

# National and State Skill Shortage Lists

## Australia – 2003

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The National and State Skill Shortage Lists are based on labour market intelligence undertaken by DEWR. Methodological information is provided in the [Explanatory Notes](#). The Skill Shortage Lists cover Trades, Professionals and Information and Communication Technology (ICT) skills. Shortages are described as being state-wide (S), regional (R) or metropolitan (M). The lists also identify recruitment difficulties (D) in situations where 'skill shortages' are not evident, but where some employers have experienced recruitment problems.

The Skill Shortage Lists incorporate information on specialisations in shortage in particular States. For some occupations on the National Skill Shortage List, shortages are restricted to specialist skills – see details on 'Skill Shortage List – Professionals' and 'Skill Shortage List – Trades'.

Information on, and reports from, the industry-led skill shortage working groups, managed by the Department of Education, Science and Training (DEST), is available at [www.skillsinitiative.gov.au](http://www.skillsinitiative.gov.au).

## National Skill Shortage (NSS) List – Australia 2003

### PROFESSIONALS (February 2003)

- Child Care Coordinator
- Child Care Worker
- Civil Engineer
- Registered Nurse
  - Accident/Emergency
  - Aged Care
  - Cardiothoracic
  - Community
  - Critical/Intensive Care
  - Indigenous Health
  - Neonatal Intensive Care
  - Neurology
  - Oncology
  - Operating Theatre
  - Paediatric
  - Palliative Care
  - Perioperative
  - Renal/Dialysis
  - Registered Midwife
  - Mental Health Nurse
  - Enrolled Nurse
- Dentist
- Pharmacist (Hospital/Retail)
- Occupational Therapist
- Physiotherapist
- Speech Pathologist
- Diagnostic Radiographer
- Radiation Therapist
- Nuclear Medicine Technologist
- Sonographer

- Secondary Teacher (specialisations only)
  - Manual Arts/Tech Studies
  - Maths
  - Physics/Chemistry
  - General Science

## **ICT SKILLS – SPECIALISATIONS ONLY (October 2002)**

- SAP
- Java Security and Electronic Commerce
- PeopleSoft
- CISSP

## **TRADES (December 2002)**

- Metal Fitter
- Metal Machinist
- Toolmaker
- Metal Fabricator
- Welder
- Sheetmetal Worker
- Motor Mechanic
- Auto Electrician
- Panel Beater
- Vehicle Painter
- Electrician
- Refrigeration and Air Conditioning Mechanic
- Bricklayer
- Plumber
- Chef
- Cook
- Pastrycook
- Cabinetmaker
- Hairdresser
- Furniture Upholsterer

# Skill Shortage List - Professionals February 2003

ASCO	Occupation	AUST	NSW	VIC	QLD	SA	WA	TAS	NT
<b>CHILD CARE</b>									
1295-11	Child Care Coordinator *	N	S*	S	S	D	S*	S	S
6312-11sp	Child Care Worker*	N	S*	S	S	S	S*	S	RD
<b>ENGINEERS</b>									
2124	Civil Engineer*	N	S*	S		S	S*		S
2125-11	Electrical Engineer*			S*		D	D*	D	
2125-12	Electronics Engineer*		MD*			D			
2129-17	Chemical Engineer						S		
<b>ACCOUNTANTS</b>									
			RD	S*	S	D	M*R	S	RD
<b>REGISTERED NURSES</b>									
2323-11	<b>Registered Nurse (general)</b>	N	S	S	S	S	S	S	S
	Accident/Emergency	N	S	S	S	S	S	S	S
	Aged Care	N	S	S	S	S	S	S	S
	Cardiothoracic	N	S	S	S	S	S	S	S
	Community	N	S		S	S	S	S	S
	Critical/Intensive Care	N	S	S	S	S	S	S	S
	Indigenous Health	N			S	S	S		S
	Neonatal Intensive Care	N	S	S	S	S	S	S	S
	Neurological	N	S	S	S	S	S	S	
	Oncology	N	S	S	S	S	S	S	
	Operating Theatre	N	S	S	S	S	S	S	S
	Paediatric	N	S	S	S	S	S	S	S
	Palliative Care	N	S		S	S	S	S	
	Perioperative	N	S	S	S	S	S	S	S
	Renal	N	S	S	S	S	S	S	S
2324-11	<b>Registered Midwife</b>	N	S	S	S	S	S	S	S
2325-11	<b>Mental Health Nurse</b>	N	S	S	S	S	S	S	S
3411	<b>Enrolled Nurse</b>	N	S	S	S	S	S	S	S

ASCO	Occupation	AUST	NSW	VIC	QLD	SA	WA	TAS	NT <sup>1</sup>
<b>HEALTH SPECIALISTS</b>									
2381	Dentist* <sup>1</sup>	N			S	S	S*	S	
2382-11,15	Pharmacist* (Hospital/Retail)	N	S*	S	S*	S	S	S	S
2383-11	Occupational Therapist*	N	S*	S	S	S	S*	S	S
2385-11	Physiotherapist*	N	S	S*	S	S	S*	S	S
2386-11	Speech Pathologist <sup>1</sup>	N	S	S	S		RD	S	
2391-11	Diagnostic Radiographer*	N	S*		S	S	R	S	
2391-13	Radiation Therapist <sup>1</sup>	N	S	S	S	S	S	S	
2391-15	Nuclear Medicine Technologist	N	S	D	S		S	S	D
2391-17	Sonographer*	N	S*		S	S	S	S	
2399-11	Audiologist <sup>1*</sup>				R*	S	S*		
6391	Dental Assistant <sup>1</sup>				S	D			S
<b>SECONDARY TEACHERS</b>									
2413-11	Secondary Teacher*	*	*	*	*	*		*	*
	Manual Arts/Tech Studies*	N	S	S*	S	S			
	Maths	N	S	S	S	S		R	S
	Physics/Chemistry	N	S		S	S		R	S
	General Science	N	S	S	S			R	
	Music			S					
	LOTE*			S*	S	S			
	Home Economics					S			
	Information Technology			S	S				
	Senior English							R	
	Special Needs				S				
	Agricultural Science				S				
	Physical Education			S					
<b>2511</b>	Social Worker <sup>1</sup>			RD		D		RD	S
<b>2521</b>	Lawyer*		S*	D*	S	D	D*	R*	

1. Not all occupations assessed in all States

\* = Shortages are for specialist skills, see comments below

N = National shortage

M = Shortage in metropolitan areas

RD = Recruitment difficulties in regional areas

MD = Recruitment difficulties in metropolitan areas

S = State-wide shortage

R = Shortage in regional areas

D = Recruitment difficulties

**Child Care Worker:** NSW: Shortages are greatest in the western suburbs of Sydney and for long day care. WA: Shortage is greatest in some regional and outer metropolitan areas.

**Child Care Coordinator:** NSW: Shortages are greatest in the western suburbs of Sydney and for long day care. WA: Shortage is greatest in some regional and outer metropolitan areas.

**Civil Engineer:** NSW: Current shortages especially for Civil Engineers in design, general project management, water supply, drainage and sewerage and local government. WA: Shortage particularly for those with oil and gas and/or design experience.

**Electrical Engineer:** VIC: Shortage restricted to Electrical Engineers experienced in working with high voltage. WA: Recruitment difficulties for Electrical Engineers with oil and gas experience.

**Electronics Engineer:** NSW: Recruitment difficulties for senior Engineers in Sydney with specialised experience in areas such as avionics, defence technology and firmware.

**Accountant:** VIC: Shortages of Chartered Accountants and taxation specialists. WA: In metropolitan areas, shortage is restricted to experienced tax and insolvency (chartered or certified practising) accountants. More general shortages are apparent in regional areas.

**Lawyer:** NSW: Shortages particularly for Lawyers with experience in financial services, banking, property, fund management, commercial litigation and general corporate and commercial work. VIC: Recruitment difficulties for lawyers experienced in taxation. WA: Recruitment difficulties for Lawyers experienced in commercial and corporate law, and in regional and remote areas for Lawyers experienced in family law. TAS: Shortages are particularly evident in northern Tasmania and the north-west coast, and for lawyers experienced in family and criminal law.

**Dentist:** WA: Shortage is greatest in rural and remote areas and in public health.

**Pharmacist:** NSW: Shortages most severe for hospital pharmacists. QLD: Shortages of Retail Pharmacists are more acute in regional areas.

**Occupational Therapist:** NSW: Shortages in most specialisations, especially mental health. WA: Shortage is greatest in aged care facilities and rural areas.

**Physiotherapist:** VIC: Shortages in paediatrics and geriatrics, and more general regional shortages. WA: Shortage is greatest for paediatric physiotherapists and for physiotherapists in rural areas.

**Diagnostic Radiographer:** NSW: Shortages especially in theatre, mammography and CT.

**Sonographer:** NSW: Shortages for generalists and in most specialisations, including vascular and echo-cardiology.

**Audiologist:** QLD: Shortage is evident in regional areas outside south east Queensland. WA: Shortage is greatest in rural areas.

**Secondary Teacher:** Specialist shortages only as listed. QLD: Specialist shortages as listed are State-wide, but more general shortages are apparent in all areas except south-east Queensland. SA: Shortages restricted to specialist subject areas as listed. TAS: Shortages restricted to specialist subjects as listed in regional areas.

**Manual Arts/Technology:** VIC: Shortages especially for auto, wood and metal.

**LOTE Teachers:** VIC: Shortages especially Indonesian, Japanese, German, Italian and French.

# Skill Shortage List – Trades

December 2002

ASCO	Occupation	AUST	NSW	VIC	QLD	SA	WA	TAS	NT
<b>ENGINEERING TRADES</b>									
4112-11	Metal Fitter*	N	D	S*		S	S*		S
4112-13	Metal Machinist*	N	R*	S*	S	S	S		S
4113-11	Toolmaker*	N	S*	S*	S	S	D		
4122-11	Metal Fabricator*	N	S*	S		D	S		R
4122-15	Welder	N	S	S		S	S		R
4124-11	Sheetmetal Worker*	N	S*	S*	S	S		S	S
<b>VEHICLE TRADES</b>									
4211-11	Motor Mechanic*	N	S*	S	S	S	R*		S
4212-11	Auto Electrician	N	S	S	S	S	S	S	S
4213-11	Panel Beater	N	S	S	S	S		S	S
4214-11	Vehicle Painter	N	S	S	S	D		S	R
<b>ELECTRICAL/ELECTRONICS</b>									
4311-11,13	Electrician*	N	S*	R	S*	S*		R-D	S
4312-11	Refrigeration and Airconditioning Mechanic*	N	S*	S	S	D		S	S
4314, 4316	Electronic Instrument Trades*		R*					R-D	
4315-11	Electronic Equipment Trades*		S	D*				R-D	
<b>CONSTRUCTION TRADES<sup>1</sup></b>									
4411-11	Carpenter and Joiner			R-D	S	S			R-D
4413-11	Roof Slater and Tiler			S					
4414-11	Bricklayer	N	M	S	S	M	S	S	S
44115-11	Solid Plasterer			S					
4421-11	Painter and Decorator				S				
4431-11	Plumber*	N	M*	D*		S	S*	S	S
<b>FOOD TRADES</b>									
3322	Chef*	N	S	S	S*		S*	S*	S
4513-11	Cook	N	S	S	R				S
4512-13	Pastrycook*	N	S	S	S*		S		S
<b>PRINTING TRADES</b>									
4911-11	Graphic Pre-press Tradesperson				R				
4912	Printing Machinist		M	R	R	S			
4913-11	Binder and Finisher			S	R				
<b>WOOD TRADES</b>									
4921-11	Wood Machinist		S						
4922-11	Cabinetmaker*	N	S*	S	S	S	S	S	R
<b>OTHER TRADES</b>									
4931-11	Hairdresser	N	S	S	S	S	S	S	R
4942-11	Furniture Upholsterer*	N	S*	S	S	S		S	

<sup>1</sup> = Not all occupations assessed in all States

\* = See comments on specialisations

N = National shortage

M = Shortage in metropolitan areas

D = Recruitment difficulties

S = State-wide shortage

R = Shortage in regional areas

R-D = Recruitment difficulties in regional areas

**Metal Fitter:** VIC: shortage especially for cnc/cad/cam; pneumatics; hydraulics; grinding; centre lathe turning; continuous process; TIG, MIG, OXY welding; sheetmetal machining; and reading drawings. WA: shortages are particularly for diesel and mobile plant mechanics.

**Metal Machinist:** NSW: shortage for specialisations in lathe and milling, grinding, boring and honing. VIC: shortage especially for cnc/cad/cam, reading drawings and working to fine tolerances, as well as sound experience in machining, milling, grinding and toolmaking.

**Toolmaker:** NSW: shortage especially for skills in machine setting, CAD, CNC milling and press tools.

VIC: shortage especially for cnc/cad/cam. QLD: shortage of cnc/nc skills.

**Metal Fabricator:** NSW: shortages especially for tube and pipe welding and ability to work off plans.

**Sheetmetal Worker:** NSW: shortage especially for stainless steel specialisation. VIC: shortage especially for skills in stainless steel, aluminium, air-conditioning duct work, ship building and marking out.

**Motor Mechanic:** NSW: shortages especially for skills in heavy vehicle, reconditioning engines, LPG conversion. WA: shortage particularly evident for truck mechanics.

**Electrician:** NSW: shortage for lift mechanics only. QLD: shortage of electrical appliance serviceperson and industrial electrician. SA: recruitment difficulties for programmable logic control (PLC) skills and special class electricians.

**Refrigeration and Airconditioning Mechanic:** NSW: shortage especially for airconditioning commissioning technicians.

**Electronic Instrument Trades:** NSW: recruitment difficulties for General Communication Tradesperson.

**Electronic Equipment Trades:** VIC: recruitment difficulties for radio and television repairer. TAS: shortages especially for PLC skills.

**Plumber:** NSW: shortage especially in residential sector. VIC: recruitment difficulties for maintenance and gas appliance specialists statewide, and more general recruitment difficulties in regional areas, especially roof plumbers. WA: shortages for roof plumber only.

**Chef:** QLD: metropolitan shortages are restricted to top level international chefs. WA: shortages exist in some ethnic cuisines, notably Japanese, Indian, Thai and traditional Italian. TAS: shortages for head chefs.

**Pastrycook:** QLD: shortages most acute in regional tourist centres such as the Gold Coast and Cairns.

**Cabinetmaker:** NSW: shortage are especially severe for CNC and Cabinetmakers specialising in kitchens.

**Furniture Upholsterer:** NSW: shortage in manufacturing, repair and restoration of custom furniture.

## ICT Employment Trends and Skill Shortage Survey 2002 - Powerpoint Presentation

SKILL SHORTAGES* by ICT SPECIALISATION	AUST	NSW	VIC	QLD	SA	WA	TAS	ACT	NT
<b>Database</b>									
DB2		D		D				D	
Oracle				D	D	D	D	D	D
MS Access									
Microsoft SQL Server				D	D	D			D
Sybase SQL Server		D		D	S			D	
<b>General Application Development/Software Engineering</b>									
PowerBuilder				D	S				
Java				D	D			D	D
Java Script								D	
C++				D	D				
Delphi		D		D	D			D	
Visual Basic									
Lotus Notes					D	D			S
Progress		D		D	S				
Powerhouse		D		D	D				
<b>Internet, Networking/Lan/WAN</b>									
Novell Netware									
TCP/IP									D
IPX									
SNA		D		D					D
Microsoft NT Server									D
Ethernet									D
Advanced Web Design		D		D	D			D	D
HTML									D
ASP					D				D
Xml		D			D	D		D	D
Firewall/Internet security		D	D	D	S	D		D	D
Java Security (mainly J2EE) and electronic commerce	S	S		S	S	D		D	D
<b>Multimedia</b>									
Graphics									
Multimedia									
<b>Office/E-mail/Groupware</b>									
Groupwise				D	D				D
Lotus Notes				D	D	D			D
Microsoft Exchange					D	D			
CC:Mail				D					D
Netscape									D
Eudora									D
<b>Client/Server applications</b>									
COBOL								S	
SAP	S	S		D	S	S		D	S
PeopleSoft	S	D	D	S	S	D		D	S
Siebel		D	D	S	S	D		D	
<b>System Software Support</b>									
Help Desk									D
Data Warehousing		D	D	D	D	D		D	D
<b>Operating Systems</b>									
Unix		D		D	D	D		D	D
Windows									D
SKILL SHORTAGES* by ICT SPECIALISATION	AUST	NSW	VIC	QLD	SA	WA	TAS	ACT	NT
<b>Operating Systems (Cont.)</b>									

Windows NT							D
Solaris	D		D	D	D	D	S
Linux	D		D	D			D
HP-UX	D		D	D			S
VMS	D		D	D	D		D
<b>Communications</b>							
Radio	S	D		S			D
SDH	D			S			
WDM	D		D	D			
GSM	S	D		D			
CDMA	S			D			
Broadband CDMA	S	D	D	D			
Satellite design	S	D	D	D			S
TDMA	S		D	S			
VSAT	D		D	S			
Photonics	S		D	S			
<b>Process &amp; Systems management</b>							
Project Management							D
Systems analysis				D	D		D
Broad commercial business understanding					D		S
<b>E-Commerce (eg business/financial management/analysis/customer service)</b>							
E-commerce security (non programming)	D	D	D	S	D	D	S
<b>Security</b>							
Network Security	D		D	D	D	D	D
Risk Management	D	D	D	D	D		D
CISSP*	S	S	D	D	S		D
PKI		S	D	D	S		D
<b>Other specialisations not listed above</b>							
GIS, Mapinfo	S		D	D	D		
IDMS				D			
ADA in Defence				D			
C#			D				
Cisco Certified Internetwork Expert (CCIE)			S				
Crystal Reporting							D
M204 Programming/Analysis							S
Visual C++				D			
Hi Level Cool-Gen							S
GIS (eg Mapinfo)			D	D	D		
.Net technologies			S		S <sup>1</sup>		S
TELON							S
Pro IV					S <sup>1</sup>		
SMS					S <sup>1</sup>		

\* S = Shortage D = Recruitment Difficulty

1 = Based on only one response

## National and State Skill Shortage Lists – Explanatory Notes

The Department of Employment and Workplace Relations (DEWR) is the Australian Government agency with prime portfolio responsibility for monitoring skill shortages. DEWR assesses skill shortages by a number of means including contact with employers, industry, employer and employee organisations and education and training providers. The prime focus of DEWR's agency approach is surveying employers who have recently advertised vacancies for selected skilled occupations. In assessing skill shortages, this industry and employer intelligence is considered in conjunction with statistical information on demand and supply trends for the selected occupations. Skill shortage assessments cover Trades, Professionals and Information and Communication Technology (ICT) skills.

DEWR, through its Economic and Labour Market Analysis Branch and Labour Economics Offices (LEOs) in each State capital and Darwin, monitors and assesses skill shortages. Although skill shortages are monitored closely, there may be localised or specialist shortages which are not reflected in these lists. The reasons for shortages are complex and varied, and may result from economic or demographic change, cyclical fluctuations in labour demand, emerging demands of new technology, lack of flexibility in wages and regional mismatches.

The specific occupations and skills to be included in the annual skill shortage assessment program (six monthly, in the case of ICT skills) are determined through consultations with peak industry bodies, other key stakeholders and DEWR State Offices. The program is conducted through Labour Economics Offices (LEOs) in DEWR State Offices.

There is considerable ambiguity about the term 'skill shortages' in industry and media discussions, and in developing guidelines for training, migration, labour market programs and regional skills analysis. The term 'skill shortages' is often a surrogate for more general recruitment difficulties, or skill gaps (deficiencies in the skills of existing workers). DEWR skill shortage monitoring and assessment focuses mainly on skill shortages as defined below.

## **Skill shortages**

Skill shortages exist when employers are unable to fill or have considerable difficulty in filling vacancies for an occupation, or specialised skill needs within that occupation, at current levels of remuneration and conditions of employment, and reasonably accessible location.

Shortages are typically for specialised and experienced workers, and can coexist with relatively high unemployment overall or in the occupation. An occupation may be assessed as in shortage even though not all specialisations are in shortage. Occupations may be in shortage in particular geographical areas and not in others. Although skill shortages are monitored closely, there may be localised or specialised shortages that are not reflected in these lists.

For each State, skill shortages are rated as evident in the capital city only (M – metropolitan), in regional areas (R – other than the capital city) or statewide (S). If there are shortages in the three largest States, or in a majority of States, then the occupation is rated as being in national shortage (N). Skill shortages involve skills that require a significant period of training and/or experience to acquire.

As a result of consultation with industry, particularly peak industry bodies, DEWR has increased the focus on specialisations in shortage as well as the employability skills and personal attributes of most concern to employers. Where these skills/attributes impact upon skill shortages, details are provided in explanatory notes at the end of the relevant skill shortage list.

In the National and State skill shortage lists, especially ICT skills, the term 'recruitment difficulties' is used as a way of signalling a degree of skill shortage - shown as "D" in the skill shortage lists. This provides an option for recognising skills where employers are experiencing some difficulty in finding suitable workers even though a broader skill shortage is not evident.

The reasons for skill shortages are complex and varied and may result from economic or demographic change, those not completing training and qualified workers (not working in the occupation for which they are qualified and/or experienced), cyclical fluctuations in labour demand, emerging demands of new technology, lack of flexibility in wages and regional mismatches.

## **Recruitment difficulties**

Recruitment difficulties occur when employers have some difficulty in filling vacancies for an occupation. There may be an adequate supply of skilled workers, but employers are still unable to attract and recruit sufficient suitable employees.

The recruitment difficulties may be due to characteristics of the industry, occupation or employer, such as: relatively low remuneration, poor working conditions, poor image of the

industry, unsatisfactory working hours, location hard to commute to, ineffective recruitment advertising and processes or organisation-specific and highly-specialised skill needs.

Skill shortages may exist outside those included in the skill shortage lists. For example, an occupation or skill, particularly where the number employed is very small, may not be identified in consultations with industry bodies and other key stakeholders, and pockets of shortage may exist in isolated locations. In addition, variations in national or regional industry activity may cause shortages not apparent at the time when skill shortage lists are being prepared. The lists do not include skill shortages involving skills that require only a very limited period of training and/or experience to acquire.

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