

# Stats and Probability Information

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## 1 Introduction

There are some notes [Learning Outcomes](#).

In general we are looking at aims, objectives and outcomes.

- aims: the overall aims of the programme. What is the purpose of programme or module? What is it trying to achieve?
- Objectives: the steps that are taken towards the aims.
- Trends towards outcomes-based rather than objective based. Part of the move towards a more student-focused model rather than a teacher-focused.

Learning outcomes are the skills and knowledge that it is intended that students will be able to demonstrate by the time the assessment process has been completed.

Should outcomes relate to the typical student?

All learning outcomes should be assessable though they may not be assessed. Outcomes should be sufficiently broad to allow flexible coverage for those with different skills and background. The outcome should make clear how the student can articulate or show that they have achieved the outcome. The outcome should explain something about the process (i.e. design and carry out a research project, rather than write a dissertation)

Types of outcome

- Knowledge based: knowledge and understanding
- Application based (practical skills).
- Skills (intellectual and transferable skills).

## 1.1 Level

Making sure that the language is consistent with the requirements of the level of study. Use of Bloom's taxonomy of Educational Objectives. Lower levels are usually considered 4 or 5, higher levels are 6 or 7.

Level	What does it mean	What verbs are useful	Examples
Knowledge	What are students expected to know	Know, define, list, recall name, show, present.	List of principals, Identify key features, Describe
Comprehension	What do we expect students to be able to interpret	Discuss, review, explain, locate or illustrate	Explain how, Review...
Application	Can students use a theory or information in different situations?	Solve, examine, interpret, apply, use.	Use a to..., Apply appropriate statistical tests
Analysis	Can students identify and explain relationships? Can they break down knowledge into constituent parts?	Differentiate, investigate, appraise, criticise, analyse	Calculate..., Compare two processes
Synthesis	Can students take parts of what they have learnt and put them together in different ways?	Assemble, organise, compose, construct, design...	Design programme, Manage a budget for...
Evaluation	Can students make judgments about knowledge?	Judge, select, assess,	Evaluate..., Assess...