

Computing Skills Assessment at Year 10

Mapping of Information and Communications Technologies in Mandatory Stages 4 and 5 Syllabuses

June 2001

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This mapping provides a complete list of specific Information and Communication Technologies (ICT) requirements in the outcomes and content of current mandatory Stage 4/5 syllabuses.

It is recognised that as information technology has developed in recent years many teachers have incorporated a range of other computing experiences into the classroom. These experiences may complement and enrich the experiences provided in the syllabuses.

Some syllabuses make explicit statements about the type of ICT that is to be incorporated into the teaching and learning process. For example, in Stage 4 Science, 'students learn to process information to organise data using a variety of methods including diagrams, tables, *spreadsheets* and *data bases*.'

Other syllabuses may include statements that require teachers to integrate 'technology' in teaching and learning activities where possible. In this context, 'technology' could include ICT.

For example:

- Music includes a statement about the 'Use of Technology': 'Teachers are encouraged to use as broad a range of technology as is available to them in the classroom and in the wider school context.'
- Design and Technology students should be able to 'identify uses of specific technologies in the personal, commercial/industrial and global domains' (outcome K2.2).

The revision of Years 7–10 syllabuses in the future will increase the level of ICT knowledge, skills and understanding expected of students.

Mapping ICT Skills: English 7–10 Syllabus (1987)

Student should learn to:	Stage 4	Stage 5
Computing Capabilities from the NSW Government's <i>Plans for</i> <i>Education and Training 1999 –</i> 2003	 Writing Outcomes On their own and with others use various strategies (a word processor, dictionaries, reference books, thesaurus) to edit and proofread writing 	
 Use ICT to locate, access, evaluate, manipulate, create, store and retrieve and display information 	Course Requirement C3. Writing Assumption 3. Students learn to write mainly by writing	Course Requirement C3. Writing Assumption 3. Students learn to write mainly by writing
	 Implications for the Classroom 3.9 Using a word processor can help students to write by facilitating drafting and revising and providing immediate printouts 	Implications for the Classroom 3.9 Using a word processor can help students to write by facilitating drafting and revising and providing immediate printouts
	 Mass Media design and plan mass media products using television, radio, film, computer, and print technologies 	 Mass Media design and plan multi-media products
	• observe, listen to, and read print, electronic, and computer mass media products	• use a range of media production techniques such as video recording or computer generated graphics
2. Express ideas and communicate with others using ICT		
3. Develop an awareness of the range of applications of ICT in society	 Mass Media identify a range of mass media products, technologies, and the distinguishing features of media forms 	 Mass Media identify the distinguishing features of multimedia forms
	• describe the ways in which different technologies affect the language of mass media products	 predict how emerging communications technologies may change language use and ideologies
4. Discriminate in the choice and use of ICT for a given purpose	 Mass Media identify the ways in which media products may be limited by the technologies and industries used to produce them 	
5. Develop the confidence to explore, adapt and shape technological understanding and skills in response to challenges now and in the future		

	Stars 4	Sterre 5
Student should learn to: Computing Capabilities from the NSW Government's Plans for Education and Training 1999 – 2003 1. Use ICT to locate, access, evaluate, manipulate, create, store and retrieve and display information	Stage 4 Working Mathematically WM4.5 determines and applies appropriate mathematical techniques, either mental, written, calculator or computer, in the solution of problems	Stage 5 Standard • uses appropriate technology effectively to assist in the solution of problems Intermediate • uses appropriate technology effectively to assist in the solution of problems Advanced • uses appropriate technology effectively to assist in the solution of problems
2. Express ideas and communicate with others using ICT		
3. Develop an awareness of the range of applications of ICT in society		
4. Discriminate in the choice and use of ICT for a given purpose		
5. Develop the confidence to explore, adapt and shape technological understanding and skills in response to challenges now and in the future		

Mapping ICT Skills: *Mathematics 7–8 Syllabus (1989) Mathematics 9–10 Syllabus (1996)*

Mapping ICT Skills: *Design and Technology* 7–10 Syllabus (1992)

At least 50 hours (indicative time) of the mandatory 200 hours (indicative time) Design and Technology Year 7-10 course must be devoted to learning about and using computers. Teachers must ensure that students experience and investigate a broad range of technologies.

This requirement will be met by integrating computer technology in appropriate design projects.

Design and Technology emphasises a breadth of technological experiences.

Stu	dent should learn to:	Stage 4	Stage 5
Go	mputing Capabilities from the NSW vernment's <i>Plans for Education</i> <i>1 Training 1999 – 2003</i>		
1.	Use ICT to locate, access, evaluate, manipulate, create, store	K5.4 outline the application of computers to specific Design Projects	
	and retrieve and display information	S4.3 use computer technology to access and manipulate data	
		S4.1 incorporate appropriate computer aids when undertaking Design Projects	
		S4.2 demonstrate proficiency and safety in the use of a variety of systems and packages	
2.	<i>Express ideas and communicate</i> <i>with others using ICT</i>	K1.1 describe a range of technologies	
3.	Develop an awareness of the range of applications of ICT in society	K2.1 identify technologies used by historical, cultural and contemporary groups in society	
		K2.2 identify uses of specific technologies in the personal, commercial/ industrial and global domains	
		K2.3 outline ways of incorporating specific technologies into everyday living	
		A1.1 appraise the positive and negative effects of technology on society	
		A1.2 appreciate the historical and cultural significance of technological developments on society	
4.	Discriminate in the choice and use of ICT for a given purpose	K1.2 relate these technologies to practical design projects	
		K3.1 identify positive and negative consequences of various technologies for society	
		K3.2 outline the effects of specific technologies in the personal, commercial/industrial and global domains	

Mapping ICT Skills: Design and Technology 7–10 Syllabus (1992) (Continued)

(co	ntinued)	K3.3 describe the moral and cultural	
4.	Discriminate in the choice and use of ICT for a given purpose	implications of using technology in society	
		A1.3 appreciate the contribution of different cultures to technology	
		A1.4 appreciate the impact of technology on Indigenous and other cultures	
		A2.1 develop a commitment to the efficient use of technology	
		A4.3 develop an appreciation of appropriate technological applications	
		A4.5 accept responsibility for the consequences of personal technology	
5.	Develop the confidence to explore, adapt and shape technological	S5.5 participate in discussions about the impact of design and technology	
	understanding and skills in response to challenges now and in the future	A3.1 appreciate the impact technological development has on satisfying human needs and wants	
		A3.2 recognise the contribution technology makes to everyday living	
		A4.1 display a willingness to participate in technological activities	
		A4.4 develop confidence, purpose and competence in using technologies	
		A5.1 appreciate motivational forces in design and technology	
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Mapping ICT Skills: Science 7–10 Syllabus (1998)

Stu	dent should learn to:	Stage 4	Stage 5
	Computing Capabilities from the NSW Government's <i>Plans for Education</i> <i>and Training 1999 – 2003</i> <i>1. Use ICT to locate, access,</i>	4/5.13.1 identify data sources to:	4/5.13.1 identify data sources to:
and		 f) recommend the use of an appropriate technology strategy for collecting data or gathering information 	f) recommend the use of an appropriate technology strategy for collecting data or gathering information
	evaluate, manipulate, create, store and retrieve and display	4/5.15 gather first-hand information to:	4/5.15 gather first-hand information to:
	information	 b) use a range of data collection technologies and strategies independently 	b) use a range of data collection technologies and strategies independently
		4/5.16 gather information from secondary sources to:	4/5.16 gather information from secondary sources to:
		a) use a range of sources, including CD- ROMs and the Internet, to access information	a) use a range of sources, including CD- ROMs and the Internet, to access information
		4/5.17 process information to:	4/5.17 process information to:
		 d) organise data using a variety of methods including diagrams, tables, spreadsheets and data bases 	 d) organise data using a variety of methods including diagrams, tables, spreadsheets and data bases
		NB: 4/5.15, 4/5.16 and 4/5.17 also relate to capability 3	NB: 4/5.15, 4/5.16 and 4/5.17 also relate to capability 3
2.	Express ideas and communicate	4/5.15 gather first-hand information to:	4/5.15 gather first-hand information to:
	with others using ICT	b) use a range of data collection technologies and strategies independently	b) use a range of data collection technologies and strategies independently
		4/5.16 gather information from secondary sources to:	4/5.16 gather information from secondary sources to:
		a) use a range of sources, including CD- ROMs and the Internet, to access information	a) use a range of sources, including CD- ROMs and the Internet, to access information
		4/5.17 process information to:	
		 organise data using a variety of methods including diagrams, tables, spreadsheets and data bases 	
3.	Develop an awareness of the range of applications of ICT in	Refer to outcomes 4/5.15, 4/5.16 and 4/5.17 that appear above in capability 1	5.12 A student will learn about technology to:
	society		 d) discuss, using examples, how developments in electronics have changed technology, and identify some applications
			g) describe the ways in which technology has increased the variety of materials
4.	Discriminate in the choice and use	4/5.18	4/5.18
	of ICT for a given purpose	b) select and use an appropriate medium to present data	b) select and use an appropriate medium to present data
5.	Develop the confidence to explore, adapt and shape technological understanding and skills in response to challenges now and in the future		

Mapping ICT Skills: *History 7–10 Syllabus (1998) Geography 7–10 Syllabus (1998)*

Student should learn to:	Stage 4	Stage 5
Computing Capabilities from the NSW Government's <i>Plans for</i> <i>Education and Training 1999 – 2003</i> <i>1. Use ICT to locate, access,</i>	Geography Geographical Skills Through the study of Geography, students will develop skills in:	Geography Geographical Skills Through the study of Geography, students will develop skills in:
1. Ose ICI to tocale, access, evaluate, manipulate, create, store and retrieve and display information	 acquiring geographical information: by reflecting on prior learning with consideration of: what information technology can I use? 	 acquiring geographical information: by reflecting on prior learning with consideration of: what information technology can I use?
	- by identifying and gathering geographical information to; locate and gather information from a variety of primary and secondary sources, including information technology	- by identifying and gathering geographical information to: locate and gather information from a variety of primary and secondary sources, including information technology
	 processing geographical information: by analysing geographical information: by using information technology to process, present and analyse geographical evidence 	 processing geographical information: by analysing geographical information: by using information technology to process, present and analyse geographical evidence
	- by organising and synthesising geographical information: select and use appropriate graphical methods (incorporating information technology) to present evidence in maps and diagrams	- by organising and synthesising geographical information: select and use appropriate graphical methods (incorporating information technology) to present evidence in maps and diagrams
	 communicating geographical information by answering geographical questions by presenting geographical information in the form of both oral and written reports accompanied by maps and graphs, including databases multimedia presentations 	 communicating geographical information by answering geographical questions: by presenting geographical information in the form of both oral and written reports accompanied by maps and graphs, including databases multimedia presentations
	History Knowledge and Understanding M4.11 locates, selects and organises simple historical information from a variety of sources, utilising technological and other processes to address simple historical problems and issues	History Knowledge and Understanding M4.11 locates, selects and organises simple historical information from a variety of sources, utilising technological and other processes to address simple historical problems and issues

Mapping ICT Skills: History 7–10 Syllabus (1998)(Continued)Geography 7–10 Syllabus (1998)

Stu	dent should learn to:	Stage 4	Stage 5
	ontinued) Use ICT to locate, access, evaluate, manipulate, create, store and retrieve and display information	 History Skills Research Collecting information locate historical information from written, audio-visual and multimedia resources 	History Skills Research Collecting information • locate historical information from a wide variety of written, oral, audio-visual and multimedia resources
2.	<i>Express ideas and communicate</i> <i>with others using ICT</i>	 History Skills Communicating Presenting use multimedia processes to create published works incorporating text, graphics, sound and/or animation as appropriate 	 History Skills Communicating Presenting use a wide variety of multimedia processes to create published works incorporating text, graphics, sound and/or animation as appropriate
3.	Develop an awareness of the range of applications of ICT in society	Geography Focus Area 464 Global Citizenship Spatial variations in life opportunities throughout the world, such as: • • work and technology	Geography Focus Area 5A2 Changing Australian Environments • processes causing change in Australian communities such as - new technologies Geography
			Focus Area 5A4 Australia in Its Regional and Global Context • regional and global links such as: - technology
4.	Discriminate in the choice and use of ICT for a given purpose		
5.	Develop the confidence to explore, adapt and shape technological understanding and skills in response to challenges now and in the future		Geography Focus Area 5A4 Australia in Its Regional and Global Context • regional and global links such as: - technology

Mapping ICT Skills: Languages syllabuses 7–10 (as at May 2001)

While there is no specific reference to ICT in this syllabus, it is recognised that as information technology has developed in recent years many teachers have incorporated a range of computing experiences into the classroom. These experiences may complement and enrich the experiences provided in the syllabuses.

The revision of this syllabus in the future will increase the level of ICT knowledge, skills and understandings expected of students.

Stu	dent should learn to:	Stage 4	Stage 5
Go	mputing Capabilities from the NSW vernment's <i>Plans for Education</i> <i>I Training 1999 – 2003</i> <i>Use ICT to locate, access,</i>	See above	See above
1.	evaluate, manipulate, create, store and retrieve and display information		See above
2.	<i>Express ideas and communicate</i> <i>with others using ICT</i>	See above	See above
3.	Develop an awareness of the range of applications of ICT in society	See above	See above
4.	Discriminate in the choice and use of ICT for a given purpose	See above	See above
5.	Develop the confidence to explore, adapt and shape technological understanding and skills in response to challenges now and in the future	See above	See above

Mapping ICT Skills: PDHPE 7–10 Syllabus (1991)

While there is no specific reference to ICT in this syllabus, it is recognised that as information technology has developed in recent years many teachers have incorporated a range of computing experiences into the classroom. These experiences may complement and enrich the experiences provided in the syllabuses.

The revision of this syllabus in the future will increase the level of ICT knowledge, skills and understandings expected of students.

Stu	ident should learn to:	Stage 4	Stage 5
Go	mputing Capabilities from the NSW vernment's <i>Plans for Education</i> d Training 1999 – 2003		
1.	Use ICT to locate, access, evaluate, manipulate, create, store and retrieve and display information	See above	See above
2.	<i>Express ideas and communicate</i> <i>with others using ICT</i>	See above	See above
3.	Develop an awareness of the range of applications of ICT in society	See above	See above
4.	Discriminate in the choice and use of ICT for a given purpose	See above	See above
5.	Develop the confidence to explore, adapt and shape technological understanding and skills in response to challenges now and in the future	See above	See above

Mapping ICT Skills: Music 7–10 (Syllabus 1994, Outcomes 2000) Visual Arts 7–10 (Syllabus reprinted with new outcomes 1997)

With regard to **Music**, a variety of computer hardware and software exists which is suitable for music education. Teachers are encouraged to use as broad a range of technology as is available to them in the classroom and in the wider school context.

Stude	nt should learn to:	Stage 4	Stage 5
Gover	outing Capabilities from the NSW rnment's <i>Plans for Education</i> <i>Training 1999 – 2003</i>		
e a	<i>Jse ICT to locate, access, valuate, manipulate, create, store nd retrieve and display nformation</i>	Music <u>Concept:</u> Tone Colour • sound production methods - electronic • sound source materials - electronic - synthetic	
	Express ideas and communicate with others using ICT	 Music Skills performs using different types of technology Learning Experiences Performing/Composing/ Listening using different types of technology Visual Arts Mandatory Course Requirements They must be provided with opportunities to: experiment with and make use of a range of forms Content – Forms One of the optional forms is electronic	
ra	Develop an awareness of the ange of applications of ICT in ociety	 Visual Arts Frames – Cultural the relationship of scientific and technological innovation and artistic practice 	
	Discriminate in the choice and use f ICT for a given purpose	 Music Skills experiments with different types of technology Knowledge and Understanding understands that different forms of technology can contribute to composition 	
a u re	Develop the confidence to explore, dapt and shape technological inderstanding and skills in esponse to challenges now and in he future		