TASK LIST – DATABASE ARCHITECT
(CLASS CODE 1470)

1 Designs databases at physical and logical levels based on experience and knowledge of databases in order to meet application requirements using database modeling tools.

2 Makes recommendations regarding the designed database structures and what tools to use in order to meet application requirements.

3 Estimates potential impact of proposed database structure on database performance by determining and evaluating performance factors such as response time and issues of integrity, using relevant experience.

4 Monitors the performance of databases by analyzing performance data, evaluating complaints from users, and analyzing control information and records.

5 Recommends changes to improve batch and on-line processing performance based on an evaluation of factors such as user needs, performance data, technical capabilities of the hardware, and logical abilities of the software available.

6 Implements changes to improve batch and on-line processing performance by tuning or redesigning the database, or recommending modifications to the application.

7 Develops and documents physical structures such as data access, search, and ordering strategies based on factors such as the needs of users and the access requirements.

8 Determines feasibility of general design for database based on user requirements, system capabilities, and resource and technical availability of the application.

9 Establishes database methodology and develops general design methodology be used in the city.

10 Develops and implements standards and procedures for databases such as number of calls, naming conventions, programming standards, and response time, based on performance considerations, compliance to organizational standards, and programming requirements.

11 Provides assistance to development team working with databases by explaining structure of data bases (i.e., access paths, control blocks) and answering questions.

12 Defines and organizes the database in order to minimize duplicate data, meet user performance requirements, enhance data sharing capabilities, and provide for data security and integrity.

13 Develops standards and procedures for the testing of new databases by providing technical support such as developing utilities, maintaining systems configurations, and creating multiple test data environments, in order to prevent unauthorized access and damage to the operational databases.

14 Evaluates the data processing hardware as it relates to performance objectives of the database by having knowledge of general computer resource capabilities and knowledge of current computer configurations.

15 Develops and implements methods and procedures for the loading of the physical database by recognizing existing data formats, knowing where to capture the data, and/or by writing programs to restructure the data.

16 Develops and implements methods and procedures for the reorganizing of physical databases by monitoring the frequency of the use of the database, size of the database, and activity related to the database.

17 Develops and implements procedures for the backup and recovery of databases on frequency of database use and requirements of the system.

18 Acts as a lead worker over others assisting in database function such as Systems staff in order to comply with standards, maximize security and availability, minimize errors, provide for efficient data access, and maintain data integrity.

19 Trains others such as Systems staff in areas such as systems updates, technical changes and emergency situations using data base utilities, demonstrations, and oral and written instruction in order to improve service to users.

20 Reads technical information material, such as new product announcements, trade journals, and industry news, in order to stay informed of developments in the information systems profession.

21 Attends seminars and training sessions regarding developments in database management systems.

22 Documents standards and procedures to be used in databases in order to maintain a consistent use and shared understanding of the databases.

23 Manages integrated conceptual model of City data resources, including identifying database integration opportunities, and providing the technology to retrieve data from multiple sources.

24 Administers and maintains the metadata repository.

25 Installs and configures database software and related administration tools and utilities including tuning and optimizing database/system parameters.

26 Designs database server architecture and develops database server specifications based on business requirements such as high availability.

27 Develops, implements, and maintains policies and procedures for database change management.

28 Develops, implements, and maintains database standards for installation, patches, upgrades, and security.

29 Develops, implements, and maintains policies and procedures for data security to meet business requirements and ensure compliance with legal mandates.

30 Develops, implements, and maintains production scripts at the operating system level and database server level for database-related tasks.

31 Tunes and optimizes SQL statements.

32 Ensure database security and compliance with legal mandates such as SB1386 and data privacy acts.