



## Applied Statistics Course Descriptor

Course Title	Applied Statistics	Faculty	EDGE Innovation Unit (London)
Course code	NCHMV6106	Course Leader	Marta Rodriguez-Martinez
Credit points	15	Teaching Period	6 weeks
FHEQ level	6	Date approved	March 2021
Compulsory/ Optional	Compulsory		
Prerequisites	None		
Co-requisites	None		

### COURSE SUMMARY

This course will build on learner's existing knowledge of basic statistical concepts from Level 4 courses. It will provide advanced explanations of the core concepts of statistics and how to apply them in a business context. Learners will gain a more in-depth understanding of descriptive and inferential statistics, as well as of relevant concepts such as probability, intervals, hypothesis testing, and sampling. The learner will get familiar with the scientific method and interrogate their business data through this lens. Learners will be taught to conduct and interpret the results of a range of hypothesis tests and related power calculations using statistical programming in Python. Learners will be able to apply these statistical techniques and report their findings using industry standard reporting guidelines.

### COURSE AIMS

- Teach learners to construct valid, testable hypotheses, and select an appropriate statistical methodology to test them.
- Provide learners with practical experience of identifying, applying, and interpreting a range of standard statistical hypothesis tests, using Python.
- Train learners to apply statistical findings to business decision making.

## LEARNING OUTCOMES

On successful completion of the course, learners will be able to:

### KNOWLEDGE AND UNDERSTANDING

- K1c Critically appraise how empirical findings can enhance (and detract from) effective decision-making.
- K1c Critically assess bias and methodology in business analytical practice.

### SUBJECT SPECIFIC SKILLS

- S1c Critically assess statistical outcomes using a range of statistical tests and power calculation methods.
- S1c Critically evaluate the assumptions for a range of common statistical tests in the business context, and select an appropriate alternative when the assumptions are not sufficiently met.
- S3c Critically interrogate the statistical output and propose data driven solutions.

### TRANSFERABLE AND PROFESSIONAL SKILLS

- T1c Define a problem and select alternatives for a solution.
- T2c Make inferences based on available evidence.
- T2c Critically assess the value of different sources of information in decision making.

## TEACHING AND LEARNING

The course learning and teaching hours will be structured as follows:

- Seminar = 15 hours
- Applied Seminar = 7.5 hours
- Coaching session = 1 hour
- Academic Drop-ins = 4 hours
- Reading and Assessment Prep = 32.5 hours
- Application of learning = 90 hours

Total = 150 hours

## ASSESSMENT

### FORMATIVE

Learners will be formatively assessed during the course through a range of techniques. During seminars, applied learning seminars and one to one coaching, questioning and quizzing are used as formative assessment. The purpose of the formative assessment is to provide learners with developmental feedback to support their learning.

**SUMMATIVE**

AE	Assessment Type	Weighting	Online submission	Duration	Length
1	Set exercises	70%	Yes	Requiring on average 25-35 hours to complete	2500 words +/-10%
2	Written Assignment	30%	Yes	-	1500 words +/-10%

The summative assessment will be assessed in accordance with the assessment aims set out in the Programme Specification.

**FEEDBACK**

Learners will receive formal feedback in a variety of ways. For the summative assessments, feedback is written and provided within 20 days of submission, and for formative assessment it could include verbal or written feedback. Learners will also have a progress review each quarter with their Multiverse Coach and their Line Manager. These reviews are an opportunity to discuss progress to date both in their role and on the degree programme.

**INDICATIVE READING**

Note: Comprehensive and current reading lists for courses are produced annually in the Course Syllabus or other documentation provided to learners; the indicative reading list provided below is used as part of the approval/modification process only.

**BOOKS**

Evans, J.R., Olson, D.L. and Olson, D.L., 2013. *Statistics, data analysis, and decision modeling*. Pearson/Prentice Hall. Vancouver

Scott, D.W., 2020. *Statistics: A Concise Mathematical Introduction for Students, Scientists, and Engineers*. John Wiley & Sons.

Haslwanter, T., 2016. *An Introduction to Statistics with Python. With applications in the life sciences. Switzerland*: Springer International Publishing.

**INDICATIVE TOPICS**

Learners will study the following topics:

- Scientific method
- Probability theory
- Hypothesis tests
- Advanced statistical programming in Python
- Power analysis

<b>Title: NCHMV6106 Applied Statistics Course Descriptor</b>					
<b>Approved by: Academic Board</b>					
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1.0	March 2021	March 2021	Marta Rodriguez-Martinez	Multiverse website	March 2026
<b>Modifications (As per AQF4)</b>					
Version number	Date approved	Date published	Modification (including category number)		