

Project Maths Statistics for Leaving Cert

Statistics is the study of the collection, organisation, analysis, and interpretation of data.

You may not realise it but you probably make statistical statements every day. Statements like "I eat an average of 1800 calories a day" and "You are more likely to pass the exam if you start studying earlier" are actually statistical in nature.

Statistics is in use everywhere, just by reading your daily newspaper, watching the T.V. or looking at advertisement billboards and even in our everyday conversations you will come across hundreds of statistics. For this reason it has become increasingly important that we as a society understand Statistics - their uses and misuses and some of the misconceptions around them.

The Project Maths Statistics course was developed with the needs of today's society in mind. In essence the course is concerned with:

- designing experiments and other data collection
- summarizing information to aid understanding
- drawing conclusions from data
- estimating the present or predicting the future.

The **Foundation, Ordinary and Higher levels** of the course all start off with an introduction to what statistics is, following that you should know what a [what a sample is and how one is selected](#). At **Higher Level** you also need to know the [different methods of sampling](#), once you have studied these you can test yourself here

It is important that you are aware of the [different data types](#) used in statistics and why not test your knowledge of the different data types [here](#). You can also see if you are able to [identify examples of data types](#).

The Data Collection Cycle is another aspect of the course and deals with topics like [Survey Design](#) for example.

Once you have collected and counted your data the next step might be to represent it on a graph, use these [notes](#) to help you understand which graph type is best suited to the different data types.

A [Stem and leaf plot](#) is a new graph type that all level should be able to use to represent data. Once you have studied the topic you can practice creating one [here](#).

A [Back to Back Stem and Leaf plot](#) can be used to compare data sets.

Histograms remain on the course, however the study is confined to histograms with equal class intervals. Such histograms are very useful as they tell us the "[shape of the distribution](#)" or where most of the data lies.

For bivariate data a [Scatter Graph](#) should be used. You should be able to describe the [strength of the correlation](#) between the data and also be able to give this a [numerical value](#).

Higher Level students should also know how to calculate the correlation coefficient and be able to draw a line of best fit, they should also be aware that correlation does not imply causality and be able to give an example of this. Students should understand [measures of central tendency and spread](#), they should know how to calculate them and which measure is best suited to particular data types and sets.

Other topics on the statistics course can also be found under the Statistics and Probability topic for Senior Cycle Second level students.