

Statistics

SCQF: level 6 (6 SCQF credit points)

Unit code: H95Y 46

Unit outline

The general aim of this Unit is to develop knowledge, skills and understanding in statistical methods and techniques that can be applied to a variety of real-life contexts which may be new to the learner. This includes skills in interpreting and analysing graphs and statistical diagrams, applying skills to the normal distribution and determining the equation of linear regression and using it for prediction.

Learners who complete this Unit will be able to:

- 1 Use statistical skills in real-life contexts
- 2 Produce a statistical analysis on given data set(s)

The Unit Specification should be read in conjunction with the *Unit Support Notes*, which provide advice and guidance on delivery, assessment approaches and development of skills for learning, skills for life and skills for work. Exemplification of the standards in this Unit is given in Unit assessment support.

Recommended entry

Entry to this Unit is at the discretion of the centre. However, learners would normally be expected to have attained the skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

- ◆ National 5 Courses or equivalent in a wide range of curricular areas; including Social Subjects, Sciences and Business.

Equality and inclusion

This Unit Specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence. For further information, please refer to the *Unit Support Notes*.

Standards

Outcomes and assessment standards

Outcome 1

The learner will:

1 Use statistical skills in real-life contexts by:

- 1.1 Applying statistical literacy skills to data
- 1.2 Applying statistical skills to normally distributed data
- 1.3 Applying statistical skills to correlation and linear regression
- 1.4 Applying statistical skills to data analysis, interpretation and communication

Outcome 2

The learner will:

2 Produce a statistical analysis on given data set(s) by:

- 2.1 Undertaking a correlation and regression analysis
- 2.2 Undertaking a data analysis

Evidence Requirements for the Unit

Assessors should use their professional judgment, subject knowledge and experience, and understanding of their learners, to determine the most appropriate ways to generate evidence and the conditions and contexts in which they are used. They should ensure there is sufficient evidence of competence in statistical skills from the Outcomes and Assessment Standards to allow a judgment to be made that the learner has achieved the Unit.

Assessors should use their professional judgment when giving learners credit for an appropriate degree of accuracy.

Evidence can be presented for individual Assessment Standards or for a combination of Assessment Standards using integrated assessment.

A calculator or equivalent technologies may be used. A suitable software package, eg Excel, Minitab, SMS, 'R,' SPSS must be used to complete Outcome 2.

For this Unit, learners will be required to produce evidence as follows:

For Outcome 1

Understanding data in relation to sampling, collection methods, handling and presenting. This could be in the form of words, symbols and terms; be able to interpret a variety of graphs and tables; be able to read and make sense of statistics in the news, media, polls etc; develop statistical vocabulary and communication skills.

Determine if data are normally distributed or skewed. Identify the correct measures of location and spread for numerical data. Understand and interpret a linear regression and use it for prediction; interpret a given correlation coefficient.

Test a hypothesis; determine the significance of the test results; communicate the findings from the hypothesis test.

For Outcome 2

Use a software package to assess and model linear relationships using simple correlation and regression modelling. Use a software package to test a hypothesis, to determine the significance of the test results and communicate the findings from the hypothesis test.

Development of skills for learning, skills for life and skills for work

It is expected that learners will develop broad, generic skills through this Unit. The skills that learners will be expected to improve on and develop through the Unit are based on SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work* and drawn from the main skills areas listed below. These must be built into the Unit where there are appropriate opportunities.

2 Numeracy

- 2.1 Number processes
- 2.2 Money, time and measurement
- 2.3 Information handling

5 Thinking skills

- 5.3 Applying
- 5.4 Analysing and evaluating

Amplification of these is given in SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work*. The level of these skills should be at the same SCQF level as the Unit and be consistent with the SCQF level descriptor. Further information on building in skills for learning, skills for life and skills for work is given in the *Unit Support Notes*.

Administrative information

Published: November 2015 (version 1.1)

Superclass: RB

History of changes to National Unit Specification

Version	Description of change	Authorised by	Date
1.1	Minor amendment to Unit outline on page 1 – removed the term free-standing Unit.	Qualifications Development Manager	November 2015

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