■Standard Skill Matrix 2008

[Domain] Information Communication Technology

Required skill achievement level; ★･･･Can understand genaral concept ★★･･Can underatand details and capable to apply to work (Can undertake part of work alone)、★★★･･Can execute and put to practical use (Can undertake work alone)　(Note) ★;Requisite、☆;Selective according to job requirement

Level		Occupational Field/Job Category
Middle Level	Level 3 (Applicable Knowledge, Skill)	Can enable required work fully alone
	Level 2 (Fundamental Knowledge, Skill)	Can undertake required work with the assistance of upper level person
Entry Level	Level 1 (Basic Knowledge)	Minimum required knowledge for a person who engages in IT related work
evel before work	Level 0 (Basic Knowledge)	

Skill Category	Skill Subcategory	Skill Item	Befoe Work	System Development	IT Administration(SE)	Operation	Customer Service	Sales	Staff -Planning -Commerce -Legal -Finance	System Development: Software	System Engineer (IT Specialist): Platform	System Engineer (IT Specialist): Database	System Engineer (IT Specialist): System	System Engineer (IT Specialist): Network	System Engineer (IT Specialist): Security	Operation: System	Operation: Network	Operation: Service Desk	Customer Service: Hardware	Customer Service: Software	Sales: Consultation	Sales: customer Oriented	Staff: Planning/Commerce	Staff: Legal	Staff: Finance	Staff: Personnel/General	Staff: Education/Human Resources
IT Basic	Internet	Internet Basics E-mail Information Ethics WWW (World Wide Web) Security Measures	★★	★★★	★★★	★★★	★★	★★	★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★	★★	★★	★★	★★	★★	★★
	Business Tool	Document Creation Spreadsheets Presentation Document Creation Database Basics	★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★
	Computer Basics	Hardware Fundamentals OS Fundamentals Peripheral Equipment	★★	★★★	★★★	★★★	★★	★★	★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★	★★	★★	★★	★★	★★	★★
		Programming Fundamentals	★	★★	★★	★	★	★	★	★★	★★	★★	★★	★★	★★	★	★	★	★	★★							
	Elementary Computer Science	Basic Theory of Information Applied Mathematics Data Structure and Algorithm	★	★★	★★	★	★	★	★	★★	★★	★★	★★	★★	★★	★	★	★	★	★★							
Personal Skill	Communication	Documentation Presentation Interview Situation Response	★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★
	Leadership	Leadership Members Promotion Team Management	★	★	★	★	★	★	★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★
	Negotiation	Negotiation	★	★	★	★	★	★	★	★	★	★	★★	★	★	★	★	★	★	★	★★	★★	★	★	★	★	★
	Management	Management Methodology and Principle		★	★	★	★	★	★	★	★	★	★★	★	★	★	★	★	★	★	★★	★★	★★	★	★	★	★
System Platform	Operating Ststems	Windows XP Professional (Basic)	★★	★★	★★	★★	★★	★★	★	★★	★★★	★★	★★★	★★	★★	★★	★★	★★	★★	★★	★	★	★	★	★	★	★
		Windows XP Professional (System Management)	★	★★	★★	★★	★★	★	★	★★	★★★	★★	★★★	★★	★★	★★	★★	★★	★★	★★							
		Windows Server 2003 (Basic)	☆	☆	☆☆	☆	☆			☆☆	☆☆	☆☆	☆☆	☆☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆						
		Windows Server 2003 (System Management)								☆	☆☆	☆	☆☆	☆	☆	☆	☆	☆	☆	☆							
		Windows Server 2003 (Network Management)									☆		☆	☆☆		☆	☆	☆									
		UNIX/Linux (Basic)	☆	☆	☆☆	☆	☆			☆☆	☆☆	☆	☆☆	☆☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆						
		UNIX/Linux (System Management)			☆	☆	☆				☆		☆☆	☆													
		μITRON (Basic)	☆	☆	☆☆	☆	☆			☆☆	☆☆	☆	☆☆	☆☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆						
		μITRON (Intermediate)			☆						☆		☆														
		iTRON (Basic)	☆	☆	☆☆	☆	☆			☆☆	☆☆	☆	☆☆	☆☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆						
		iTRON (Intermediate)			☆						☆		☆														
		Embedded Linux (Basic)	☆	☆	☆☆	☆	☆			☆☆	☆☆	☆	☆☆	☆☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆						
		Embedded Linux (Intermediate)			☆						☆		☆														
		Windows CE (Basic)	☆	☆	☆☆	☆	☆			☆☆	☆☆	☆	☆☆	☆☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆						
		Windows CE (Intermediate)			☆						☆		☆														
	System Platform Technology	Hardware Architecture Transaction Processing			★					★	★★	★	★★	★	★												
	System Configuration	System Configuration Technology System Performance Reliability and Economical Efficiency of System			★					★	★★	★	★★	★	★												
	System Requirement Definition	CPU Performance Estimation Storage Capacity Estimation Transmission Capacity Estimation Transaction Quantity Estimation Response Estimation			★					★	★★	★	★★	★	★												
	Platform Design	Platform Design and Platform Physical Configuration			★					★	★★	★	★★	★	★												
	Introduction and Migration Planning	Management of Introduction and Migration Planning Operational Enviroment Setup System Change Management Determination of System Level			★					★	★★	★	★★	★	★												
	System Evaluation Method	Qualitative Estimation of Reliability Data Collection Analysis and Performance Tuning and Bench			★					★	★★	★	★★	★	★												
	Server Application	Web Server Mail Server Directory Server Print Server DNS Server FTP Server SMB Server NFS Server			★						☆☆		★★			★											
	Server Construction	Load Distribution Server Application Server			★						☆☆		★★			★											
Database	Database System Outline	Database Use Outline Basic Functions Related to Relational Model	★	★★	★★	★				★★★	★★	★★	★★			★★		★		★	★	★	★	★	★	★	★
	Database Language	SQL		★★	★★	★				★★★	★★	★★★	★★			★★											
	Database Design and Implementation	Database Requirement Definition Conceptual Model Creation Logical Model Creation Database Phisical Design Development Environment Database Implementation and Test		★	★	★				★★★	★	★★★	★														
	Oracle Database Management	Outline Installation System Management Backup and Recovery		☆	☆	☆				☆☆	☆☆	☆☆☆	☆☆			☆											
	DB2 Database Management	Outline Installation System Management Backup and Recovery		☆	☆	☆				☆☆	☆☆	☆☆☆	☆☆			☆											
	SQL Serve Database Management	Outline Installation System Management Backup and Recovery		☆	☆	☆				☆☆	☆☆	☆☆☆	☆☆			☆											
	PostgreSQL Database Management	Outline Installation SQL Setup and Operation		☆	☆	☆				☆☆	☆☆	☆☆☆	☆☆			☆											
	MySQL Database Management	Outline Installation SQL Setup and Operation		☆	☆	☆				☆☆	☆☆	☆☆☆	☆☆			☆											
	Database Programming	Oracle PL/SQL SQL Server 2000		☆	☆	☆				☆☆☆	☆	☆☆	☆														
	Database System Development	Distributed Database Database Securuty C/S System and DBMS		★	★	★				★★	★	★★	★			★					★	★					
	Database-Related Technology	Data Warehouse Online Analysis Processing (OLAP) Data Mining Object-Oriented and Database		★	★	★				★★	★	★★	★			★					★	★	★				

Skill Category	Skill Subcategory	Skill Item	Development: Application Specialist: Business System	Development: Application Specialist: Business Package	Development: Software Development: Basic Software	Development: Software Development: Middle Software	Development: Software Development: Application Software	Project Management: System Development	Project Management: Software Product Development	System engineer (IT Specialist): Platform	System engineer (IT Specialist): Network	System engineer (IT Specialist): Database	System engineer (IT Specialist): Application Common Platform	System engineer (IT Specialist): System Management	System engineer (IT Specialist): Security	Operation (IT Service Management): Operation Management	Operation (IT Service Management): System Management	Operation (IT Service Management): Operation	Operation (IT Service Management): Service Desk	Customer sarvice: Hardware	Customer sarvice: Software	Customer sarvice: Facility Management	Sales: Customer Oriented Consulting Sales	Sales: Customer Oriented Product Sales	Sales: Media Oriented Sales	Staff: Marketting: Planning/Commerce	Staff: Legal	Staff: Finance	Staff: Personnel/General	Staff: Education/Human Resources
IT Basic	Internet	Internet Basics E-mail Information Ethics WWW (World Wide Web) Security Measures	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★	★	★	★★	★★	★★	★★	★★
	Business Tool	Document Creation Spreadsheets Presentation Document Creation Database Basics	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★
	Computer Basics	Hardware Fundamentals OS Fundamentals Peripheral Equipment	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★	★★	★★	★★	★★	★★	★★	★★
		Programming Fundamentals	★★★	★★★	★★★	★★★	★★★	★★	★★	★★	★★	★★	★★	★★	★★	★	★	★★	★★	★	★★	★	★		★					
	Elementary Computer Science	Basic Theory of Information Applied Mathematics Data Structure and Algorithm	★★★	★★★	★★★	★★★	★★★	★★	★★	★★	★★	★★	★★	★★	★★	★	★	★	★	★	★★	★	★	★	★					
Personal Skill	Communication	Documentation Presentation Interview Situation Response	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★
	Leadership	Leadership Members Promotion Team Management	★	★	★	★	★	★★★	★★★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
	Negotiation	Negotiation	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★★★	★★★	★	★	★	★	★	★
	Management	Management Methodology and Principle	★	★	★	★	★	★★★	★★★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
System Platform	Operating Ststems	Windows XP Professional (Basic)	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★	★★	★★	★★	★★	★★	★★	★★
		Windows XP Professional (System Management)	★	★	★	★	★	★	★	★★★	★★	★	★★★	★★	★	★★	★★	★★	★★	★★	★★	★★	★	★	★					
		Windows Server 2003 (Basic)	☆	☆	☆	☆	☆	☆	☆	☆☆☆	☆☆☆	☆	☆☆☆	☆☆☆	☆	☆	☆	☆	☆	☆	☆☆	☆☆	☆	☆	☆					
		Windows Server 2003 (System Management)	☆	☆	☆	☆	☆	☆	☆	☆☆☆	☆☆☆	☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆	☆☆	☆☆	☆							
		Windows Server 2003 (Network Management)								☆☆☆	☆☆☆	☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆	☆☆	☆☆	☆							
		UNIX/Linux (Basic)	☆	☆	☆	☆	☆	☆	☆	☆☆☆	☆☆☆	☆	☆☆☆	☆☆☆	☆	☆	☆	☆	☆	☆	☆☆	☆☆	☆	☆	☆					
		UNIX/Linux (System Management)								☆☆☆	☆	☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆	☆☆	☆☆	☆							
		μITRON (Basic)	☆	☆	☆	☆	☆	☆	☆	☆☆☆	☆☆☆	☆	☆☆☆	☆☆☆	☆	☆	☆	☆	☆	☆	☆☆	☆☆	☆	☆	☆					
		μITRON (Intermediate)								☆☆☆	☆	☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆	☆	☆
		iTRON (Basic)	☆	☆	☆	☆	☆	☆	☆	☆☆☆	☆☆☆	☆	☆☆☆	☆☆☆	☆	☆	☆	☆	☆	☆	☆☆	☆☆	☆	☆	☆					
		iTRON (Intermediate)								☆☆☆	☆	☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆	☆	☆
		Embedded Linux (Basic)	☆	☆	☆	☆	☆	☆	☆	☆☆☆	☆☆☆	☆	☆☆☆	☆☆☆	☆	☆	☆	☆	☆	☆	☆☆	☆☆	☆	☆	☆					
		Embedded Linux (Intermediate)								☆☆☆	☆	☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆	☆	☆
		Windows CE (Basic)	☆	☆	☆	☆	☆	☆	☆	☆☆☆	☆☆☆	☆	☆☆☆	☆☆☆	☆	☆	☆	☆	☆	☆	☆☆	☆☆	☆	☆	☆					
		Windows CE (Intermediate)								☆☆☆	☆	☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆	☆☆	☆☆	☆	☆	☆	☆	☆	☆	☆	☆
	System Platform Technology	Hardware Architecture Transaction Processing	★	★	★	★	★	★	★	★★★	★★	★★	★★	★★	★★		★	★	★	★	★	★								
	System Configuration	System Configuration Technology System Performance Reliability and Economical Efficiency of System	★	★	★	★	★	★	★	★★★	★★	★★	★★	★★	★★		★	★	★	★	★	★								
	System Requirement Definition	CPU Performance Estimation Storage Capacity Estimation Transmission Capacity Estimation Transaction Quantity Estimation Response Estimation	★	★	★	★	★	★	★	★★★	★★	★★	★★	★★	★★															
	Platform Design	Platform Design and Platform Physical Configuration	★	★	★	★	★	★	★	★★★	★★	★★	★★	★★	★★															
	Introduction and Migration Planning	Management of Introduction and Migration Planning Operational Enviroment Setup System Change Management Determination of System Level	★	★	★	★	★	★	★	★★★	★★	★★	★★	★★	★★	★	★	★	★	★	★	★								
	System Evaluation Method	Qualitative Estimation of Reliability Data Collection Analysis and Performance Tuning and Bench	★	★	★	★	★	★	★	★★★	★★	★★	★★	★★	★★															
	Server Application	Web Server Mail Server Directory Server Print Server DNS Server FTP Server SMB Server NFS Server						★		★★★	★★	★★	★★	★★	★★	★	★	★	★	★	★									
	Server Construction	Load Distribution Server Application Server						★		★★★	★★	★★	★★★	★★	★★	★	★	★	★											
Database	Database System Outline	Database Use Outline Basic Functions Related to Relational Model	★★★	★★	★	★	★	★★	★	★★		★★	★★	★★	★	★★	★★	★★	★★	★	★★	★	★	★	★	★	★	★	★	★
	Database Language	SQL	★★★	★★★	★	★	★	★★	★★	★★	★	★★	★★	★★		★★	★★	★	★★	★★										
	Database Design and Implementation	Database Requirement Definition Conceptual Model Creation Logical Model Creation Database Phisical Design Development Environment Database Implementation and Test	★★★	★★★	★★	★★	★★	★★	★★	★★		★★	★																	
	Oracle Database Management	Outline Installation System Management Backup and Recovery	☆☆	☆☆	☆	☆	☆	☆☆	☆☆	☆☆		☆☆☆	☆☆	☆☆		☆	☆													
	DB2 Database Management	Outline Installation System Management Backup and Recovery	☆☆	☆☆	☆	☆	☆	☆☆	☆☆	☆☆		☆☆☆	☆☆	☆☆		☆	☆													
	SQL Serve Database Management	Outline Installation System Management Backup and Recovery	☆☆	☆☆	☆	☆	☆	☆☆	☆☆	☆☆		☆☆☆	☆☆	☆☆		☆	☆													
	PostgreSQL Database Management	Outline Installation SQL Setup and Operation	☆☆	☆☆	☆	☆	☆	☆☆	☆☆	☆☆		☆☆☆	☆☆	☆☆		☆	☆													
	MySQL Database Management	Outline Installation SQL Setup and Operation	☆☆	☆☆	☆	☆	☆	☆☆	☆☆	☆☆		☆☆☆	☆☆	☆☆		☆	☆													
	Database Programming	Oracle PL/SQL SQL Server 2000	☆☆☆	☆☆☆	☆☆	☆☆	☆☆	☆☆	☆☆	☆☆		☆☆☆	☆	☆																
	Database System Development	Distributed Database Database Securuty C/S System and DBMS	★★	★★	★★	★★	★★	★★	★★	★★		★★★	★	★		★	★						★	★	★					
	Database-Related Technology	Data Warehouse Online Analysis Processing (OLAP) Data Mining Object-Oriented and Database	★★	★★	★	★	★	★★	★★	★★		★★★	★	★		★	★	★					★	★	★	★	★	★	★	★

Required skill achievement level; ★･･･Can understand genaral concept ★★･･Can underatand details and capable to apply to work (Can undertake part of work alone)、★★★･･Can execute and put to practical use (Can undertake work alone)　(Note) ★;Requisite、☆;Selective according to job requirement

Level		Occupational Field/Job Category
Middle Level	Level 3 (Applicable Knowledge, Skill)	Can enable required work fully alone
	Level 2 (Fundamental Knowledge, Skill)	Can undertake required work with the assistance of upper level person
Entry Level	Level 1 (Basic Knowledge)	Minimum required knowledge for a person who engages in IT related work
evel before work	Level 0 (Basic Knowledge)	

Skill Category	Skill Subcategory	Skill Item	Before Work	System Development	IT Administration(SE)	Operation	Customer Service	Sales	Staff -Planning /Commerce -Legal -Finance	Staff	System Development: Software	System Engineer (IT Specialist): Platform	System	Database	Network	Security	Operation: System	Network	Service Desk	Customer Service: Hardware	Software	Sales: Consultation	customer Oriented	Staff: Planning/Commerce	Legal	Finance	Personnel/General	Education/Human Resources
Network	Network Technology	Network Basic	★	★★	★★	★★	★★	★			★	★★	★★	★★	★★★	★★★	★★	★★★	★	★★	★★	★	★						
		Protocol and Transmission Control Coding and Transmission TCP/IP LAN Wireless LAN WAN and Internet Circuit Network Components	★	★★	★★	★	★					★★	★★	★★	★★★	★★	★	★★											
		VoIP IPv6			★							★		★	★★			★											
	Network Design	Requirements Definition Logical Design Physical Design			★							★		★	★★	★		★											
	Network Construction	Setup and Introduction Test and Evaluation			★★							★★			★★★	★★	★	★★											
	Network Maintenance and Operation	Network System Operation and Maintenance Network System Management Network System Evaluation			★	★						★		★	★★	★	★	★★★	★	★									
Information Security	Information Security Basic	Information Security Basic Concept Information Resourse and Security Risk Management Basic Procedure Information Security Related	★	★	★	★	★	★	★		★	★★	★★	★★	★★	★★★	★★	★★	★	★	★	★	★	★	★	★	★	★	★	★
	Information Security Management	Risk Analysis Information Security Policy Information Security Audit			★						★	★	★	★	★	★★	★	★	★										
	Network Security	Network Design Technology Network Access Control VPN Wireless LAN			★							★		★	★★	★★		★★											
	Application Security	Elwctronic Mail DNS (Domain Name System) Web			★						★	★★	★	★★	★★	★★	★	★	★	★	★								
	OS Security	UNIX/Linux Windows			★						★	★★	★	★★	★	★★	★	★	★	★	★								
	Firewall	Firewall Introduction and Operation NAT (Network Address Translation) Network Access Control			★							★		★	★	★★	★	★★	★										
	Invasion Detection	Invasion Detection Syetem Introduction Invasion Detection System			★							★		★	★	★★	★	★★	★										
	Virus	Prevention Policy Detection, Infection, Attack			★							★		★	★	★★	★	★★	★										
	Security Operation	Security Maintenance in Normal Coping with Abnormal Situation			★							★		★		★★	★		★										
	Security Component Technology	Security Protocol Authentification PKI (Public Key Infrastructure) Encryption Electronic Signature			★							★		★		★★	★	★	★										
	Unauthorized Access and Prevention	Unauthorized Access Prevention of Illegality			★							★		★		★★	★	★★	★										
	Statute and Regulation	Standards and Guidline Statute International Standards International Guidelines Information Security Regulations			★							★		★		★★	★	★	★								★		
Program Development	Program Design	Program Design Principles Program Design Documentation Creation of Module Specification and Test Specification Design Review		★★	★						★★	★	★	★★															
	Programming	Algorithm Fundamentals	★	★★★	★★★						★★★	★★	★★	★★															
		C Language (Basic) C Language (Intermediate) C++ (Basic) C++ (Intermediate) Java (Basic) Java (Intermediate) VisualBasic (Basic) VisualBasic (Intermediate) Visual C++ (Basic) VisualC++ (Intermediate) Assembler (Basic) Assembler (Intermediate) COBOL (Basic) COBOL (Intermediate)	☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆	☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆	☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆						☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆	☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆	☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆	☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆														

■Standard Skill Matrix 2008

[Domain] Information Communication Technology

Required skill achievement level；★･･･Can understand genaral concept ★★･･Can underatand details and capable to apply to work (Can undertake part of work alone)、★★★･･Can execute and put to practical use (Can undertake work alone)　(Note) ★；Requisite、☆；Selective according to job requirement

Level		Occupational Field/Job Category
Middle Level	Level 3 (Applicable Knowledge, Skill)	Can enable required work fully alone
	Level 2 (Fundamental Knowledge, Skill)	Can undertake required work with the assistance of upper level person
Entry Level	Level 1 (Basic Knowledge)	Minimum required knowledge for a person who engages in IT related work
evel before work	Level 0 (Basic Knowledge)	

Skill Category	Skill Subcategory	Skill Item	Before Work	System Development	IT Administration(SE)	Operation	Customer Service	Sales	Staff -Planning /Commerce -Legal -Finance	System Development: Software	System Engineer (IT Specialist): Platform	System Engineer (IT Specialist): Database	System Engineer (IT Specialist): System	System Engineer (IT Specialist): Network	System Engineer (IT Specialist): Security	Operation: System	Operation: Network	Operation: Service Desk	Customer Service: Hardware	Customer Service: Software	Sales: Consultation	Sales: Customer Oriented	Staff: Planning/Commerce	Staff: Legal	Staff: Finance	Staff: Personnel/General	Staff: Education/Human Resources
System Development (Multimedia)	CG Creation	Image Capturing and Editing Modelling Basics Animation Technique Scene Construction Mathematical Modeling Intellectual Property Right		☆☆						☆☆☆																	
	Web Design	Concept Making Web Site Implementation Information Structure Page Design Expression Technique of Image Interface Test and Evaluation	☆	☆☆	★	★	★	★	★	☆☆☆			★			★	★	★	★	★	★	★	★	★	★	★	★	★
	Image Processing Engineering	Digital Image Fundamentals Image Filtering and Restoratation Geometric Transformation Recognition and Detection of Moving Image Processing and Spatial Information Processing Image Compression and Coding Image Processing Application Systems	☆	☆☆						☆☆☆																	
	CG Engineering	Visual Information Processing: Fundamentals Coordinate Transformation Modeling Technology Rendering Animation Technique Image Processing Advanced CG Expressions CG Systems		☆☆						☆☆☆																	
	Audio Engineering	Acoustics Basics Audio Signal Processing		☆☆						☆☆☆																	
	Audio Design	Sound Design Sound Recording Music Theory		☆☆						☆☆☆																	
Project Management	Project Management Basics	Project Management Basics		★	★	★	★	★	★	★★	★★	★★	★★	★★	★★	★	★	★	★	★	★	★	★	★	★	★	★
	Project Buildup and Planning	Project Integration Management Project Scope Management Project Time Management Project Cost Management Project Quality Management Project Human Resource Project Communication Management Project Risk Management Project Supply Management								★★	★	★	★★	★	★												
	Project Procurement and Control	Project Integration Management Project Scope Management Project Time Management Project Cost Management Project Quality Management Project Human Resource Project Communication Management Project Risk Management Project Supply Management								★★	★	★	★★	★	★												
Information and Management	Information Strategy	Information System (ERP) Information System (SCM) Information System (CRM) Information System (FSA) Information System (EAI) Information System (EA) Information System (ASP) Information System (DSS) Information System (SIS) Business Improvement, Analysis, Design Internet-Oriented Business								☆☆	☆	☆	☆☆	☆	☆						☆☆	☆						
	Information System	Production Management System (Manufacturing) Sales Management System (Manufacturing) Purchase Management (Manufacturing) CAD/CAM/CAE FA CIM PDM Accounting, Finance, Personel System Sales Support System POS Distribution System Finance System Public Business System Business-to-Business System ElectronicClearing System Groupware Work Flow Control Tool			☆					☆☆	☆	☆	☆☆	☆	☆						☆☆	☆						
	Management Engineering	IE OR								★	☆	☆	★	☆	☆												
Business Skill	Business Basic	Business Mannar Business Mind Business Rule Compliance	★	★★	★★	★★	★★	★★	★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★
	Legal Affair	Personal Information Protection Intellectual Property Rights Business Judicial Affairs	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★★	★	★	★	★
	Sales	Root Sales Sales Management Tele-Marketing Credit Management Claim Processing						★		☆			☆								★★	★★						
	Finance, Accounting	Financial Statement Financial Analysis Bookkeeping Receipts and Expenses							☆	☆			☆												★★			
	Labour	Labor Judicial Affairs Labour Management							☆	☆			☆														★★	
	Planning	Marketing Advertisement, Public Relations							☆	☆			☆								★★	★★	★					
		Statistical Data Analysis Planning Capability	★					★	★	☆			☆								★	★	★★	★	★	★	★	★
	Production	Production Management Logistics							☆	☆			☆															
Statistics, Applied Mathematics and Information Science	Probability and Stochastic Data Analysis	Probability Statistical Analysis Stochastic Model and Method Multivariate Analysis	☆	☆			☆		☆				☆					☆		☆			☆☆				
	Applied Mathematics for Economics and Finance	Function and Algebra Basics Optimization Probability Theory Basics Stochastic Process Basics Basic Statistical Technique Numerical Solution	☆	☆						☆			☆							☆							
	Financial Engineering	Financial Derivative Modern Portfolio Theory Mathematical Basis of Financial Derivatives	☆	☆						☆			☆								☆						
	Concept of Usable Mathematic	Introductry Discrete Mathematics Elementary Probability and Statistics Elementary Information and Communication	☆	☆			☆						☆					☆		☆							
	Basic Complex Systems Scien	Outline of Complex System Concept and Tool of Complex Syster Modeling of Complex System Application of Complex System	☆	☆	☆								☆														
	Artificial Intelligence Fundamental	Problem Solving Search method Knowledge Representation and Inference Predicate Lpgic Fuzzy Logic Baysian Network Neural Network	☆	☆	☆		☆			★★			☆							☆							
	Media Processing and Understanding	Natural Language Understanding and Machine Translation Image Understanding Speech Processing	☆	☆						★★			☆							☆							

Skill Category	Skill Subcategory	Skill Item	Development: Application Specialist: Business System	Development: Application Specialist: Business Package	Development: Software Development: Basic Software	Development: Software Development: Middle Software	Development: Software Development: Application Software	Project Management: System Development	Project Management: Software Product Development	System engineer (IT Specialist): Platform	System engineer (IT Specialist): Network	System engineer (IT Specialist): Database	System engineer (IT Specialist): Application Common Platform	System engineer (IT Specialist): System Management	System engineer (IT Specialist): Security	Operation (IT Service Management): Operation Management	Operation (IT Service Management): System Management	Operation (IT Service Management): Operation	Operation (IT Service Management): Service Desk	Customer sarvice: Hardware	Customer sarvice: Software	Customer sarvice: Facility Management	Sales: Customer Oriented Consulting Sales	Sales: Customer Oriented Product Sales	Sales: Media Oriented Sales	Staff: Marketting: Planning/Commerce	Staff: Legal	Staff: Finance	Staff: Personnel/General	Staff: Education: Education/Human Resources
System Development (Multimedia)	CG Creation	Image Capturing and Editing Modelling Basics Animation Technique Scene Construction Mathematical Modeling Intellectual Property Right					☆☆☆																								
	Web Design	Concept Making Web Site Implementation Information Structure Page Design Expression Technique of Image Interface Test and Evaluation	★★	★★	★	★	☆☆☆	★	★				★	★		★	★	★	★	★	★	★	★	★	★	★			★	★
	Image Processing Engineering	Digital Image Fundamentals Image Filtering and Restoratation Geometric Transformation Recognition and Detection of Moving Image Processing and Spatial Information Processing Image Compression and Coding Image Processing Application Systems					☆☆☆																								
	CG Engineering	Visual Information Processing: Fundamentals Coordinate Transformation Modeling Technology Rendering Animation Technique Image Processing Advanced CG Expressions CG Systems					☆☆☆																								
	Audio Engineering	Acoustics Basics Audio Signal Processing					☆☆☆																								
	Audio Design	Sound Design Sound Recording Music Theory					☆☆☆																								
Project Management	Project Management Basics	Project Management Basics	★★	★★	★★	★★	★★	★★★	★★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★	★	★	★	★	★	★	★
	Project Buildup and Planning	Project Integration Management Project Scope Management Project Time Management Project Cost Management Project Quality Management Project Human Resource Project Communication Management Project Risk Management Project Supply Management	★★	★★	★★	★★	★★	★★★	★★★	★	★	★	★	★	★	★	★	★	★	★	★	★									
	Project Procurement and Control	Project Integration Management Project Scope Management Project Time Management Project Cost Management Project Quality Management Project Human Resource Project Communication Management Project Risk Management Project Supply Management	★★	★★	★★	★★	★★	★★★	★★★	★	★	★	★	★	★	★	★	★	★	★	★	★									
Information and Management	Information Strategy	Information System (ERP) Information System (SCM) Information System (CRM) Information System (FSA) Information System (EAI) Information System (EA) Information System (ASP) Information System (DSS) Information System (SIS) Business Improvement, Analysis, Design Internet-Oriented Business	☆☆☆	☆☆☆	★	★	★	☆☆	☆☆					☆☆			☆	☆					☆☆☆	☆☆	☆	☆					
	Information System	Production Management System (Manufacturing) Sales Management System (Manufacturing) Purchase Management (Manufacturing) CAD/CAM/CAE FA CIM PDM Accounting, Finance, Personel System Sales Support System POS Distribution System Finance System Public Business System Business-to-Business System ElectronicClearing System Groupware Work Flow Control Tool	☆☆☆	☆☆☆	★	★	★	☆☆	☆☆					☆☆			☆	☆					☆☆☆	☆☆	☆	☆					
	Management Engineering	IE OR	★	★	★	★	★	★	★	★	★	★	★	★												★					
Business Skill	Business Basic	Business Mannar Business Mind Business Rule Compliance	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★
	Legal Affair	Personal Information Protection Intellectual Property Rights Business Judicial Affairs	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★★	★★	★★	★★	★★
	Sales	Root Sales Sales Management Tele-Marketing Credit Management Claim Processing	☆☆	☆☆				★															★★★	★★★	★★★						
	Finance, Accounting	Financial Statement Financial Analysis Bookkeeping Receipts and Expenses	☆☆	☆☆				☆☆	☆☆																		★★★				
	Labour	Labor Judicial Affairs Labour Management	☆☆	☆☆				☆☆	☆☆																				★★★		
	Planning	Marketing Advertisement, Public Relations	☆☆	☆☆				★	☆														★★	★★	★★	★★★					
		Statistical Data Analysis Planning Capability	★★	☆☆	★	★	★	★	★														★	★	★	★★★		★	★	★	★
	Production	Production Management Logistics	☆☆	☆☆				☆☆	☆☆																						
Statistics, Applied Mathematics and Information Science	Probability and Stochastic Data Analysis	Probability Statistical Analysis Stochastic Model and Method Multivariate Analysis	☆	☆			☆	☆	☆				☆	☆							☆	☆	☆	☆	☆	☆☆☆		☆		☆	
	Applied Mathematics for Economics and Finance	Function and Algebra Basics Optimization Probability Theory Basics Stochastic Process Basics Basic Statistical Technique Numerical Solution	☆☆	☆☆			☆	☆	☆				☆	☆												☆		☆			
	Financial Engineering	Financial Derivative Modern Portfolio Theory Mathematical Basis of Financial Derivatives	☆☆	☆☆			☆	☆	☆				☆																		
	Concept of Usable Mathematic	Introductry Discrete Mathematics Elementary Probability and Statistics Elementary Information and Communication	☆	☆			☆	☆	☆				☆	☆							☆	☆				☆					
	Basic Complex Systems Scien	Outline of Complex System Concept and Tool of Complex Syster Modeling of Complex System Application of Complex System	☆	☆			☆	☆	☆				☆	☆																	
	Artificial Intelligence Fundamental	Problem Solving Search method Knowledge Representation and Inference Predicate Lpgic Fuzzy Logic Baysian Network Neural Network	☆☆	☆☆			☆	☆	☆				☆	☆							☆		☆	☆	☆	☆					
	Media Processing and Understanding	Natural Language Understanding and Machine Translation Image Understanding Speech Processing	☆☆	☆☆			☆	☆	☆				☆	☆							☆		☆	☆	☆						