

STATE OF SOUTH DAKOTA CLASS SPECIFICATION

Class Title: Senior Statistician

Class Code: 10833

Pay Grade: GI

A. Purpose:

Designs methodologies for collecting and reporting data, performs audits and other quality assurance checks, and plans a variety of data-collection and analysis projects to provide authentic, timely information to managers for use in decision-making and long-range planning.

B. Distinguishing Feature:

Senior Statisticians function as a lead worker by providing technical expertise and work direction to other staff, and performing audits of others' projects.

Statistical Program Managers administer a statistical program by planning and supervising the collection, processing, and dissemination of data; and supervising statistical staff.

Statisticians analyze and edit accumulated data by applying established statistical methods to identify problems or trends in reported statistics.

C. Functions:

(These are examples only; any one position may not include all of the listed examples nor do the listed examples include all functions which may be found in positions of this class.)

1. Oversees the collection of statistical data to meet reporting requirements and provide accurate data.
 - a. Evaluates existing data for sufficiency.
 - b. Determines and justifies additional data collection.
 - c. Develops data-collection forms, and writes instructions for completion.
 - d. Analyzes data for trends and changes.
 - i. Identifies problem areas.
 - ii. Recommends and implements corrective actions and evaluates results.
 - e. Develops statistical models and tables and makes projections and estimates using linear regression, Box-Jenkins, time series analyses, analyses of variance and confidence levels, chi-square tests, sampling procedures, and other techniques.
2. Conducts quality assurance audits to verify data and procedures.
 - a. Reviews reporting documents for compliance with statutes.
 - b. Refers non-compliance issues involving legal action to a superior.
 - c. Reviews data and justifications to determine if statistics are reportable.
 - d. Verifies study narratives.
 - e. Develops and implements data-testing methods.
3. Provides work direction to other staff, reporting sources, and data requesters to ensure understanding of data-gathering goals and objectives.
 - a. Researches and recommends data-collection methods and procedures to complete studies.
 - b. Develops questionnaires and writes instructions for filling them out.
 - c. Functions as a team leader.
 - d. Develops standard reference tables for use by reporting sources.

- e. Develops and conducts training for staff and reporting sources on agency data requirements and interpretations.
4. Develops statistical database systems to provide adequate storage and accessibility of program data.
 - a. Develops and maintains computer programs to manipulate and extract data.
 - b. Develops and maintains user manuals, and edits manuals developed by other staff.
 - c. Converts data from a variety of computer languages into compatible format.
 - d. Selects fields and codes for analyses.
 - e. Develops edits and consistency checks.
 5. Establishes report formats to compile data into understandable documentation.
 - a. Defines report content and format.
 - b. Creates reports by combining statistics from multiple computer databases.
 6. Performs other work as assigned.

D. Reporting Relationships:

The Senior Statistician reports to a Statistical Program Manager. Acts as a lead worker over and may supervise Statisticians and support staff.

E. Challenges:

Challenged to maintain quality control over data gathering and reporting. This is challenging because the incumbent must have an in-depth understanding of the statistical methods, techniques, and procedures being used in order to evaluate and determine if data is accurate and results are reliable. Further challenged to identify data sources most representative of requesters' needs.

Typical problems include misunderstood instructions on how to report data, unusual coding situations, computer system and programming problems, inaccurate or inadequate data, and meeting deadlines.

F. Decision-making Authority:

Decisions made include the most efficient method to use when extracting data from computer files; selecting the most appropriate data in response to a request; analytical methods to use; contents and format of reports; evaluation of data for validity; database components; work assignments to co-workers; and recommendation of corrective actions to resolve data-gathering and reporting problems.

Decisions referred include final approval of study or report limits, surveys, and reports; of new or revised database systems; and of corrective actions.

G. Contact with Others:

Daily contact with the public, other agencies, and other department personnel to exchange information; and frequent contact with researchers to explain data and data-collection methods and obtain needed information; and the census bureau to provide or request data.

H. Working Conditions:

Works in a typical office environment.

I. Knowledge, Skills and Abilities:

Knowledge of:

- laws, rules, and procedures pertinent to the collection and analysis of statistical data;
- design and application of statistical and mathematical theories;
- types and sources of data pertinent to the agency.

Ability to:

- provide work direction to other employees;
- analyze data and determine its validity to survey requirements;
- comprehend technical narrative material including manuals, handbooks, and instructional memoranda for application to daily work;
- identify trends and apply analytical thinking;
- communicate information clearly and concisely;
- use a computer and statistical and database software to prepare reports and analyze data.