

## **SANTA BARBARA COMMUNITY COLLEGE DISTRICT**

**CLASSIFICATION: CLASSIFIED**

**CLASS TITLE: RESEARCH DATA  
WAREHOUSE SPECIALIST**

**SALARY TABLE: 29**

**SALARY RANGE: 36**

### **BASIC FUNCTION:**

Under the direction of an assigned administrator, organize, design, implement, and maintain comprehensive database structures, data elements, and data-oriented processes that support the needs of the Office of Institutional Assessment, Research, and Planning (IARP). Provide direction and leadership that assures the overall quality, usability, security, and appropriate privacy of this data. Provide data analysis and advanced data reporting that supports the mission of the department.

### **REPRESENTATIVE DUTIES**

#### **ESSENTIAL DUTIES:**

Design, develop, and maintain the large and complex data warehouse containing historic data on student characteristics, student course-taking history and outcomes, and other College data that supports the assessment, research, and planning operations of the IARP department.

Follow existing standards, policies, and procedures that assure the accuracy, reliability, availability, security, and privacy of the data. Recommend new standards, policies and procedures where needed. Coordinate with the Information Technology department as needed regarding database policies.

Analyze requirements, monitor performance, and make recommendations for changes or additions to the data warehouse, in light of current and anticipated needs for data extraction, data analysis, and reporting.

Design, test, and execute accurate and efficient Structured Query Language (SQL) queries and processes that extract data required to support ongoing departmental projects and reporting of data outside the department as assigned. Combine data from multiple sources when needed. Create appropriate indexes and structures to improve query performance.

Identify, develop, and implement ongoing accuracy and integrity checks on data, including exception reports that can be used by others, and correct inaccurate or inconsistent data. Identify processes and policies that allow incorrect data to persist, and modify those processes and policies where possible to prevent future inaccuracies. Where such processes or policies are

outside the control of the IARP department, make recommendations for their correction and improvement.

Maintain an accurate data dictionary that documents each data element in the data warehouse in sufficient detail to serve as a reliable source for others who need to extract and analyze data. Maintain accurate and current documentation of complex automated processes that extract data or produce reports. Periodically review documentation with teammates.

Coordinate, prepare, and submit specific state and federal mandated cyclical reports as assigned. Respond to ad hoc requests for data, in accordance with IARP project priorities and vetting of requests. Prepare and present data graphics and interactive visualizations using tools such as Excel and Tableau.

Serve as a team leader on projects as assigned, reviewing and coordinating teammates' work. Serve as a technical resource on database issues, data storage and extraction methods, design of automated processes for data extraction, and data security. Assist with the design of research projects regarding data needs. Serve as a technical resource for the use of internal systems, tools, and processes for extracting, analyzing, and presenting data.

Attend and participate in professional group meetings; stay abreast of new trends and innovations in the field of database technology, data extraction and analysis, and data presentation.

#### **OTHER DUTIES:**

Perform related duties as assigned.

### **KNOWLEDGE AND ABILITIES**

#### **KNOWLEDGE OF:**

Advanced database principles, data structure design, and optimization

Structured Query Language (SQL)

Programming Language/Structured Query Language (PL/SQL)

Principles of query optimization

Scripting language such as Perl

Programming language such as Grails

Database development environments such as Toad or SQLDeveloper

Operating systems such as Unix, Windows, and MacOS

Development, testing, and production cycles, environments, and best practices

Data security and privacy regulations, policies, and best practices

**ABILITY TO:**

Design, develop, test, maintain, and enhance data systems to support IARP operations.  
Perform and coordinate complex database analysis and design.  
Lead project teams of assigned personnel and review work of teammates.  
Perform a variety of difficult and complex data-oriented scripting and automation tasks.  
Work independently with little direction.  
Demonstrate proficiency in the data tools used by the District.  
Detect and resolve errors in data, database design, and related processes.  
Interact with District faculty and staff to determine requirements, needs and desired outcomes.  
Write clear and concise documentation.  
Establish and maintain cooperative and effective working relationships with others.  
Analyze situations accurately and adopt an effective course of action.  
Meet schedules and time lines.

Sensitivity to and understanding of the diverse academic, socio-economic, cultural, linguistic, disability, and ethnic backgrounds of community college students.

**EDUCATION AND EXPERIENCE**

Any combination equivalent to: bachelor's degree in information technology or a related field and five years increasingly responsible systems and/or data structure analysis, design, implementation, and maintenance.

**WORKING CONDITIONS:****ENVIRONMENT:**

Indoor office environment.

**PHYSICAL DEMANDS:**

Ability to operate a computer keyboard.  
Seeing to read a variety of materials and view a computer monitor.  
Hearing and speaking to exchange information.  
Sitting or standing for extended periods of time.  
Mobility to access various campus locations.  
Carrying, pushing, pulling, lifting light to moderate weight objects.  
Stoop, bend, kneel, crouch, reach, and twist.