



Data Analytics Course Descriptor

Course Title	Data Analytics	Faculty	EDGE Innovation Unit (London)
Course code	NCHNAP558	Course Leader	Professor Scott Wildman (interim)
Credit points	15	Teaching Period	This course will typically be delivered over a 6-week period.
FHEQ level	5	Date approved	June 2020
Compulsory/ Optional	Compulsory		
Pre-requisites	None		
Co-requisites	None		

COURSE SUMMARY

This course introduces the subject of data analytics. Learners will be taught how raw data is collected, stored, cleansed and interrogated in order to contribute to the needs of organisations. Four main areas of data analytics will be covered: descriptive, diagnostic, predictive and prescriptive. Learners will apply industry-standard software and Python packages commonly used for data analytics, encompassing basic graphical, numerical and statistical tools. Additionally, learners will have the opportunity to apply their knowledge of data analytics using industry-standard cloud-based technology e.g. using ServiceNow training.

COURSE AIMS

- Train learners to collect, cleanse, wrangle, manipulate and interrogate data.
- To allow learners to explore and apply Python programming to manipulate and analyse data.
- Train learners to understand the issues with data and datasets and how to overcome them to ensure robust analyses.
- To expose learners to a range of datasets and data sources.

LEARNING OUTCOMES

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

KNOWLEDGE AND UNDERSTANDING

- K1b Have knowledge and critical understanding of analytical techniques used in the collection, manipulation, exploration and interrogation of raw data.
- K2b Critically understand how to evaluate and improve the quality of data using techniques such as data cleansing and wrangling.
- K3b Understand and critically evaluate descriptive, diagnostic, predictive and prescriptive analytics.

SUBJECT SPECIFIC SKILLS

- S1b Use industry standard tools for data analysis and to create bespoke algorithms using Python.
- S2b effectively use basic graphical and numerical reporting tools.

TRANSFERABLE AND PROFESSIONAL SKILLS

- T1bi Develop logical analysis and conceptual thinking.
- T1bii Demonstrate an effective technical proficiency of written English that uses a wide range of literacy skills and vocabulary selected appropriately to communicate to specialist and non-specialist audiences.
- T2b Critically evaluate different approaches to problem solving within this field of study.
- T3b Effectively communicate arguments, analyses and conclusions.

TEACHING AND LEARNING

This is an e-learning course, taught throughout the year.

This course can be offered as a standalone short course.

Teaching and learning strategies for this course will include:

- On-line learning
- On-line discussion groups
- On-line 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 (6 days x 7 hours) = 42 hours
- On-the-job learning (12 days x 7 hours) = 84 hours (e.g. 2 days per week for 6 weeks)

- Private study (4 hours per week) = 24 hours

Total = 150 hours

Workplace assignments (see below) will be completed as part of on-the-job learning.

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	Practical Skills assessment (workplace dataset)	60%	Yes	Requiring on average 20-30 hours to complete	-
2	Written assignment (workplace case study)	40%	Yes	Requiring on average 10-20 hours to complete	1,500 words +/- 10%, excluding data tables

FEEDBACK

Learners will receive formal feedback in a variety of ways: written (via email or VLE correspondence) and indirectly through online discussion groups. Learners will also attend a formal meeting with their Academic Mentor (and for apprentices, including their Line Manager). These bi- or 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

- Kotu, V., (2019), *Data Science: Concepts and Practice*, Morgan Kaufmann
- Winston, W., (2019), *Business Analytics: Data Analysis & Decision Making*, South-Western
- McKinney, W., (2017), *Python for data analysis: data wrangling with Pandas, NumPy, and IPython*, Beijing: O'Reilly

JOURNALS

Learners are encouraged to consult relevant journals on data analytics.

ELECTRONIC RESOURCES

Learners are encouraged to consult relevant electronic resources on data analytics.

INDICATIVE TOPICS

- Data wrangling
- Data cleansing
- Python for data analytics

Title: NCHNAP558 Data Analytics					
Approved by: Academic Board					
Location: Academic Handbook/Programme specifications and Handbooks/ Undergraduate Apprenticeship Programmes/BSc (Hons) Digital & Technology Solutions Programme Specification/Course Descriptors					
Version number	Date approved	Date published	Owner	Proposed next review date	Modification (As per AQF4) & category number
2.1	May 2022	May 2022	Scott Wildman	June 2025	Category 1: Corrections/clarifications to documents which do not change approved content.
2.0	January 2022	April 2022	Scott Wildman	June 2025	Category 3: Changes to Learning Outcomes
1.0	June 2020	June 2020	Scott Wildman	June 2025	