



Data Science Bootcamp Course Descriptor

Course Title	Data Science Bootcamp	Faculty	EDGE Innovation Unit (London)
Course code	NCHNAP452	Course Leader	Professor Scott Wildman (interim)
Credit points	15	Teaching Period	This course will typically be delivered over a 2-week intensive period.
FHEQ level	4	Date approved	June 2020
Compulsory/ Optional	Compulsory		
Pre-requisites	None		
Co-requisites	None		

COURSE SUMMARY

This course is an intensive two-week, face-to-face bootcamp and gives learners hands-on experience of a mini data science project. Learners will be required to complete preliminary reading and preparation before the two-week bootcamp and complete their assignments after the bootcamp. Learners will explore the data science workflow with practical and collaborative tasks. A wide variety of datasets will be used to mirror real-world settings. Learners will engage in hands-on programming (Python), database interrogation (SQL) and exploratory data analytics and visualisation. Group discussion will include the context of data science, the data science community and the data protection and regulatory environment.

COURSE AIMS

- To consolidate learner's knowledge of the key aspects of data science with practical experience.
- For learners to explore the data science workflow and understand the processes and tools at each stage.

- To meet with other data scientists, learn from each other and become part of a wider data science community.

LEARNING OUTCOMES

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

KNOWLEDGE AND UNDERSTANDING

- K1a Understand and have knowledge of a typical data science workflow and the tools and processes associated with each stage.
- K2a Understand the context of data science and how it can influence decision-making and improve processes within an organisation.
- K3a Understand how to store, interrogate and visualise different datasets and data formats.

SUBJECT SPECIFIC SKILLS

- S1a Use Python programming, SQL, statistical analysis and visualisation tools to solve data science problems.
- S2a Work effectively with others to complete a focused data science project.

TRANSFERABLE AND PROFESSIONAL SKILLS

- T1a Develop practical/technical skills.
- T2a Analyse, evaluate and correctly interpret data as part of a team.
- T3ai Present and communicate data.
- T3aii Display a developing technical proficiency of written English skills that demonstrates an ability to communicate clearly and accurately when producing structured and coherent pieces of text.

TEACHING AND LEARNING

This is a face-to-face bootcamp, of two weeks duration, taught once every year.

This course can be offered as a standalone short course.

Teaching and learning strategies for this course will include:

- Lectures
- Informal discussion groups
- Practical sessions
- Assessment

Course information and supplementary materials will be available on the College’s Virtual Learning Environment (VLE).

Learners are required to attend and participate in all the formal and timetabled sessions for this course. Learners are also expected to manage their self-directed learning and independent study in support of the course.

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

- Off-the-job learning and teaching (12 days x 7 hours) = 84 hours
- On-the-job learning (10 days x 7 hours) = 70 hours

Apprentices will complete workplace activities before and after the bootcamp, as part of their on-the-job learning. Preliminary activities include reading and workplace research and post-bootcamp activities will include completion of the assignments (see below).

ASSESSMENT

FORMATIVE

Learners will be formatively assessed during the course by means of set assignments. These will not count towards the final degree but will provide learners with developmental feedback.

SUMMATIVE

Assessment will be in two forms:

AE	Assessment Type	Weighting	Online submission	Duration	Length
1	Project	70%	Yes	Requiring on average 25-35 hours to complete	-
2	Presentation	30%	Yes	30 mins	-

FEEDBACK

Learners will receive formal feedback in a variety of ways: written (via email correspondence); oral and indirectly through discussion during group tutorials. Learners will also attend a formal meeting with their Academic Mentor and Employer. These tri-partite reviews will monitor and evaluate the learner’s progress.

Feedback is provided on summatively assessed assignments and through generic internal examiners’ reports, both of which are posted on the VLE.

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

- Kelleher, J. D. and Tierney, B., (2018), *Data Science*, Cambridge, Massachusetts : The MIT Press
- Van Emden, J. and Becker, L., (2016), *Presentation Skills for Students*, Basingstoke : Palgrave Macmillan
- Mueller, J., (2019), *Python for data science*, Hoboken, NJ : John Wiley & Sons

JOURNALS

Learners are encouraged to read material from relevant journals on Data Science as directed by the course trainer.

ELECTRONIC RESOURCES

Learners are encouraged to consult websites on Data Science.

INDICATIVE TOPICS

- A typical data science workflow
 - Working effectively to complete a focussed data science project
 - The context of data science in the real-world
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Title: NCHNAP452 Data Science Bootcamp Course Descriptor					
Approved by: Academic Board					
Location: Academic Handbook/Programme specifications and Handbooks/ Undergraduate Apprenticeship Programmes/BSc (Hons) Data Science Programme Specification/Course Descriptors					
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2.1	May 2022	May 2022	Scott Wildman	September 2026	Category 1: Corrections/clarifications to documents which do not change approved content.
2.0	January 2022	April 2022	Scott Wildman	September 2025	Category 3: Changes to Learning Outcomes
1.0	June 2020	June 2020	Scott Wildman	June 2025	