

Interpret and draw conclusions from descriptive statistical information in a public sector context

Level 5

Credits 8

Purpose This unit standard is designed for people employed in the public sector in positions where they are required to interpret statistical data to make and/or report decisions.

People credited with this unit standard are able to: calculate and interpret results from data collections for a given public sector project; interpret results from time series variables for a project in a public sector context; interpret results from demographic information for a given public sector project; and describe and justify the use of a descriptive statistical procedure to answer a specific policy question.

Subfield Public Sector Services

Domain Public Sector Core Skills

Status Registered

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Entry information It is recommended that candidates have at least 14 credits from Level 1 in the *Mathematics* domain; or demonstrate equivalent knowledge and skills.

Accreditation Evaluation of documentation and visit by NZQA and industry.

Standard setting body (SSB) Learning State (trading name of the Public Sector Training Organisation)

Accreditation and Moderation Action Plan (AMAP) reference 0121

This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Special notes

- 1 Reference
Reference information to assist with this unit standard can be obtained from the Statistics New Zealand website at <http://www.stats.govt.nz> or the specific government ministry, department or agency in which the candidate works.
- 2 Definitions
Organisational requirements refer to instructions to staff on policy and procedures, which are documented in memo or manual format and are available in the workplace. A *descriptive statistical procedure* describes a set of data either using numerical summaries or graphs.
- 3 Assessment for this unit standard will be based on two major case studies, and additional reports and datasets as required.
- 4 Given public sector project(s) are defined by the assessor.

Elements and performance criteria

Element 1

Calculate and interpret results from data collections for a given public sector project.

Performance criteria

- 1.1 Tables of counts, percentages and proportions with their row and column marginal totals are calculated and interpreted.
- 1.2 Graphs, numerical summaries and descriptions of distributions of numerical variables are calculated and interpreted.
- 1.3 Tables of counts of categorical variables and magnitudes of numerical variables are calculated and interpreted.
- 1.4 Measures of association between pairs of categorical and numerical variables are calculated and interpreted.

Range includes but not is limited to – scatterplots, correlation coefficients, simple linear regression models.
- 1.5 Conclusions are drawn from the analysis of the categorical and numerical variables.

Element 2

Interpret results from time-series variables for a project in a public sector context.

Performance criteria

- 2.1 Analysis of time-series variables is interpreted to give responses to public sector project questions.
- Range time-series variables may include but are not limited to – actual, seasonally adjusted, deflated, percentage change; components may include but are not limited to – trend, seasonal, irregular.
- 2.2 Conclusions are drawn about the original variables and their components and recorded in accordance with organisational requirements.
- Range components may include but are not limited to – trend, seasonal, irregular.
- 2.3 Index numbers are calculated and interpreted to give responses to project questions.
- Range may include but is not limited to – the Consumers Price Index (CPI), Food Price index (FPI), Producers Price Index (PPI).

Element 3

Interpret results from demographic information for a given public sector project.

Performance criteria

- 3.1 Standardised rates and/or odds ratios are calculated from demographic data and interpreted.
- 3.2 Conclusions are drawn from the interpreted data.

Element 4

Describe and justify the use of a descriptive statistical procedure to answer a specific policy question.

Range limited to procedures covered in elements 1, 2, and 3.

Performance criteria

- 4.1 A descriptive statistical procedure is identified to answer a specific policy question.

4.2 Description correctly justifies the use of the descriptive statistical procedure.

Range may include but not limited to – key variable types, type of collection, frequency of collection.

Please note

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact Learning State (trading name of the Public Sector Training Organisation) qualifications@learningstate.govt.nz if you wish to suggest changes to the content of this unit standard.