

**Overview**

Programme Code	36268
Programme Title	Data Science
Awarding Institution	Liverpool John Moores University
Programme Type	Masters

**Awards**

Award Type	Award Description	Award Learning Outcomes
Target Award	Master of Science - MS	N/A

Alternate Award Names	
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Partner Name	Partnership Type
UpGrad Education Private Limited	Franchised

**External Benchmarks**

Subject Benchmark Statement	
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## Programme Offering(s)

Mode of Study, Mode of Delivery	Intake Month	Teaching Institution	Programme Length Programme Length Unit
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	Data science is an emerging discipline that extends the field of statistics to incorporate advances in computing, especially with large quantities of data. It is a growing area of demand at both undergraduate and postgraduate level, with a predicted scarcity of expertise forecast over the next decade. There is a need for a level 7 programme to serve as a specialisation and conversion course aimed at numerate graduates aiming for industrial and academic positions in the Data Science marketplace. The MSc is founded on a strong foundation at LJMU of research activity in data analysis and big data computation. The aim of the programme is therefore to provide training in the skills and techniques of modern data science and give the student the ability to apply those skills and techniques fashion to create solutions to research and business problems. The students will gain an understanding not just of how to apply the techniques and skills, but also their limitations and how to synthesise their combination to gain greater insights.
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## Learning Outcomes

Code	Number	Description
PLO1	1	Demonstrate a thorough knowledge of the statistical techniques used in data science
PLO2	2	Use computer skills to access research literature and communicate. with peers
PLO3	3	Collate, analyse and interpret large data sets
PLO4	4	Critically evaluate complex issues in data science
PLO5	5	Demonstrate the dissemination of information and knowledge to diverse audiences
PLO6	6	Prepare research proposals and business cases
PLO7	7	Be able to adapt knowledge and skills to unfamiliar problem domains
PLO8	8	Communicate effectively, both written and verbally
PLO9	9	Use IT to access, prepare, process and present and transmit information
PLO10	10	Break down complex problems into a logically structured set of achievable tasks
PLO11	11	Prioritise tasks, manage time effectively and work as part of a team

PLO12	12	Demonstrate a clear understanding of the legal, ethical and data protection issues in data science
PLO13	13	Demonstrate practical experience of the solution of problems in data science using modern computational languages and techniques
PLO14	14	Show originality in the application of knowledge, together with a practical understanding of the critical evaluation of research, scholarship and methodologies within data science
PLO15	15	Demonstrate the application of statistical and data visualisation techniques to familiar and unfamiliar problems in data science
PLO16	16	Demonstrate the application of big data computing technologies and techniques
PLO17	17	Critically evaluate information from a variety of sources, and draw and defend conclusions
PLO18	18	Apply planning, research methodology and analytical skills to an in-depth study of a chosen research area
PLO19	19	Analyse and solve set problems, choosing the appropriate techniques and technologies

## Course Structure

Programme Structure Description	This MSc Data Science programme exists as an MSc progression award for students progressing from the IIIT-B UpGrad Diploma in Data Science (equivalent to 110 Credits) or Advanced Certification in Machine Learning and Cloud - IIT Madras (equivalent to 110 Credits). To obtain an MSc, students must acquire 180 level 7 credits. Students starting prior to September 22 will follow the previous programme rules.
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<b>Programme Structure - 110 credit points</b>	
<b>Level 7 - 110 credit points</b>	
<b>Level 7 Core - 70 credit points</b>	CORE
[MODULE] 7611UPGRAD Project Dissertation Approved 2022.01 - 60 credit points	
[MODULE] 7637UPGRAD Research Methods Approved 2022.01 - 10 credit points	

## Teaching, Learning and Assessment

Teaching, Learning and Assessment	<p>The methods used to enable outcomes to be achieved and demonstrated are as follows: Acquisition of 1 - 13 is through a combination of lectures, tutorials, practical sessions and laboratory work. 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 (Skills 1-7 and 18-19) is assessed via formal examination, individual and team coursework, demonstration of practical work, and a full-scale individual MSc Dissertation. Skills 1 - 8 are taught through lectures and developed through tutorial work throughout the programme. Cognitive skills (Skills 1-2 and 11-16) 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 (Skills 9-19) are developed throughout the programme. Specialist software such as virtual machines and private-cloud systems are available in department-maintained labs or remotely from specified PCs in the libraries. 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, examinations, group work and presentations. Key skills are assessed as part of coursework, projects, written examinations and presentations.</p>
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## Opportunities for work related learning

Opportunities for work related learning
<p>There are no external placements during the programme. However business skills of project development, management, implementation and presentation are embedded throughout the course. As part of the Research Methods (7637UPGRAD) module the students will have developed a business case/research proposal and project management plan which they will have "pitched" both in oral and written form. The subsequent research project (7611UPGRAD) can be viewed as a placement within an academic department to carry out research. Each student will be allocated to a team of two supervisors (main and second) who will act as their line-managers for the project. The supervisors will have complementary skill sets in the problem domain and the data science domain. Weekly 1 hour meetings of the supervisors 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.</p>

## Entry Requirements

Type	Description
Alternative qualifications considered	Diploma in Data Science as awarded by the IIIT-B UpGrad (equivalent to 110 Credits). Advanced Certification in Machine Learning and Cloud - IIT Madras (equivalent to 110 Credits).

## Programme Contacts

### Programme Leader

Contact Name
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### Link Tutor

Contact Name
Dhiya Al-Jumeily