**Class Summary**

The responsibilities of this classification include structuring and organizing data for analytical or operational uses. Incumbents build data pipelines to join information from different source systems; integrate, consolidate, and clean data; structure data for use in analytics applications.

**Distinguishing Characteristics**

This classification is the second level of a three-level series. The Data Engineer is distinguished from the Data Engineer-Senior in that the Data Engineer-Senior is the management-recognized technical expert, leading code review and approval processes, providing expert-level data modeling and programming, and is consistently assigned the most complex assignments; incumbents lead highly complex, politically sensitive projects and/or staff.

**Examples of Duties**

*In addition to the duties of the Data Engineer-Associate classification, the Data Engineer will:*

1. Tune databases for efficient analysis and create table schemas using Extract, Transform, and Load (ETL) methods.
2. Consult with stakeholders and partners to define requirements for structuring and organizing data to deliver customer solutions.
3. Retrieve, synthesize, and present critical data in a format that is immediately useful to answering specific questions or improving system performance.
4. Build, prototype, test, upgrade, and maintain data warehouses and ETL processes.
5. Improve existing methodologies by structuring and organizing data for analytics applications.
6. Approve, write, and perform verification/validation tests.
7. Write standardized programming language queries, stored procedures, ETL workflows, views, temporary tables, and other database objects.
8. Create and maintain architecture diagrams, system documentation, data models, mapping documents, business rules, data flow diagrams, and other design-related artifacts.
9. Conduct technical analysis for business databases and systems; troubleshoot and resolve production issues expeditiously as needed.
10. Research and develop analytical approaches, forecasting models, and optimization methods to build analytical tools for downstream use.
11. Conduct written and verbal presentations, sharing insights and recommendations with audiences of varying technical backgrounds.
12. Train and mentor staff members as needed.
13. Perform other duties as assigned.

**Knowledge/Skills**

Skill in manipulating and analyzing data via code

Knowledge of relational database concepts such as tables, primary and foreign keys, join types, and indexes

Skill in planning, organizing, and formal project management principles and practices

Skill in oral and written communication and demonstrated ability to write and present complex information for technical and lay audiences

Skill in critical thinking

Skill in handling multiple competing priorities and producing quality detailed work within tight timeframes

Ability to effectively engage in and sustain relationships with people from diverse cultures and backgrounds

Ability to work independently and as a team member

Demonstrated proficiency with business applications, such as Microsoft Office suite

**Education and Experience Requirements**

Any combination of education and experience that clearly demonstrates the ability to perform the job duties of the position

**Licensing, Certification, and Other Requirements**

Some licenses, certifications, and other requirements determined to be necessary to meet the business needs of the employing unit may be required

|  |  |
| --- | --- |
| **FLSA Designation** | Exempt (Computer Professional) |
| **Service Status** | Career Service  |
| **EEO Code** | 2 |
| **Levels within the same series** | Data Engineer-Associate, Data Engineer, Data Engineer-Senior |
| **Class History** | 08/2023 - Created |