SKILLSTACK SUITE

Statistics for Business & Decision Making

Course guide — the statistics a working manager actually needs, aimed at making better decisions and not being fooled by a chart.

What this course is

This is statistics for people who have to decide things, not for people sitting an exam. It covers describing data honestly, quantifying uncertainty, testing whether a difference is real, and recognising the ways numbers get used to mislead — including by accident, by people with good intentions. Every concept is taught against a business decision rather than an abstract dataset.

Who it is for and what you will be able to do

- Managers, analysts and founders who read reports and dashboards and have to act on them
- Anyone who has approved a decision based on a number they could not fully defend
- By the end you will be able to summarise a dataset honestly, put an interval around an estimate, run and interpret a comparison test, and challenge a misleading chart with specific objections
- Requires arithmetic and a spreadsheet; no calculus, no prior statistics

Module outline

#	Module	What you build or produce
1	What the question really is	Turning a business question into something measurable
2	Describing data	Centre, spread and shape — and when the average actively misleads
3	Visual honesty	Chart types, axis choices, and the common ways graphs deceive
4	Variation	Signal vs noise, and why last month’s move is usually neither
5	Sampling	What your data represents, and the bias built into how it was collected
6	Uncertainty	Confidence intervals, and reporting a range instead of a false point estimate
7	Comparing groups	Hypothesis tests, p-values, and what significance does and does not mean
8	Effect size	Whether a real difference is a difference worth acting on
9	Relationships	Correlation, regression, and the confounders that explain both
10	Causation	What it takes to claim cause, and why most business data cannot
11	Experiments	Designing an A/B test that answers the question you asked
12	Communicating results	Presenting findings with the uncertainty intact

Tools and setup

A spreadsheet is enough for every module — no statistical software required. Formula walkthroughs are given for both major suites. Datasets are provided; you can substitute your own.

Practice track

Each module ends with a build task. Do them in order — the later ones assume the earlier artefacts exist.

- Rewrite a vague business question as a measurable one.
- Summarise a real dataset and state where the average misleads.
- Find a published chart and list its specific distortions.
- Put a confidence interval around one number you currently report as exact.
- Run a comparison test on two real groups and interpret it in plain language.
- Calculate the effect size and state whether it justifies action.
- Design an A/B test for a decision your team faces.

How you know it worked

Checkpoint	Standard to hit
Question	Measurable, with the decision it informs written down
Summary	You can name the distribution shape and why the average does or does not fit
Interval	Reported as a range with its assumptions stated
Test	You can explain the p-value without saying "probability the hypothesis is true"
Experiment design	Sample size, duration and success criterion fixed before launch

Educational course guide. Not financial, investment or professional advice — statistical methods inform decisions, they do not make them.