LEEDS BECKETT UNIVERSITY

Course Specification

BSc (Hons) Data Science

Course Code:BDATS

2021/22

Award & Title BSc (Hons) Data Science (BDATS)

Applicant Facing Course Specification for 2021/22 Undergraduate Entrants

Confirmed at 03/2021

General Information

Award	Bachelor of Science (with Honours) Data Science
Contained Awards	Bachelor of Science Data Science Diploma of Higher Education Data Science Certificate of Higher 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 of the course is confirmed below and modes of delivery will be confirmed prior to the start date in line with Government guidance:

- 3 years (full time, campus based)
- 4 years (with optional work placement)
- 6 years (part 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.
Location(s) of Delivery	Headingley Campus, Leeds

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

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/academicregulations)

There are no additional or non-standard regulations which relate to your course.

Key Contacts

Your Course Director	Dr. Jackie Campbell
Your Academic Advisor	Your Academic Advisor will be allocated to you at induction.
Your Course Administrator	TBC – CCTEUGAdmin - CCTEUGAdmin@leedsbeckett.ac.uk

Professional Accreditation or Recognition Associated with the Course

This course is accredited to the British Computer Society (BCS).

The BCS endorsement is awarded to courses that meet specific criteria covering the necessary foundation of computing, including data science knowledge and technical skills, in addition to professional development competencies required to succeed in the profession. When reviewing a course, BCS considers the curriculum, the practical experience gained by students and the resources and facilities of the institution. The rigorous assessment criteria ensure that only the highest calibre courses achieve the BCS endorsement award.

Course Overview:

Data Science has a long history within the university having evolved from our areas of information management, knowledge transfer and systems development. In practical terms, data science is conducted as 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.

Course Learning Outcomes

At the end of the course, students will be able to:

1	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	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	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	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.

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.

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.

Course Structure

Full time

Level 4

Semester 1	Core (Y/N)	Semester 2	Core (Y/N)
Introduction to Data Analytics	Y	Introduction to Databases	Y
Maths for Data Science	Y	Statistics in Practice	Y
Fundamentals of Computer Science	Y	Fundamentals of Computer Programming	Y

Level 5

Semester 1	Core (Y/N)	Semester 2	Core (Y/N)
Applied Data Analytics and visualisation	Y	Team Project	Y
Machine Learning Techniques	Y	Programming for Data Science	Y
Database Systems	Y	Information Analysis	Y

Level 6

Semester 1	Core (Y/N)	Semester 2	Core (Y/N)
Advanced Machine Learning (Elective)	N	AI, Big Data Analytics Visualisation (Elective)	N
Data Warehousing (Elective)	N	Cluster Programming (Elective)	N
		Digital Security (Elective)	N
Production Project (Double module)	Y	Production Project (Double module)	Y

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

Part time

Level 4

Year 1

Semester 1	Core (Y/N)	Semester 2	Core (Y/N)
Introduction to Data Analytics	Y	Introduction to Databases	Y
Maths for data science	Y		

Year 2

Semester 1	Core (Y/N)	Semester 2	Core (Y/N)
Fundamentals of Computer Science	Y	Statistics in Practice	Y
		Fundamentals of Programming	Y

Level 5

Year 3

Semester 1	Core (Y/N)	Semester 2	Core (Y/N)
Applied Data Analytics and Visualisation	Y	Programming for Data Science	Y
Database Systems	Y		

Year 4

Semester 1	Core (Y/N)	Semester 2	Core (Y/N)
Machine Learning Techniques	Y	Information Analysis	Y
		Team Project	Y

Level 6

Year 5

Semester 1	Core (Y/N)	Semester 2	Core (Y/N)
Data Warehousing (Elective)	N	Digital Security (Elective)	N
Advanced Machine Learning (Elective)	N	Cluster Programming (Elective)	N
AI, Big Data Analytics Visualisation (Elective)	N		

Year 6

Semester 1	Core (Y/N)	Semester 2	Core (Y/N)
Production Project	Y	Production Project	Y

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

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.

Level 4 is assessed by a mix of examinations, presentations and coursework

Level 5 is assessed by a mix of examinations, presentations and coursework

Level 6 is assessed by a mix of examinations, presentations and coursework

Workload

Overall Workload	**Level 4**	**Level 5**	**Level 6**
Teaching, Learning and Assessment	288 hours	228 hours	228 hours
Independent Study	912 hours	972 hours	972 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.