

3.2 Programming Individual Units of Competency

When programming individual units of competency:

- ensure that all elements of competency are addressed
- ensure that HSC requirements are addressed
- stress links with other units
- as far as possible, adopt an integrated assessment approach.

Sample Program Working in the industry

Rationale: This program is intended to provide the opportunity for students to develop knowledge and skills required to work in an IT industry.

Students will develop the specific knowledge and understanding to enable the skills to be developed and applied in the workplace

Units of competency: ICAW2001A Work effectively in an IT environment

HSC Requirements and Advice – Key terms and concepts:

Work effectively in an IT environment	
<ul style="list-style-type: none"> • anti-discrimination • awards, agreements and contracts • basic research skills • bullying and harassment • career opportunities and pathways • completion of work tasks • current industry practices • emerging technologies • employment conditions • equal employment opportunity (EEO) • equipment • equipment audits • information and communications technology (ICT) • ICT environment • ICT industry • ICT personnel • ICT roles • ICT specialist • ICT user • implementation of policies and procedure 	<ul style="list-style-type: none"> • inappropriate conduct • interrelationship between ICT industry and other industries • key ICT bodies • knowledge of an organisation in relation to its ICT capacity, assets, services and staff • management of ICT • monitoring compliance of policies and procedures • operating systems • outsourcing • personal attributes • recording and reporting • rights and responsibilities • service areas • software • sources of current industry information • statistics and current trends • vendor • vocational specialisations • work ethics • workplace policies and procedures.

Assessment:

Unit/Element of competency	Possible assessment strategy
<p>ICAW2001A Work effectively in an IT environment</p> <p>1 Identify IT in an organisation and related relevant policies and procedures</p> <p>2 Identify IT equipment, software and operating systems used by the organisation</p>	<p>Task 1 <i>Work placement folio</i></p> <p>Students are to prepare a work placement folio describing policies, procedures and personnel involved in an ICT work environment using appropriate application software.</p> <p>The folio should include the following:</p> <ul style="list-style-type: none"> • an organisational chart identifying key players in the work placement organisation • outline of the jobs and roles undertaken by those responsible for ICT and service areas in the organisation • description of one workplace policy and the procedures to implement that policy in the organisation • outline of the hardware and software available in the organisation and its use • the type and extent of ICT assets managed by the ICT area/staff • description of the procedures for asset management and maintenance undertaken by the organisation • personal evaluation of own performance in completing a range of tasks in the workplace in terms of compliance with safety procedures, following supervisor directions, adherence to workplace policies, maintaining work space and seeking advice. <p>In addition students are to keep a log of tasks undertaken during work placement. This should outline how they:</p> <ul style="list-style-type: none"> • compiled with safety procedures • followed supervisor directions • adhered to workplace policies • maintained work space • sought advice during the completion of workplace tasks.

Unit/Element of competency	Possible assessment strategy
<p>ICAW2001A Work effectively in an IT environment</p> <p>2 Identify IT equipment, software and operating systems used by the organisation</p> <p>2.2 Establish that all of the equipment locations and service requirements are maintained according to organisational requirements and prevailing policies and procedures</p>	<p>Task 2 <i>IT resource audit</i></p> <p>Students complete a software/hardware audit of the IT classroom(s).</p> <p>Items for review should include:</p> <ul style="list-style-type: none"> • computer name • asset number • supplier • model • purchase date • processor • memory • hard disk capacity • operating system • monitor • peripheral devices • location.

Unit / Element of competency / Performance criteria	Content	Possible learning experiences / activities
<p><i>ICAW2001A Work effectively in an IT environment</i></p> <p>1 Identify IT in an organisation and related relevant policies and procedures</p> <p>1.1 Identify IT roles in an organisation and briefly describe what services they perform</p> <p>1.2 Identify and describe <i>key players</i> from the IT service previously identified</p> <p>1.3 Identify IT policies and procedures and research whether they are used in practice</p> <p>2 Identify IT equipment, software and operating systems used by the organisation</p> <p>2.1 Identify IT <i>equipment, operating systems</i> and <i>software</i> used in the organisation and understand the importance and role within the organisation</p>	<p>Industry knowledge</p> <p>An awareness of the following in relation to the ICT industry:</p> <ul style="list-style-type: none"> • current trends • interrelationship with other industries. <p>An awareness of emerging technologies relevant to the ICT industry and their effect on:</p> <ul style="list-style-type: none"> • current work practices • productivity • employment • education and training • market conditions • cost effectiveness. <p>An awareness of the following in relation to the ICT industry:</p> <ul style="list-style-type: none"> • statistics <ul style="list-style-type: none"> - employment - income <p>Skills for:</p> <ul style="list-style-type: none"> • basic research <ul style="list-style-type: none"> - identification of relevant information - questioning techniques to obtain information - sorting, summarising and presenting information 	<p>Discuss current trends in ICT industry including:</p> <ul style="list-style-type: none"> • contract work • types of positions available • number of jobs and areas for employment • outsourcing • vendors • education and training opportunities • market conditions • productivity. <p>Brainstorm the range of industries that have an interrelationship with the ICT industry.</p> <p>Students are to find a newspaper article about an emerging ICT technology and analyse its potential effect on the industry, examining each of the elements listed.</p> <p>Students collect newspaper, magazine or web articles over the course of the unit, regarding current employment trends in ICT.</p> <p>Guest speaker – school librarian – workshop introducing basic research skills.</p>

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	<ul style="list-style-type: none"> • reading and writing at a level where workplace documents can be written and understood • clear and precise verbal communication. <p>A basic understanding of the primary role/function of key ICT industry bodies:</p> <ul style="list-style-type: none"> • industry stakeholders/associations <ul style="list-style-type: none"> - NSW Communications ITAB - Innovation and Business Skills Australia (IBSA) - Australian Computer Society (ACS) - Australian Information Industry Association (AIIA) - CompTIA - Australian Telecommunications User Group (ATUG) • government bodies <ul style="list-style-type: none"> - Department of Commerce, Information Technology and the Arts (DCITA) • unions/staff associations <ul style="list-style-type: none"> - Australian Services Union (ASU) - Australian Workers Union (AWU) • other lobbyists/interest groups <ul style="list-style-type: none"> - software association - internet association - service providers association - users group. <p>Knowledge of service areas (non-trade area where ICT personnel work and provide a service/response, for example call centre, helpdesk, desktop publishing, e-business and website development/maintenance) within an ICT context:</p> <ul style="list-style-type: none"> • the role and service(s) offered by each area • interrelationship between service areas. <p>A broad knowledge of an organisation in relation to its ICT capacity and the type and extent of ICT assets managed by the ICT area/staff:</p> <ul style="list-style-type: none"> • systems 	<p>Students select one organisation from the list. Review the organisation's website to identify its key role/function in the ICT industry, produce a handout and present findings to the class.</p> <p>Brainstorm service areas within an ICT context.</p> <p>In small groups students research a service area in ICT and present findings to the class in a two minute oral presentation. Topics may include call centres, help desk, e-business etc.</p> <p>Brainstorm the assets managed by ICT staff in an organisation.</p> <p>Guest speaker – school or local business computer</p>

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	<ul style="list-style-type: none"> • equipment • software • employees • policies • procedures • governance arrangements <ul style="list-style-type: none"> - mission/mission statement, values and business objectives - code of conduct - management structure and lines of reporting. 	<p>coordinator to discuss the roles and responsibilities they have in regard to ICT.</p> <p>Link to Task 1.</p> <p>Define the term governance and discuss governance arrangements for ICT asset management.</p>
<p><i>ICAW2001A Work effectively in an IT environment</i></p> <p>1 Identify IT in an organisation and related relevant policies and procedures</p> <p>1.1 Identify IT roles in an organisation and briefly describe what services they perform</p> <p>1.2 Identify and describe key players from the IT service previously identified</p>	<p>Working in the industry</p> <p>An awareness of the two broad categories for the ICT workforce:</p> <ul style="list-style-type: none"> • ICT specialist • ICT user. <p>An awareness of vocational specialisations in an ICT environment:</p> <ul style="list-style-type: none"> • support • website development • networking • programming • testing • systems analysis and design • multimedia • project management • systems administration • database design and development • network security. <p>An awareness of career opportunities and pathways within the ICT industry, as well as other industries where ICT services are required/provided.</p>	<p>Define the terms ‘specialist’ and ‘user’.</p> <p>Discuss the range of ICT vocational specialisations and identify the areas that they cover.</p> <p>Research to determine those specialisations in ITC in which there is an over-supply and under-supply considering Australia, the Asia-Pacific Region, and the World.</p> <p>Students select a career/job opportunity from those listed to investigate and do a presentation on it to the class.</p> <p>Class discussion about multi-skilling in the ICT industry.</p>

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	<p>A basic understanding of the primary role(s) and duties/services performed of a range of ICT personnel:</p> <ul style="list-style-type: none"> • help desk operator • network administrator • hardware technician • web designer • software developer • programmer • desktop publisher • ICT manager • ICT trainer. <p>Personal attributes and work ethics of ICT workers:</p> <ul style="list-style-type: none"> • attendance and punctuality • ethical behaviour • honesty • work performance • taking directives • attention to detail • personal presentation and grooming • attitude • confidentiality • consistency of service • safe work practices. <p>An awareness of current industrial relations issues affecting the industry.</p> <p>A basic knowledge of industry employment conditions:</p> <ul style="list-style-type: none"> • industrial award • enterprise agreement • workplace agreement 	<p>Collate information about each of the roles listed including outlining the duties/tasks performed, qualifications required, personal qualities, career paths, and related industries.</p> <p>Create a mind map using the information gathered using graphical organiser software such as <i>Inspiration</i>.</p> <p>Collect a file of IT careers advertised in the paper, noting required skills for the position.</p> <p>Select one position from the advertisements that have been collected, identify its roles and responsibilities, qualifications required and personal qualities and write a letter of introduction for it.</p> <p>Introduce or revise expectations of students on work placement. Discuss the importance of personal attributes and work ethics while on work placement.</p> <p>Guest speaker – union representative or employer representative to discuss industrial relations issues affecting workers.</p> <p>Worksheet outlining workplace employment conditions. Discuss the different employment conditions for the different types of workers in the ICT industry (eg contractors, permanent/casual staff).</p>

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	<ul style="list-style-type: none"> • contract. 	<p>Discuss the new industrial relation laws and their application to the ICT industry.</p>
<p><i>ICAW2001A Work effectively in an IT environment</i></p> <p>1 Identify IT in an organisation and related relevant policies and procedures</p> <p>1.2 Identify and describe <i>key players</i> from the IT service previously identified</p>	<p>Workplace relations</p> <p>Forms of bullying and harassment in the workplace:</p> <ul style="list-style-type: none"> • sexual • verbal • physical • psychological. <p>A basic understanding of the principles of equal employment opportunity (EEO) legislation:</p> <ul style="list-style-type: none"> • <i>Equal Employment Opportunity (Commonwealth Authorities) Act 1987 (Cth)</i> • <i>Equal Opportunity for Women in the Workplace Act 1999 (Cth).</i> <p>A basic understanding of the principles of anti-discrimination legislation:</p> <ul style="list-style-type: none"> • <i>Anti-Discrimination Act 1977 (NSW)</i> • <i>Sex Discrimination Act 1984 (Cth)</i> • <i>Racial Discrimination Act 1975 (Cth)</i> • <i>Disability Discrimination Act 1992 (Cth)</i> • <i>Age Discrimination Act 2004 (Cth).</i> 	<p>Class discussion about bullying:</p> <ul style="list-style-type: none"> • what incidents of bullying/harassment have you observed (or experienced) at school and/or in a workplace? • could these situations have been prevented? How? • what is the difference between ‘direct’ and ‘indirect’ discrimination? <p>Provide students with four case studies, one on each of the areas of harassment listed. Students divide into four ‘expert panels’ and discuss one of the case studies. The students then regroup with each new group containing at least one ‘expert’ from each panel who shares their panels discussions.</p> <p>Worksheet outlining the Acts listed. Students analyse the key features of each Act identifying the common elements and underlying principles of the legislation.</p> <p>Visit the NSW Premiers Department website and review the section on EEO. http://www.eeo.nsw.gov.au/whatseeo/whatseeo.htm</p> <p>Create a summary of the principles and purpose of EEO legislation.</p> <p>Worksheet outlining the Acts listed. Students analyse the key features of each Act identifying the common elements and underlying principles of the legislation.</p>

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	<p>Reciprocal rights and responsibilities of employers and employees in relation to EEO and anti-discrimination.</p> <p>An awareness of:</p> <ul style="list-style-type: none"> • workplace policies and procedures designed to prevent discrimination and harassment in the workplace • legal ramifications of inappropriate workplace conduct • recourse in the event of inappropriate conduct <ul style="list-style-type: none"> - reporting complaints - grievance procedures - disciplinary action. 	<p>Watch a video on discrimination in the work place (eg 'Managing Discrimination in the workplace' available from Videotrain http://www.videotrain.com.au/mdw.html)</p> <p>Students review a sample workplace EEO policy and procedure document. Consider the following:</p> <ul style="list-style-type: none"> • how do the policy and procedures protect the worker? • how do I lodge a complaint? • what do I do if my complaint is dismissed by the boss without investigation? <p>Develop a flow chart to outline grievance procedures in a workplace.</p> <p>Students develop an EEO and anti-discrimination policy for their ICT classroom.</p>
<p><i>ICAW2001A Work effectively in an IT environment</i></p> <p>2 Identify IT equipment, software and operating systems used by the organisation</p> <p>2.1 Identify IT <i>equipment, operating systems and software</i> used in the organisation and understand the importance and role within the organisation</p>	<p>IT equipment, operating systems and software</p> <p>A broad knowledge of a range of current industry-accepted:</p> <ul style="list-style-type: none"> • hardware <ul style="list-style-type: none"> - workstation - computer <ul style="list-style-type: none"> ▪ personal and/or networked - connectivity devices <ul style="list-style-type: none"> ▪ modem ▪ digital subscriber line (DSL) modem ▪ switch ▪ hub - peripheral devices <ul style="list-style-type: none"> ▪ printer ▪ scanner ▪ mouse ▪ keyboard • storage device(s) 	<p>Brainstorm equipment used in IT.</p> <p>Students prepare a brochure or catalogue for a company outlining a variety of hardware, software and peripherals needed by an average organisation to complete daily ICT tasks. The brochure or catalogue should include:</p> <ul style="list-style-type: none"> • product names • brands • models • main features of the products • uses and limitations.

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	<ul style="list-style-type: none"> • operating system • software. <p>General features, benefits, limitations and application use of a range of hardware and software products.</p> <p>Definition and understanding of primary role/function of:</p> <ul style="list-style-type: none"> • vendor • current vendors <p>Awareness of a range of commonly used vendor products and a broad knowledge of vendor product directions.</p>	<p>Define vendor.</p> <p>Brainstorm a list of vendors.</p> <p>Identify the vendors for school ICT equipment.</p> <p>Identify the support vendors provide, consider support from past vendors, current vendors and vendors who no longer supply product.</p> <p>Classify vendors according to products they provide (eg vendors for digital cameras, processors, monitors).</p>
<p><i>ICAW2001A Work effectively in an IT environment</i></p> <p>1 Identify IT in an organisation and related relevant policies and procedures</p> <p>1.2 Identify and describe <i>key players</i> from the IT service previously identified</p> <p>1.3 Identify IT policies and procedures and research whether they are used in practice</p> <p>2 Identify IT equipment, software and operating systems used by the organisation</p> <p>2.2 Establish that all of the equipment locations and service requirements are maintained according to organisational requirements and prevailing policies and procedures</p>	<p>Workplace practices</p> <p>A definition of:</p> <ul style="list-style-type: none"> • outsourcing. <p>An awareness of the possible need for ‘outsourcing’ to fulfil the ICT requirements of the organisation.</p> <p>Policies and procedures for management of ICT in an organisation:</p> <ul style="list-style-type: none"> • acceptable use • internet and access to websites • sending emails 	<p>Define outsourcing.</p> <p>Discuss the advantages and disadvantages of an organisation outsourcing to fulfil ICT requirements.</p> <p>Identify business/organisation policies and procedures for</p> <ul style="list-style-type: none"> • tendering • preferred vendors • outsourcing • preferred contractors. <p>Brainstorm a range of areas in an ICT environment that may need organisational policies and procedures developed. Discuss why these particular areas require formal policies.</p>

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	<ul style="list-style-type: none"> • confidentiality • privacy • security • copyright • protection against computer viruses • equipment and consumables <ul style="list-style-type: none"> - asset management - usage • software licensing • site licences. <p>An awareness of current industry practice(s) used to:</p> <ul style="list-style-type: none"> • implement policies and procedures • monitor compliance of policies and procedures. <p>A broad understanding of the importance of and standard procedures for:</p> <ul style="list-style-type: none"> • conducting hardware and software audits • maintaining equipment inventories and service/ maintenance schedules and logs (documentation). <p>Points to consider when completing work tasks:</p> <ul style="list-style-type: none"> • adherence to safety procedures • following directions from supervisor • maintaining personal presentation standards • adherence to workplace policies <ul style="list-style-type: none"> - maintaining personal work space contributing to 	<p>Review a range of sample policies and procedures from a variety of organisations.</p> <p>Create a sample confidentiality agreement at http://www.lawdepot.com/contracts/confid/?loc=AU&ad=from_drop_down#questions</p> <p>Investigate school policies and procedures for management of assets, software licensing and virus protection.</p> <p>Class discussion.</p> <p>Introduction to the concept of audits:</p> <ul style="list-style-type: none"> • what are they? • how are audits conducted? • why are they important? <p>Link to Task 2.</p> <p>Build a database to act as a hardware/software register for the school or an organisation.</p> <p>Investigate maintenance procedures at school and determine compliance with school policy.</p> <p>Students design a sample maintenance schedule and prepare a maintenance log.</p> <p>Overhead – points to remember when completing work tasks.</p> <p>Link to Task 1.</p>

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	<p>productive work environment by accepting responsibility for own work and assisting co-workers as required</p> <ul style="list-style-type: none"> • checking required materials and equipment are available and meet requirements of the task • seeking advice/obtain information as required from <ul style="list-style-type: none"> - co-workers and supervisor/team leader - trade personnel - contractors - suppliers - industry/regulatory bodies. 	
<p><i>ICAW2001A Work effectively in an IT environment</i></p> <p>1 Identify IT in an organisation and related relevant policies and procedures 1.1 Identify IT roles in an organisation and briefly describe what services they perform</p> <p>2 Identify IT equipment, software and operating systems used by the organisation 2.1 Identify IT equipment, operating systems and software used in the organisation and understand the importance and role within the organisation</p>	<p>Ongoing learning</p> <p>Recognition of learning as an ongoing process and the need to remain current in terms of knowledge, skills and qualifications.</p> <p>An awareness of sources for current industry information:</p> <ul style="list-style-type: none"> • industry associations and organisations • unions/staff associations • industry journals • the internet • libraries • reference manuals • policy and procedure manuals • personal observations and experience • industry contacts, mentors and advisors • colleagues, supervisors/team leaders and managers • professional development opportunities • industry functions. 	<p>Guest speaker – school careers adviser</p> <p>Assess materials available through the school and local library that can support life long learning.</p> <p>Collate a dossier of information about an emerging IT technology.</p>