LEEDS BECKETT UNIVERSITY

Course Specification

BSc (Hons) Data Science

Course Code: BDATS

2020/21

leedsbeckett.ac.uk

BSc (Hons) Data Science (BDATS)

Material Information Summary for 2020/21 Undergraduate Entrants

Confirmed at 31 October 2019

General Information

Award	Bachelor of Science with Honours Data Science
Contained Awards	BSc Data Science Diploma of Higher Education Data Science Certificate of Education Data Science
Awarding Body	Leeds Beckett University
Level of Qualification & Credits	Level 6 of the Framework for Higher Education Qualifications, with 120 credit points at each of Levels 4, 5 and 6 of the UK Credit Framework for Higher Education (360 credits in total).
Course Lengths & Standard Timescales	Start dates will be notified to students via their offer letter. The length and mode of delivery of the course is confirmed below: *The format is:* • 3 years (full time, campus based)
Part Time Study	PT delivery is usually at half the intensity of the FT equivalent course, although there may be flexibility to increase your pace of study to shorten the overall course duration. Some modules may be delivered in a different sequence to that defined within this information set but the modules offered within each level are consistent. Please note that the work placement option is not generally available to PT students.
Location(s) of Delivery	Headingley
Entry Requirements	Admissions criteria are confirmed in your offer letter. Details of how the University recognises prior learning and supports credit transfer are located here: www.leedsbeckett.ac.uk/studenthub/recognition-of-prior-learning. Admissions enquiries may be directed to: AdmissionsEnquiries@leedsbeckett.ac.uk.

Course Fees	Course fees and any additional course costs are confirmed in your offer letter. Fees enquiries may be directed to Fees@leedsbeckett.ac.uk.

Timetable Information

Standard Text: Timetables will be made available to students during induction week via:

i) The Student Outlook Calendar
ii) The Student Portal (MyBeckett)
iii) The Leeds Beckett app

Any difficulties relating to timetabled sessions may be discussed with your Course Administrator.

Policies, Standards and Regulations (www.leedsbeckett.ac.uk/public-information)

There are no additional or non-standard regulations which relate to your course/ or add details of approved regulatory exemptions which apply.

Key Contacts

Your Course Director	Dr Jackie Campbell
Your Academic Advisor	TBC
Your Course Administrator	TBC

Sandwich Work Placement Information

Summary

The course offers the opportunity of placements following the second year of studies; these opportunities enrich students' technical and professional employability skills and have resulted in direct employment in some of these organisations.
During Level 5, all students are given work placement support in preparing for and finding an industry related placement to be taken on completion of this study level. Students who go on placement are located an academic as a placement supervisor.

Length

The placement is year working full time in industry. Students will have leave as determined by the Company. It is expected that 48 weeks of work is undertaken.

Location

Students may be placed with various companies in the Leeds region. Further information on the allocation process is provided by the module leader prior to option choices being made.

Professional Accreditation or Recognition Associated with the Course

Professional Body **British Computer Society**

Accreditation/ Recognition Summary

Accreditation sought Autumn 2019: TBC

Course Overview

Data Science has a long history within our university having evolved from our areas of information management, knowledge transfer and systems development. In practical terms, data science is conducted is part business analyst, part data engineer, part data analyst, part computer scientist and part 'core' or 'research' data scientist. The role of these managers therefore falls into the following respective domains:

- From a business perspective, data scientists are articulate, good communicators, presentable and have contact with the day-to-day business managers and their customers. They are primarily concerned with the information needed for activities such as strategic planning, production planning, market research, financial planning, product knowledge, legislation, archiving, competitive analysis etc. They understand the potential, adept at using tools and techniques to analyse data and how best to present the information.

- From a data engineering perspective, data scientists are skilled in managing information technology and understanding the role of data within an organisation. They need to appreciate and acquire the know-how of relevant technologies, and systems (including theories, practice, and working mechanisms), what the latest trends are and their impact on the working environment.

- From a data analyst perspective, data scientists have an empathy with their data. They understand how it can answer queries and provide useful insights and recommendations. They appreciate the power of visualisations to communicate their ideas and findings.

- From a computer scientist perspective, data scientists have understanding of the role of technology in data collection, transmission, manipulation, analysis and storage.

- As core data scientists, data scientists draw on new and powerful data analytic techniques such as machine learning and Artificial Intelligence (AI) to gain better insight, estimation and predictions using supervised as well as unsupervised learning.

Students will gain an appreciation of all of these themes throughout the course, they will be supported in finding the areas they would like to progress into, both academically and career wise. The 40-credit Level 6 Project module allows for a specific area to be investigated deeply.

For each module students will normally receive a weekly lecture followed by a tutorial and/or practical lab based session(s). These are supplemented with a programme of guest speakers and industry led seminars. The course level assessment strategy will ensure support for the assessment of the course learning outcomes and provide a balance of assessment methods enabling students to progressively develop knowledge and expertise.

Course Learning Outcomes

1	At the end of this course, you will be able to demonstrate a systematic understanding of data science, and a critical awareness of the themes that contribute to it. These being data, statistics and analytics, computer science and data engineering. You will understand the current role of data science in business, social context and research.
2	At the end of this course, you will have a strong understanding of the role of data. You will have practical data-related skills drawing on unpinning theories of data storage, data preparation and data management. You will be aware of the issues with data, data sourcing, data biases, data control and data protection. You will understand the strength and power of data in solving problems and 'telling a story', you will be aware of the tools to communicate your data findings, such as visualisation.
3	At the end of this course, you will have a strong approach to problem solving and be aware of techniques and theories to inform and support these approaches. You will be able to critically evaluate research in the application of knowledge, together with a practical understanding of how established techniques of research, enquiry and data analytics are used to create and interpret knowledge about data and data management and computer systems which capture, process and transmit data.
4	To develop an ability to independently undertake research and critically evaluate arguments, assumptions, abstract concepts and data (that may be incomplete), to make judgements, and to frame appropriate questions to achieve a solution or identify a range of solutions to a problem.

Teaching and Learning Activities

Summary

The Course employs a wide range of learning opportunities and teaching methods, informed by curriculum review, research-based pedagogical approaches and continuous staff development. Innovative approaches to teaching, learning and assessment include the use of simulations, case studies, projects, practical work, work-based learning, formative face-to-face and online collaborative discussion, collaborative and applied learning, projects, and practitioner informed teaching and student-led learning. Regular team meetings ensure that tutors are able to share and develop their understanding of the parts of the course in which they are not directly involved and understand the students profile better.

Scheduled sessions include the use of lectures, seminars, tutorials and practical laboratory sessions. Advantage is taken of both technology and supportive activities to ensure that effective learning takes place.

Students, on and off-campus are able to engage with the course director and module leaders through the pre-assigned availability times and social activities organised.

The University course development principles have been considered in the development of teaching and learning activities, approaches and assessment.

see: https://teachlearn.leedsbeckett.ac.uk/teaching-and-learning/course-design

Your Modules

This information is correct for students progressing through the programme within standard timescales. Students who are required to undertake repeat study may be taught alternate modules which meet the overall course learning outcomes. Details of module delivery will be provided in your timetable.

Level 4 Core Modules (2020/21 for FT students)

Introduction to Data Analytics

Maths for Data Science

Fundamentals of Computer Science

Introduction to Databases

Statistics in Practice

Fundamentals of Computer Progrmming

Level 5 Core Modules (2021/22 for FT students)

Applied Data Analytics

Machine Learning Techniques

Database Systems

Team Project

Programming for Data Science

Information Analysis

Level 6 Core Modules (2022/23 for FT students)

Production Project

Level 6 Option Modules (delivery years as per Level 6 core modules above)

The following option modules are indicative of a typical year. There may be some variance in the availability of option modules.

Advanced Machine Learning

Data Warehousing

AI Big Data Analytics Visualisation

Cluster Programming

Digital Security

Assessment Balance and Scheduled Learning and Teaching Activities by Level

The assessment balance and overall workload associated with this course are calculated from core modules and typical option module choices undertaken by students on the course. They have been reviewed and confirmed as representative by the Course Director but applicants should note that the specific option choices students make may influence both assessment and workload balance.

A standard module equates to 200 notional learning hours, which may be comprised of teaching, learning and assessment, any embedded placement activities and independent study. Modules may have more than one component of assessment.

Assessment

Level 4/5/6 is assessed by coursework predominately, with some examinations and practical assessments.

Workload

Overall Workload	**Level 4**	**Level 5**	**Level 6**
Teaching, Learning and Assessment	570	570	570
Independent Study	630	630	630
Placement	hours	20 support 1200	hours

Learning Support

If you have a question or a problem relating to your course, your Course Administrator is there to help you. Course Administrators work closely with academic staff and can make referrals to teaching staff or to specialist professional services as appropriate. They can give you a confirmation of attendance letter, and a transcript. You may also like to contact your Course Rep or the Students' Union Advice team for additional support with course-related questions.

If you have any questions about life at our University in general, call into or contact the Student Advice Hub on either campus. This team, consisting of recent graduates and permanent staff, are available to support you throughout your time here. They will make sure you have access to and are aware of the support, specialist services, and opportunities our University provides. There is a Student Advice Hub on the ground floor of the Rose Bowl at City Campus and one in Campus Central at Headingley. You can also find the team in the Gateway in the Leslie Silver Building at City Campus. Email enquiries may be directed to studentadvicehub@leedsbeckett.ac.uk.

Within MyBeckett you will see two tabs (Support and Opportunities) where you can find online information and resources for yourselves. The Support tab gives you access to details of services available to give you academic and personal support. These include Library Services, the Students' Union, Money advice, Disability advice and support, Wellbeing, International Student Services and Accommodation. There is also an A-Z of Support Services, and access to online appointments/registration.

The Opportunities tab is the place to explore the options you have for jobs, work placements, volunteering, and a wide range of other opportunities. For example, you can find out here how to get help with your CV,

prepare for an interview, get a part-time job or voluntary role, take part in an international project, or join societies closer to home.