

# DACUM Research Chart for Database Specialist

## DACUM Panel

Jim Busick  
Santee School District  
Santee, CA

Luis Camberos  
Database Engineer/Consultant  
San Diego, CA

Richard Chapman  
San Diego Paper Box Company  
Spring Valley, CA

William Hesson  
East County ROP  
Alpine, CA

Barbara James  
East County ROP  
El Cajon, CA

Christopher Lee  
SAIC  
San Diego, CA

Michael Macalos  
San Diego City Schools  
San Diego, CA

Loretta Peer  
UNUM/Provident  
San Diego, CA

Deborah Smith  
Grossmont College  
El Cajon, CA

Terry Tamanaha  
San Diego County Office of  
Education  
San Diego, CA

## DACUM Facilitators

Robert Norton, Program Director  
DACUM/SCID  
CETE/OSU

Janie Thomas, Consultant  
Coppell, TX

## Produced for

G R O S S M O N T  
C O L L E G E



**Leadership and Economic Development Institute**  
8800 Grossmont College Drive  
El Cajon, California 92020

## Developed by



**CENTER ON EDUCATION  
AND TRAINING FOR EMPLOYMENT**  
COLLEGE OF EDUCATION  
THE OHIO STATE UNIVERSITY  
1900 Kenny Road • Columbus, Ohio 43210-1090

**December 4-5, 2001**

*Developed and published under contract #01-003-001 with the California Community Colleges Chancellor's Office. This work is a product of the Statewide Special Project Collaborative in Business Education operated by Grossmont-Cuyamaca Community College District and does not necessarily reflect the policy of the Board of Governors of the California Community Colleges. Permission is hereby granted to reproduce this work, in whole or part, for classroom or curriculum use.*

# DACUM Research Chart for Database Specialist

Duties		← Tasks →				
A	<b>Conduct Needs Analysis</b>	A-1 Interview end-user regarding database requirements	A-2 Collect documents (e.g., forms, spreadsheets, reports, other databases)		A-3 Analyze business processes	A-4 Determine database performance requirements
B	<b>Design the Database</b>	B-1 Define database entities	B-2 Design database tables	B-3 Establish table relationships	B-4 Design table indexes	B-5 Identify business rules
C	<b>Create the Database</b>	C-1 Create database tables	C-2 Create table keys	C-3 Create table indexes	C-4 Program business rules	C-5 Create database security scheme
		C-13 Analyze user test results	C-4 Modify database to meet user needs	C-15 Create database backup system	C-16 Document database functionality	
D	<b>Deploy the Database</b>	D-1 Verify computer system set-up (e.g., stand-alone, client server)		D-2 Install database software	D-3 Install database client software	D-4 Configure database security
		D-11 Obtain database final acceptance				
E	<b>Maintain the Database</b>	E-1 Monitor event logs	E-2 Run database backups	E-3 Restore data	E-4 Tune database performance	E-5 Fix programming bugs
		E-13 Update database documentation	E-14 Install database software updates	E-15 Upgrade database software to new release	E-16 Update canned reports	
F	<b>Provide Database Support</b>	F-1 Train new database users	F-2 Set up database help desk	F-3 Create database user manual	F-4 Create ad hoc queries (e.g., reports, data files, views)	
G	<b>Continue Professional Development</b>	G-1 Build a reference library	G-2 Review professional journals	G-3 Participate in SIGs	G-4 Participate in professional organizations	G-5 Network with other professionals

A-5 Analyze present database formats	A-6 Analyze hardware, software, and networking needs	A-7 Estimate database project costs	A-8 Prepare database functional specification documents	A-9 Obtain management approval of database project		
B-6 Design database security	B-7 Design screen navigation	B-8 Design data entry forms	B-9 Design database system configuration	B-10 Design database backup system		
C-6 Populate database tables	C-7 Create input forms	C-8 Create input form help screens	C-9 Create database queries	C-10 Create canned reports	C-11 Test database functionality	C-12 Coordinate user testing of database
D-5 Train database users and administrators	D-6 Migrate database structures from development to production		D-7 Load live data	D-8 Implement backup database procedures	D-9 Establish user feedback procedures	D-10 Establish data recovery procedures
E-6 Troubleshoot database problems	E-7 Troubleshoot bad data (e.g., corrupt, duplicate, inaccurate)	E-8 Modify database structure	E-9 Administer database security	E-10 Archive historical data	E-11 Manipulate data (e.g., corrupt, duplicate, inaccurate)	E-12 Practice disaster recovery
F-5 Respond to database inquires						
G-6 Obtain professional certifications	G-7 Research emerging technologies	G-8 Participate in workshops/seminars	G-9 Participate in training opportunities			

---

## General Knowledge and Skills

Flow charting  
Communication skills  
People skills  
Training skills  
Troubleshooting skills  
Organizational skills  
Operating systems  
Problem-solving skills  
Critical thinking skills  
Programming concepts

## Worker Behaviors

Logical	Responsible
Procedural	Mentally alert
Multi-tasking	Hard working
Good listener	Detail oriented
Good trainer	Adaptable
Patient	Proactive
Able to work independently and on a team	Good troubleshooter
Responsive	Quick learner

## Tools, Equipment, Supplies and Materials

Computer system	Cell phone
S/W manuals	Applications s/w:
Internet access	- word processing
Database s/w	- spreadsheets
Backup storage device	- diagramming
Tool kit (screwdriver, pliers)	- email
Beeper	- user interface

## Future Trends and Concerns

Greater need for database specialists to understand web technologies  
Greater emphasis on disaster recovery technology  
XML technology will be more widely used in databases

## Acronyms

s/w software  
h/w hardware  
DB database  
SIG Special Interest Group  
XML Extended Mark-up Language