

UNIT 3

STATISTICS 1, (SYLLABUS REF: 2.1 – 2.6)

Aim:

Be able to collect, organize, display, describe (both in word and mathematically) and interpret different one-variable statistical data.

Objective:

DIFFERENT TYPES OF DATA (CHAPTER 6, 6A-D))

- Describe data as categorical, discrete numerical or continuous numerical.
- Interpret the distribution of data and recognize outliers.
- The procedure of calculating percentages from data sets.
- Understand when it might be appropriate to group data when given a set of raw data.
- Know which type of diagram to use to different types of data.
- Know the difference between a column graph and a histogram, and when to use them.

AVERAGES (CHAPTER 6, 6E)

- The procedure of calculating mean. Also from frequency tables, from grouped data and from different types of diagrams (histograms and bar charts).
- The procedure of finding the mode, also from frequency tables.
- The concept of *modal class*.
- The procedure of finding the median. Also from frequency tables and both when having an odd number of data as having an even number of data.
- Know how to use calculator to find averages etc.

- Understand the different averages and be able to describe which of them is sensible to use in different situation.
- Understand how the averages will change depending on how the raw data change.
- Understand why finding the mean from grouped data just is an estimate of the mean.

SPREAD (CHAPTER 6, 6F, 6I)

- The procedure of finding the *range*, both by the use of calculator features and without.
- The procedure of finding the quartiles, both by the use of calculator features and without.
- The procedure of finding the interquartile range, both by the use of calculator features and without.
- The procedure of finding the standard deviation, only by using the calculator.
- The concept of measuring the spread of data; the difference between range, interquartile range and standard deviation.

CUMULATIVE FREQUENCIES AND BOX PLOTS (CHAPTER 6, 6G-H)

- Interpret a given box plot.
- Understand the relationship between a box plot and a bar chart, the appearance.
- Be able to create a boxplot from given raw data.
- Interpret a cumulative frequency graph; finding median and quartiles.
- Interpret a cumulative frequency graphs; finding percentiles.
- Understand the relationship between a box plot and a cumulative frequency graph.
- Construct a cumulative frequency table and, hence, a graph.

TOK links

Misleading diagrams.

Calculations from grouped data, right or wrong?

Misleading use of averages.

Statistical reliability.

ATL

Discuss presumed knowledge. Think, pair, share.

Investigate the effect of outliers.

Discuss projects ideas.

Introduction videos.

Learning checks and quizzes with individual feedback.

Assessment

Formative: Quizzes and homework examination questions.

Summative, included in test exam Dec. 9.