>
RTO	<p><b>Registered Training Organisation</b> — any training organisation, registered in accordance with the Australian Recognition Framework, providing vocational education, training and/or assessment services. Includes TAFE colleges/institutes, private commercial providers, community providers, schools, higher education institutions, enterprises and firms, industry bodies and any other organisation that meets the requirements for registration.</p>
scope of registration	<p>Defines the parameters of recognition as a Registered Training Organisation in respect of the products and services offered and the range of areas in which the organisation operates. Scope establishes whether the organisation is registered for training delivery and/or skill recognition services and the qualifications and Statements of Attainment it has been granted authority to issue, identified by training packages or accredited courses.</p>
Statement of Attainment	<p>The formal certification issued by a relevant approved body (Registered Training Organisation or State Recognition Authority), in recognition that a person has achieved some of the competencies identified for a particular qualification (within a training package, accredited course or customised qualification).</p>

training packages                      Comprehensive, integrated products that provide national benchmarks and resources for delivery, assessment and qualifications in vocational education and training. Training packages comprise endorsed components of national competency standards, assessment guidelines and qualifications, combined with non-endorsed components, which may include learning strategies, assessment resources and professional development materials.

VET    **Vocational Education and Training**

VETAB     **The Vocational Education and Training Accreditation Board**

## Appendix A A QF Certificates II and III in the Information Technology Training Package

This section describes the composition of A QF Certificates II and III in the training package. This detail has been included as it may help guide the selection of units of competency when developing a training program using the course structures in Section 6.

### Certificate II in Information Technology ICA20199

A qualification will be issued based on successful assessment of the core units of competency and any four units, two of which can be drawn from any other nationally endorsed training package, once agreed to by the relevant Industry Training Advisory Board.

<b>Core</b>	
ICAITTW001B Work effectively in an information technology environment ICAITTW002B Communicate in the workplace ICAITU004B Apply Occupational Health and Safety procedures ICAITU005B Operate computer hardware ICAITU006B Operate computing packages	ICAITU007B Maintain equipment and consumables ICAITU012B Design organisational documents using commercial computing packages ICAITU013B Integrate commercial computing packages ICAITS014B Connect hardware peripherals ICAITS015B Install software applications ICAITS017B Maintain system integrity

<b>Electives</b>	
ICAITD003B Receive and process oral and written communication ICAITS008B Maintain equipment and software inventory ICAITS009B Interact with clients ICPMM11bA Identify components of multimedia ICPMM63b Access the Internet	ICAITS016B Record client support requirements ICAITS010B Apply problem-solving techniques to achieve organisation goals ICAITTW011B Participate in a team and individually to achieve organisation goals ICAITS022B Determine client computing problems and action ICAITS121A Administer network peripherals

### Certificate III in Information Technology (Software Applications) ICA30199

A qualification will be issued based on successful assessment of the core units of competency and any four units, two of which can be drawn from any other nationally endorsed training package, once agreed to by the relevant Industry Training Advisory Board.

#### Recommended entry competencies:

ICAITTW001B	Work effectively in an information technology environment
ICAITTW002B	Communicate in the workplace
ICAITU004B	Apply Occupational Health and Safety procedures
ICAITU005B	Operate computer hardware
ICAITU006B	Operate computing packages – applications desktop
ICAITU007B	Maintain equipment and consumables
ICAITU012B	Design organisational documents using commercial computing packages
ICAITU013B	Integrate commercial computing packages
ICAITS014B	Connect hardware peripherals
ICAITS015B	Install software applications
ICAITS017B	Maintain system integrity.

<b>Core</b>	
ICAITU018B Develop macros and templates for clients, using standard products	ICAITD128A Create user and technical documentation
ICAITU028B Customise packaged software applications for clients	ICAITS020B Install and optimise system software
PMX401A Apply skills in integration management	ICAITS025B Run standard diagnostic tests
ICAITU126A Use advanced operation features of a computer	ICAITU019B Migrate to new use of technology
	ICAITS031B Provide advice to clients

<b>Electives</b>	
ICAITS115A Maintain equipment and software in working order	ICAITTW027B Relate to clients on a business level
ICAITS021B Connect internal hardware components	ICAITS024B Provide basic system administration
ICAITS029B Install network hardware to a network	ICAITS030B Install software to networked computers
ICAIT070A Create code for applications	ICAITS032B Provide network systems administration
ICAITU127A Operate system software	ICAITS023B Provide one-to-one instruction
ICAITI101A Install and manage network protocols	ICAITS121A Administer network peripherals
	ICPMM65dA Create web pages with multimedia

### Certificate III in Information Technology (General) ICA30299

A qualification will be issued based on successful assessment of all the core units of competency and any three elective units, two of which can be drawn from any other nationally endorsed training package.

#### Recommended entry competencies:

During the national consultations for the Client Support Training Package and the Information Technology Training Package the following units of competency were seen as being fundamental for anyone working with information technology.

ICAITTW001B	Work effectively in an information technology environment
ICAITTW002B	Communicate in the workplace
ICAITU004B	Apply Occupational Health and Safety procedures
ICAITU005B	Operate computer hardware
ICAITU006B	Operate computing packages – applications desktop
ICAITU007B	Maintain equipment and consumables
ICAITU012B	Design organisational documents using commercial computing packages
ICAITU013B	Integrate commercial computing packages
ICAITS014B	Connect hardware peripherals
ICAITS015B	Install software applications.
ICAITS017B	Maintain system integrity.

<b>Core</b>	
ICAITU019B Migrate to new use of technology	ICAITD128A Create user and technical documentation
ICAITS024B Provide basic system administration	ICAITS020B Install and optimise system software
ICAITS025B Run standard diagnostic tests	ICAITB060A Physical database requirements determined
ICAITS115A Maintain equipment and software in working order	ICAITI097A Install and configure a network
ICAITS021B Connect internal hardware components	ICAITU127A Operate system software
ICAITU018B Develop macros and templates for clients using standard products	ICAITS031B Provide advice to clients
ICAITS032B Provide network systems administration	ICAITU126A Use advanced operation features of a computer

<b>Electives</b>	
ICAITS029B Install network hardware to a network	ICAITS030B Install software to networked computers
ICAITU028B Customise packaged software applications for clients	ICAITS117A Maintain custom software
ICAITI101A Install and manage network protocols	ICAITS121A Administer network peripherals
ICAITS034B Determine and action network problems	ICAITS023B Provide one-to-one instruction
ICAITS116A Undertake capacity planning	ICAITB060A Physical database requirements determined
ICAITI100A Build an Internet infrastructure	

### Certificate III in Information Technology (Network Administration) ICA30399

A qualification will be issued based on successful assessment of the core units of competency and any three units, two of which can be drawn from any other nationally endorsed training package, once agreed to by the relevant Industry Training Advisory Board.

#### Recommended entry competencies:

ICAITTW001B	Work effectively in an information technology environment
ICAITTW002B	Communicate in the workplace
ICAITU004B	Apply Occupational Health and Safety procedures
ICAITU005B	Operate computer hardware
ICAITU006B	Operate computing packages – applications desktop
ICAITU007B	Maintain equipment and consumables
ICAITU012B	Design organisational documents using commercial computing packages
ICAITU013B	Integrate commercial computing packages
ICAITS014B	Connect hardware peripherals
ICAITS015B	Install software applications
ICAITS017B	Maintain system integrity.

<b>Core</b>	
ICAITS025B Run standard diagnostic tests	ICAITD128A Create user and technical documentation
ICAITS121A Administer network peripherals	ICAITS120A Administer and configure a network operating system
ICAITS031B Provide advice to clients	ICAITI101A Install and manage network protocols
ICAITS032B Provide network systems administration	ICAITS024B Provide basic system administration
ICAITU126A Use advanced operation features of a computer	ICAITS034B Determine and action network problems
<b>Electives</b>	
ICAITU019B Migrate to new use of technology	ICAITS117A Maintain custom software
ICAITS115A Maintain equipment and software in working order	ICAITS106A Change requests are actioned and completed
ICAITS021B Connect internal hardware components	ICAITS023B Provide one-to-one instruction
ICAITU028B Customise packaged software applications for clients	ICAITTW027A Relate to clients on a business level
ICAITU018B Develop macros and templates for clients using standard products	ICAITTW011B Participate in a team and individually to achieve organisational goals
ICAITS010B Apply problem-solving techniques to achieve organisation goals	ICAITD003B Receive and process oral and written communication