

## Overview

<b>Programme Code</b>	36451
<b>Programme Title</b>	Big Data
<b>Awarding Institution</b>	Liverpool John Moores University
<b>Programme Type</b>	Masters
<b>Language of Programme</b>	All LJMU programmes are delivered and assessed in English
<b>Programme Leader</b>	
<b>Link Tutor(s)</b>	Dhiya Al-Jumeily

<b>Partner Name</b>	<b>Partnership Type</b>
UpGrad Education Private Limited	Franchised

## Awards

<b>Award Type</b>	<b>Award Description</b>	<b>Award Learning Outcomes</b>
Target Award	Master of Science - MS	See Learning Outcomes Below

<b>Alternate Award Names</b>	
------------------------------	--

## External Benchmarks

<b>Subject Benchmark Statement</b>	
------------------------------------	--

## Programme Offering(s)

Mode of Study, Mode of Delivery	Intake Month	Teaching Institution	Programme Length
Part-Time, Face to Face	August	UpGrad Education Private Limited	7 Months
Part-Time, Face to Face	February	UpGrad Education Private Limited	7 Months
Part-Time, Face to Face	May	UpGrad Education Private Limited	7 Months
Part-Time, Face to Face	November	UpGrad Education Private Limited	7 Months

## Aims and Outcomes

### Educational Aims of the Programme

-Pursue research activities in several related areas involving big data science and analytics. -Pursue professional development to be recognized as professional big data scientists or analysts. -Enhance society development through an effective use of the knowledge and skills specific to big data science and analytics. -Demonstrate broad and deep knowledge for the concepts, terminologies, techniques in the context of big data science and analytics. - Identify and formulate practical problems in a variety of big data applications. -Design and conduct effective data-driven experiments in a variety of professions to meet specific needs within the available resources and the existing constraints. -Use advanced statistical tools, specialist software and computing technology effectively for big data acquisition, quality evaluation, management and manipulation that involves storing, cleaning, exploring, visualizing, and analysing big data. -Provide a critical evaluation for the existing techniques in terms of applicability, effectiveness and efficiency and develop creative techniques to handle big data issues. -Extract valuable information from structured and unstructured big data and transform this information into actionable decisions. - Communicate important information in relation to big data appropriately to suit the target audience. The programme aims at providing society with highly qualified graduates that are able to cope with the data revolution. This is a rapidly growing field that needs practitioners who have the ability to use scientific principles and techniques to handle the complexity and diversity of large scale data streamed from different applications, so called big data, effectively and efficiently to extract valuable information. The MSc in Big Data has a unique interdisciplinary structure that relies on the integration between statistical and mathematical methods with the advances of computer science and information technology. It is designed to equip students with a comprehensive subject-knowledge that is complemented with practical sessions using advanced statistical tools, specialist software and computing technologies to address the spectrum of big data real-world applications. Moreover, the programme emphasizes on several skills that are highly valued by potential employers such as critical thinking, problem solving and communication skills. In addition, the programme provides students with the opportunity to submit a substantial work (Dissertation) to solve a real-world problem in the context of big data to demonstrate their ability in working independently and to appreciate the knowledge and skills gained during their study. -Work successfully as big data scientists or analysts in a variety of related career fields.

### Learning Outcomes

Code	Description
PLO1	Demonstrate a thorough knowledge of the statistical techniques used in big data science and analytics.
PLO2	Collate, analyse and interpret large data sets.

<b>Code</b>	<b>Description</b>
PLO3	Critically evaluate complex issues in big data science and analytics.
PLO4	Use computer skills to access research literature and communicate with peers.
PLO5	Demonstrate the dissemination of information and knowledge to diverse audiences.
PLO6	Prepare research proposals and business cases.
PLO7	Demonstrate a clear understanding of the legal, ethical and protection issues in big data science and analytics.
PLO8	Demonstrate practical experience of the solution of problems in big data science and analytics using modern computational languages and techniques.
PLO9	Show originality in the application of knowledge, together with a practical understanding of the critical evaluation of research, scholarship and methodologies within big data science and analytics.
PLO10	Demonstrate the application of statistical and data visualisation techniques to familiar and unfamiliar problems in big data science and analytics.
PLO11	Demonstrate the application of big data computing technologies and techniques.
PLO12	Critically evaluate information from a variety of sources, and draw and defend conclusions.
PLO13	Apply planning, research methodology and analytical skills to an in-depth study of a chosen research area.
PLO14	Analyse and solve set problems, choosing the appropriate techniques and technologies.

## Programme Structure

### Programme Structure Description

This Big Data programme exists as an MSc progression award for students progressing from the IIIT-B UpGrad Diploma in Big Data. Students starting prior to January 2021 will follow the previous programme rules. To obtain an MSc, students must acquire 180 level 7 credits:

Programme Structure - 180 credit points	
Level 7 - 180 credit points	
Level 7 Core - 70 credit points	CORE
[MODULE] 7612UPGRAD Project Dissertation Approved 2022.01 - 60 credit points	
[MODULE] 7638UPGRAD Research Methods Approved 2022.01 - 10 credit points	
Level 7 Optional - No credit points	OPTIONAL

Module specifications may be accessed at <https://proformas.ljmu.ac.uk/Default.aspx>

## Teaching, Learning and Assessment

Acquisition of 1 - 14 is through a combination of lectures and tutorials. Throughout the learner is encouraged to undertake independent reading both to supplement and consolidate what is being taught / learnt and to broaden their individual knowledge and understanding of the subject. Knowledge and understanding is assessed via formal examination, individual and team coursework, and a full-scale individual MSc Dissertation. Skills 1 - 9 are taught through lectures and developed through tutorial work throughout the programme. Cognitive skills are partly assessed via formal examinations, but mainly through coursework assessment. The MSc Dissertation allows a student to demonstrate his/her cognitive skills. Practical advanced skills are developed throughout the programme. Key skills are developed throughout the programme in a variety of forms. Specifically through a combination of research related coursework, guided independent study and projects, group work and presentations. Key skills are assessed as part of coursework, projects, written examinations and presentations.

## Opportunities for work related learning

There are no external placements during the programme. However business skills of project development, management, implementation and presentation are embedded throughout the course. Each student will be allocated to a supervisor who will act as the line-managers for the project. The supervisor will have complementary skill sets in the problem domain and the machine learning domain. Weekly 1 hour meetings of the supervisor and student will monitor progress and provide opportunities for developmental feedback. The aim is to run the projects in the same fashion as either an academic or industrial project is done externally. As part of the research methods and project modules, the students will be encouraged and assisted to develop a professional on-line presence.

## Entry Requirements

Type	Description
Other international requirements	Diploma in Computer Science as awarded by the IIIT-B.

## Extra Entry Requirements