

# DACUM Research Chart for Information Systems Technologist

## DACUM Panel

Madhu P. Asar  
Consultant, Data Acquisition for  
Medical Research  
Reynoldsburg, OH

Bryan Barlitt  
I.T. Administrator  
Grace Brethren Church/  
Worthington Christian Schools  
Worthington, OH

Connie Feeney  
Supervisor of PC Support  
Columbus State Comm. College  
Columbus, OH

Neil Gardner  
Columbus State Comm. College  
Columbus, OH

Bill Simpson  
Network Administrator  
Columbus State Comm. College  
Columbus, OH

## DACUM Facilitators

Morris Harris  
Yi-Fang Lee  
Stan Brings  
Jim Hamilton, Team Leader

Produced for



Developed by



May 6-7, 2004

# DACUM Research Chart for Information Systems Technologist

Duties		Tasks			
<b>A</b>	<b>Manage PCs and Peripherals</b>	A-1 Configure PC O.S. and hardware	A-2 Install PC peripherals (e.g., scanners, printers, jump drives, PDAs)	A-3 Manage user profiles	A-4 Maintain desktop application software
		A-10 Track repair information (PCs and peripherals)		A-11 Perform preventive maintenance (PCs & peripherals)	A-12 Mitigate virus infection on PCs
<b>B</b>	<b>Manage Servers</b>	B-1 Configure server O.S. and hardware	B-2 Set-up file sharing	B-3 Administer print services	B-4 Install O.S. updates and patches
		B-12 Perform server-restore	B-13 Determine future server needs		
<b>C</b>	<b>Provide Help-Desk Support</b>	C-1 Identify reported problems	C-2 Log reported problems	C-3 Troubleshoot reported problems	C-4 Resolve user-solvable problems
<b>D</b>	<b>Implement Security Strategy</b>	D-1 Secure server room	D-2 Install firewall server	D-3 Implement anti-virus protection	D-4 Implement password authentication
		D-11 Secure wireless access point	D-12 Perform risk assessment		
<b>E</b>	<b>Manage Telecommunication System</b>	E-1 Collaborate with local and LD carriers	E-2 Order telecommunication circuits	E-3 Manage PBX (e.g., install, maintain)	E-4 Configure voice-mail system
		E-13 Coordinate cell phone services	E-14 Implement emergency response system (911)	E-15 Audit phone bills	
<b>F</b>	<b>Implement Disaster-Recovery Plans</b>	F-1 Document existing systems	F-2 Install battery back-ups	F-3 Back-up data	F-4 Test data back-ups
<b>G</b>	<b>Maintain Information Systems Infrastructure</b>	G-1 Create network topology diagrams	G-2 Configure network routers	G-3 Manage network switches	G-4 Manage wireless access points
<b>H</b>	<b>Manage Cable System</b>	H-1 Specify types of cable	H-2 Develop cable diagrams	H-3 Install voice and data cables	H-4 Terminate cables (e.g., voice, data, fiber)
				H-5 Label cable terminations	

A-5 Perform PC hardware upgrades	A-6 Perform imaging of desktop PCs	A-7 Train PC end users	A-8 Troubleshoot PC problems (hardware & software)		A-9 Coordinate contractor repair (PC & peripherals)	
A-13 Maintain Macintosh computers						
B-6 Troubleshoot server problems (e.g., hardware/software)		B-7 Manage e-mail system	B-8 Manage server databases	B-9 Monitor server performance	B-10 Perform server preventive maintenance	B-11 Mitigate virus infection on servers
D-6 Implement port-blocking	D-7 Implement encryption technology	D-8 Install protection (e.g., spyware, SPAM block, content filter)		D-9 Educate users on security policies & procedures		D-10 Secure workstations from theft
E-6 Program phone features	E-7 Train staff on telecom features	E-8 Coordinate telecom system updates	E-9 Service phone systems	E-10 Manage call centers	E-11 Configure video conference systems	E-12 Manage interactive voice response system
F-6 Install redundant data circuits	F-7 Implement redundant servers	F-8 Provide connectivity to back-up sites	F-9 Develop disaster recovery procedure standards		F-10 Maintain back-up media library	
G-6 Determine future infrastructure needs						
H-6 Test cable installation						

# DACUM Research Chart for Information Systems Technologist

Duties		← Tasks →				
<b>I</b>	<b>Manage Information System Assets</b>	I-1 Specify new/replace-ment I.S. equipment	I-2 Order new information system equipment	I-3 Coordinate new I.S. equipment installation	I-4 Track I.S. equipment inventory and location	I-5 Maintain software licensing agreements
		I-6 Maintain hardware warranties	I-7 Maintain I.S. supplies and repair parts inventory	I-8 Coordinate equipment disposal		
<b>J</b>	<b>Manage Web Sites</b>	J-1 Set up web server	J-2 Manage domain names	J-3 Establish web site standards	J-4 Develop web site	J-5 Solicit info from internal departments
		J-6 Interface web site with databases	J-7 Provide specific customer links	J-8 Trouble-shoot web site functionality	J-9 Update web site information	
<b>K</b>	<b>Manage A/V Systems</b>	K-1 Specify A.V. equipment	K-2 Install A.V. equipment (projector, sound system)		K-3 Install A.V. cables	K-4 Create A.V. system diagram
		K-5 Interconnect A.V. components (e.g., VCR, DVD, PC, TV projector)		K-6 Maintain A.V. equipment	K-7 Train A.V. end users	
<b>L</b>	<b>Continue Professional Development</b>	L-1 Continue formal education	L-2 Maintain certification levels (e.g., hardware & software)		L-3 Research new technologies on web	L-4 Attend vendor application training
		L-5 Attend tech-related seminars	L-6 Partici-pate in cross-training	L-7 Attend internal training program	L-8 Read trade publications & periodicals	

## Acronyms

IS	Information Systems
IT	Information Technology
Telecom	Telecommunications
LD	Long Distance
PBX	Private Branch Exchange
O.S.	Operating System
PDA	Personal Digital Assistant
PC	Personal Computer
AV	Audio Visual
RFID	Radio Frequency Identification
GPS	Global Positioning Technology
IVR	Interactive Voice Response

---

## General Knowledge and Skills

Computer knowledge  
Hardware and software  
Operating systems  
Applications  
Networking  
Database management  
Troubleshooting skills  
Communication skills  
Organizational skills  
Project management skills  
Server knowledge  
Security knowledge  
Decision making skills  
Internet/web savvy  
Network knowledge  
Electronic circuit background  
Understand protocols and data packets  
Transmission media knowledge  
Knowledge of OSHA and safety standards

## Worker Behaviors

Detail oriented  
Friendly  
Self-motivated  
Effective communicator  
Self-taught  
Keep up to date with latest technology  
Ethical  
Organized  
Reliable  
Patient  
Open-minded  
Neat appearance  
Logistical  
Logical

## Tools, Equipment, Supplies and Materials

Phone system	Cable-testers
Software	Punch tool
Computer	Port-tester
IT-tool kit (hand tools)	Printer
Cable termination kit-wire, stripper, crimpier	Fax machine
Telecomm test set	Servers
Voltage meter	Labeler
Loop-back cables	PDA
Connector adapters (gender changers)	
Utility disk (Norton disk drive)	
Blank media (tape, CD, floppy)	
Technical manuals	
Internet access	
Files/folders (for asset management)	

## Future Trends and Concerns

Voice-over IP is revolutionizing traditional phone switches  
More wireless  
Wireless internet access  
Personal area network  
Virtual reality  
Entrance of Version 6 routing  
RFID-radio frequency identification  
Ethernet over power transmission lines  
Computers getting smaller  
Increasing spam, virus, spyware  
Outsourcing services offshore  
No 911 services on voice over IP calls  
GPS-Global positioning satellite