Masters in Data Science - Assessment and Learning Experience Manual

LJMU and upGrad Masters Program in Data Science

Introduction to the Program

Welcome to upGrad's Masters Program in Data Science in collaboration with Liverpool John Moores University (LJMU), and many congratulations on starting your journey towards a rewarding career! The objective of this program is to equip you with the necessary theoretical understanding, industry experience and research aptitude to build and grow your career in the field of Data Science.

Please note that for you to continue with the Masters Program in Data Science offered by upGrad and LJMU, you have to successfully complete and meet all the passing criteria for the Post- Graduate Diploma Program in Data Science offered by upGrad and IIIT- B.

All the courses in the program will encourage you to learn independently via survey of advanced material published in conference proceedings and expert journals. Also, the course on Research Methods will equip you with a range of techniques to help you think critically and enable you to work independently. Most importantly, the project thesis is a large piece of work that will involve a great deal of decision-making, planning, independent work and communication skills.

We are confident that you will have a stimulating experience and an exciting time on this program. Our experience also tells us that you will need to dedicate yourself wholeheartedly to the program, and that your hard work will be rewarded with an academic degree that will help you considerably in your professional/academic career.

At this advanced level, you will be familiarised with the well-established principles of Data Science. We encourage you to visit LJMU's website and peruse the research-related pages. We are sure you will be impressed by the variety and quality of their work!

Finally, we wish you success and an exciting time on the program.

Educational Aims of the Program

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 that is in demand at both the undergraduate and postgraduate levels, with a predicted scarcity of expertise over the next decade. There is a need for a masters program that will serve as a specialisation and conversion course, which will be aimed at numerate graduates targeting industrial and academic positions in the Data Science marketplace. The aim of the program is, therefore, to provide training in the skills and techniques of modern Data Science, and equip students with the ability to apply those skills and techniques to build solutions for research and business problems. In this program, the students will not only gain an understanding of how to apply the techniques and skills, but will also learn about their limitations and how to synthesise combinations of these techniques and skills to draw greater insights.

Target Award Learning Outcome - Master of Science

On completing the program successfully, you will be eligible to be awarded a Master of Science degree. In addition, you will have acquired the subject knowledge and understanding, as well as the skills and other attributes, to:

1. Demonstrate thorough knowledge of the statistical techniques used in Data Science.
2. Demonstrate a clear understanding of the legal, ethical and data protection issues in Data Science.
3. Demonstrate practical experience of solving problems in Data Science using modern computational languages and techniques.
4. Show originality in the application of knowledge, together with a practical understanding of the critical evaluation of the research, scholarship and methodologies within Data Science
5. Demonstrate the application of statistical and data visualisation techniques to familiar and unfamiliar problems in Data Science
6. Demonstrate the application of the technologies and techniques of big data computing
7. Critically evaluate information from a variety of sources, and draw and defend conclusions
8. Apply planning, research methodology and analytical skills to an in-depth study of a chosen research area
9. Analyse and solve a set of problems by choosing appropriate techniques and technologies
10. Use computer skills to access research literature and communicate with peers
11. Collate, analyse and interpret large data sets
12. Critically evaluate complex issues in Data Science
13. Demonstrate the dissemination of information and knowledge to diverse audiences
14. Prepare research proposals and business cases
15. Adapt knowledge and skills to unfamiliar problem domains
16. Communicate effectively, both written and verbally
17. Use IT to access, prepare, process, and present and transmit information
18. Break down complex problems into a logically structured set of achievable tasks
19. Prioritise tasks, manage time effectively and work as part of a team

Your Support

Student Mentor

You will be assigned a dedicated Student Mentor who will help you tackle any non- academic, program- related challenges and achieve your goals. You can explore common queries or reach out to your mentor using the Support tab on the platform. In order to provide easier access to course-related updates, your Student Mentor will create an announcement group, in addition to emails and calls, to keep you notified of upcoming deadlines and other important milestones.

We will be creating an Official WhatsApp Notification Group where only the Student Mentor will be allowed to post. To manage this effort effectively and efficiently, all group members must be aware of the following guidelines:

The group will be used only by the Student Mentor for sharing important notifications related to the program, course content, live sessions, events, etc. Should you have any concern about upGrad, its University partner or your peers, you will be required to direct such communication to upGrad ONLY via email or reach out to your Student Mentor over call.

WhatsApp should not be considered a medium for official query resolution. For any such queries, please reach out to the Student Mentor via email or call, or by using the chat function available on the learning platform.
The Student Mentor is not liable to answer any/all queries over WhatsApp.

Hope you make the most of this platform and keep yourself updated about the course and the platform.

Thesis Supervisor

You will be assigned a Thesis Supervisor whose responsibility would be to support and oversee your development and progression from Course 2 of Module Research Methodology. The first level of evaluation for the thesis proposal and other components of the program will be done by your Thesis Supervisor. You will have a scheduled opportunity to communicate individually with your Thesis Supervisor. You are required to maintain regular contact with your Thesis Supervisor so that they can monitor your progress and address any potential problems quickly. You have to understand that the role of the Thesis Supervisor is just to guide you during the process. You need to put in your own efforts to complete the thesis. You can book a time slot for a call with your Thesis Supervisor not more than twice a month. The time of the call will vary according to the availability of the Thesis Supervisor. They will endeavor to respond to your query within a week, although this may take longer depending on the time available to them and the complexity of the query. Your Student Mentor will introduce your Thesis Supervisor to you after your thesis topic has been confirmed and approved.

Discussion Forum

The discussion forum is designed for the participants to help create a strong learning community. The participants are encouraged to respond to peer questions, as it will also help reinforce their learning. This platform is designed to encourage peer interaction and enhance your understanding of various topics and queries on the subject. Participants are requested to post only academic questions on the Discussion Forum. Faculty and Research Experts will act only in response to questions related directly to the program content and assessments. They will either verify participant answers or respond to questions posted within 24 hours of a question being posted. Faculty and TAs will not take any action on general posts that are meant to facilitate discussion among peers. Inappropriate posts that are of no learning value will be deleted and the students concerned will be penalised.

Research Expert Calls

At upGrad, our aim is to provide you with the most efficient and effective learning experience. In order to enhance your experience, you will have the opportunity to conduct Research Expert calls. You can schedule calls with a research expert to get your queries answered and get a deeper understanding of your research. The research expert will help you and guide you, but the final outcome has to be your doing. Please note that the first point for your research queries will be your Thesis Supervisor. In case if you need extra help, upGrad shall help you schedule a call with a Research Expert. Please reach out to your student mentor and drop and email for the same. He/She shall get the needful done within 3-4 working days.

Live lectures by the LJMU faculty and Academicians

As part of the program, all participants can expect access to weekly live sessions per course. A mix of LJMU faculty, academicians and domain experts will deliver these. However, the mix can vary by course. Details about these live sessions will be communicated to you via email and your student mentors. These live sessions are an integral part of the overall learning experience, and we highly encourage the participants to attend and actively participate in all these sessions.

LJMU Post Doc

Throughout the duration of the course, if you feel that your doubts aren't solved, you can take a call with the LJMU Post Doc. They will help you with the queries related to your research and thesis writing. In case you wish to book these calls, you have to reach out to your Student Mentor, and they will book a call for you with the LJMU Post Doc.

You will be having a Live Classroom hour once in a week where the Post Doc will be addressing the queries of the entire cohort. Your Student Mentor will be sharing the details for the same in the third week after the cohort starts.

You and LJMU

The rules and regulations of the University cover everything from freedom of speech to dealing with difficult personal circumstances to payment of fees and program information. The objective of these regulations is not to limit your experiences at LJMU, rather to protect your rights as a student and to define your responsibilities as a member of the University. LJMU promotes an environment where everyone is treated equally and with dignity and respect. We operate with a policy of zero tolerance towards any form of discrimination, harassment or bullying, including cyber-bullying. Any student or staff found to be engaging in such activity will be subject to the University's disciplinary procedures. For more information on what LJMU expects with regard to student behaviour, you may refer to the Student Code of Behaviour and Disciplinary Procedures at the following link: https://www.ljmu.ac.uk/about-us/public-information/student-regulations/guidance-policy-and-process

Assessment Structure

Credit Structure

Course credits are distributed as shown in the table given below.

Course	Credits
Research Methodologies	10
Thesis	60

Overall Percentage Computation

The percentage scores for each course weighted by the respective proportion of credits add up to the overall percentage for the entire program. You need to score a **minimum of 50%** in order to pass a course as well as the program. The MCQs will not be graded. However, at any point in time, LJMU can decide to take a look at it to monitor to your progress.

Course 1 - Research Methodologies

Course 1 will comprise MCQs and a proposal submission. At the end of the course, you will be required to submit a proposal for the thesis that you will be submitting in the subsequent course. This proposal will act as a problem statement for your thesis (Course 2).

Category	Description	Weightage (%)
Proposal Submission	Writing a research proposal for the student's dissertation. The proposal should include a critical review of a range of academic sources on a subject of choice in the area of Data Science.	100

Course 2 - Dissertation

Course 2 will comprise regular submissions, wherein a call will be scheduled with your Thesis Supervisor and you will have to submit a **well-documented work before and after each call**. This documentation will play a role in creating the **Interim Report** as mentioned in the table given below. Your Thesis Supervisor/Student Mentor at the beginning of the course shall communicate the timelines of the submissions to you.

Category	Description	Weightage (%)
Report	Interim report	5
Presentation	Final presentation	5
Report	Dissertation (project report) - around 17,000 words	90

Evaluation of Graded Components

The Grading and Evaluation is done in three levels for the Research Methods

1. Thesis Supervisor
2. LJMU Academic Team
3. External Examiner from LJMU

Marks will be made available via the upGrad portal/LJMU Canvas after LJMU's evaluation. Your Student Mentor will communicate the dates for the same to you.

The Grading and Evaluation is done in four levels for the Dissertation Phase

1. Thesis Supervisor
2. Second Evaluator
3. LJMU Academic Team
4. External Examiner

The computation of marks will be by the following formula
Final Percentage: [(RM)*10+(Interim*0.05+Final Thesis*0.9+Video Presentation*0.05)*60]/70

In order to maintain complete fairness and justification of marks, there are multiple levels of evaluation that take place. Due to this, the results are published 4-6 weeks from the date of submission.

Fairness, Consistency and Standards

For every piece of work that is scored formally, there will be procedures in place to ensure that the scoring is fair, consistent and upholds the academic standards. For most assessments, including examinations, there will be anonymous scoring so that the person assigning the scores is unaware of the identity of the student who has produced the work. A second member of staff will score a proportion of the work. External examiners, that is, subject experts from outside the University, will be appointed to every program and they will go through samples of work from across the program. These procedures will ensure that the students' work is scored appropriately and fairly, and any potential bias is removed.

Role of External Examiners

The University appoints an external examiner to each of its programs. They are either from a different university or a higher education institution, or are from the industry. The role of the external examiner is to provide informative comments and recommendations on whether or not the University is maintaining the benchmarking academic standards set for awards in accordance with the framework for higher education qualifications and applicable subject benchmark statements. The assessment process measures the student's achievements rigorously and fairly against the intended outcomes of the program(s), and is conducted in line with the University's policies and regulations. The academic standards are comparable to those of other higher education institutions in the UK, and the program content is current and up-to- date. The achievements of the students are comparable to those of other higher education institutions in the UK. The external examiner also provides informative suggestions and recommendations on good practices and innovations related to learning, teaching and assessment opportunities with an aim to enhance the quality of the learning opportunities. This report is discussed with and is available to the student representatives at the Board of Study meetings. The external examiner's report will be made available to all the students. External examiners are appointed to ensure quality management of the higher education programs, and it is not part of their remit to communicate with individual students. For this reason, students should not make direct contact with the external examiners regarding their assessed work or performance. The external examiner for this program is:

Professor Hissam Tawfik
Leeds Beckett University, United Kingdom

Progression and Classification of Award

You are required to attempt all the items of the summative assessment within the appointed time as a condition of award of credit. Failure to do so will be deemed by the Board of Examiners to constitute a failure in the program, unless a claim for Extenuating Circumstances or Special Mitigation is found valid. For further details, you may refer to the Postgraduate Academic Framework Regulations, Section PG.C4.8 and PG.C4.9, here: www.ljmu.ac.uk/~/media/sample- sharepoint-libraries/policy-documents/247.pdf.

Classification of Award

The award is classified as follows:

- Distinction: Overall score of 70% or above
- Merit: Overall score between 60% and 69%
- Pass: Overall score between 50% and 59%

For further information, you may refer to the Postgraduate Academic Framework Regulations, which are available here:
www.ljmu.ac.uk/~/media/sample-sharepoint-libraries/policy-documents/247.pdf.

If there is a professional body associated with your program, then you need to know whether any additional regulations apply to your program. Where this is applicable, you may refer to the Professional Accreditations section of the guide above for further information. If you could not achieve the required amount of credits for the award in the first attempt, then you will be allowed a referral to the course that you failed. Details of the referral are provided in the next section.

Board of Examiners (BOE)

Board of Examiners is the Formal Panel who approves the marks of the students. For every Cohort there will be two Board Of Examiner meetings, which will take place: For the Research Methodology and For Dissertation module. Evaluation of Programme Performance and consideration of Programme Performance reports is done in the Board of Examiners Meeting. The Board of Examiners decides a formal confirmation of all the student profiles including any award recommendations. The decision taken by Board of Examiners is final and irrevocable.

Board of Study (BOS)

Board of study meetings happen once for every cohort. It is a formal setup in which Professors from LJMU discuss the feedback of the program with the student representatives from every cohort. The meeting covers the following agenda points: Course Structure, Teaching, Feedback on Assessment, Academic Support, Organisation and management on the course, Library Facilities, Online Facilities. The student mentor will reach out to the cohort on how to become the student representative

Transcript and Degree

As part of the MSc course, you will be provided with a Progress Transcript 10 days after the Board of Examiners. The Progress Transcript is similar to a Provisional Transcript. It can be used for the purpose of showcasing to an employer/higher studies, etc. Hard copies of the final transcript and the degree will be available. LJMU will mail the hard copies to upGrad. upGrad will then send them to the students via courier. ***Please note that digital versions of the Final Transcript and the Final Certificate are not provided.***

Leave of Absence (LOA)

If a learner is facing severe issues with dedicating time to a course, then we will provide them the opportunity to defer to another batch. A learner can request for a Leave of Absence (LOA) ONLY ONCE and to one of the next four scheduled cohorts of the same program. The learner will be required to pay a fee, which is 10% of the program fee*. The LOA request will be approved once the fee is paid. Until this is complete, the learner will be assumed to be continuing in the same cohort. The learner will start learning on the new cohort from the point of leaving the present cohort. The learner will not be allowed to defer if they are failing or are bound to fail in a course. Since all the grades till the time of deferral are carried over to the batch that a learner defers to, the deferring will not help the learner pass the program. For the completion of the deferral procedure, a learner has to fill a form that will be shared by the Student Mentor. For more details on Leave of Absence, please contact your Student Mentor. If a learner submits a Personal Circumstance claim, then a panel will review it, and, if approved, a resubmission date will be agreed during the meeting of the Board of Examiners.

*The deferral fee is defined as 10% of the TOTAL program fee, which is 20,000 INR. In case the program fee is revised for the batch to which a student is deferring, then the difference of the fees will be added to the deferral amount along with the existing 10%. This is irrespective of the discount/scholarship that a student would have received. The deferral fee is payable based on the program fee at the time of enrolment of a student. The policy also states that if the price has been increased and if a student is deferring to a cohort with an increased price, then they need to pay the differential fee for the new cohort along with the deferral fee.

The learner has to apply for a deferral within a window of 14 days before the submission deadline. This is to make sure the learner is not using the LOA as a means to avoid Academic Failure. If the submission is done after the deadline, then a Non-Attempt at Assessment will be applied against the submission and the marks for the same module will be capped at 50%. The learner has to submit a valid proof along with the LOA form. Acceptance of Leave of Absence Claim is subject to approval by the University.

Extensions and Personal Circumstances Claim (PC)

Students are expected to plan their workload to avoid being impacted upon by a minor illness or other cause. However, they may apply for an extension if a significant and serious event that prevents submission arises before the published submission deadline for an individual coursework Submissions.

Points to note:

1. As the work is submitted after the deadline a student may receive their mark later than the rest of the cohort;
2. It is not expected that a student would require repeated changes to deadlines;
3. Repeated requests for extensions to deadlines would normally activate a detailed review of a disabled student's current support, or to consider whether a student who does not have reasonable adjustments in place, requires them; It must be possible to provide parity for all students registered on
4. The extension request must normally be submitted at least two full working days (48 hours) before the deadline. An extension request will normally only be considered if the request is submitted within the permitted timescale
5. A student will be expected to submit their work by the original deadline if an application for an extension request is not accepted. However, a student may still be eligible to submit a separate 'non-attempt at assessment' application if they are unable to submit the work. A significant event that prevents the student from submitting (non-attempt at assessment) e.g. hospitalization, family bereavement that cannot be managed by an extension.

A Personal Circumstance claim should be submitted with supporting evidence. Acceptance of a Personal Circumstance Claim is subject to University approval.

In extreme circumstances, the University reserves the right to apply Special Mitigation following a student's attempt at any assessment item.

Referrals

A referral is an opportunity given to you to retake an assessment in a course in which you have obtained no credit after your first attempt. You only get one referral opportunity in each course. If you fail to obtain the required credits for a course in the second attempt, then you may be eligible for an Exceptional Second Referral (ESR). For further details, you may refer to the Postgraduate Academic Framework Regulations, Section PG.C7.14 (and PG.C5.5.8), here: www.ljmu.ac.uk/~/media/sample-sharepoint-libraries/policy-documents/247.pdf.

If you are found to be eligible for an ESR, then you will be allowed a third attempt at the assessment. If you are not found to be eligible for an ESR, then you will not be able to progress or complete the program. You will be advised about the options available to you, and this may include an opportunity to re-register for a Final Attempt (FMA – see PG.C7.13). The maximum score that can be obtained from a referral, an ESR or an FMA is 50%, or whatever the minimum pass mark is. Some courses may not be eligible for ESRs or Final Attempts. These are usually courses related to professional competency requirements.

Non-Attempt at Assessment (NAT)

A Non-Attempt at Assessment (NAT) is applied when a student fails to meet the deadlines after repeated reminders from the Student Mentor. In such cases, the student is assigned a date to resubmit the assessment. The marks are capped at 50% for the same. A second NAT would lead to a failure for the course and the student will not be able to get an MSc degree.

Revaluations/Student Appeal

Guidelines for re-evaluation

1. A re-evaluation request (if any) should be submitted within 3 days of the declaration of the results. For example, if results were declared on 13/10/2020, then requests for re-evaluation made till 16/10/2020 (end of the day) will be considered.
2. A learner will be able to request for a re-evaluation on the learning platform itself.
3. Re-evaluation requests claiming discrepancy of marks when compared with another learner's graded Submissions are highly discouraged and will NOT be considered.
4. Re-evaluation requests for Submissions that have been uploaded after the deadline will not be considered and are highly discouraged.
5. All re-evaluation requests will receive a response any time up to 3 weeks after the re-evaluation deadline.

   Note: All submissions have to be made within the deadline. No submission will be accepted after the deadline. There will not be any soft deadline as in the PGD course.

   After the marks are published on the upGrad portal, the student can apply for a revaluation within a period of 3 days. Any revaluation request submitted after this deadline will not be accepted. The marks released before the Board of Examiner is subject to change. All students have the right to appeal against the decision(s) of the Boards of Examiners and the Academic Misconduct Panels (AMPs).

   The Boards of Examiners receive individual student assessment profiles (course marks, level progression), make decisions on the level of completion and progression, and make recommendations for awards. In addition, the Boards of Examiners determines any requirement for deferred assessments and any referral requirement for students failing course(s) in accordance with the Academic Framework Regulations. The Boards of Examiners also receive decisions from the Extenuating Circumstances Panels, note any decisions from the Academic Misconduct Panels (AMPs) and act accordingly. The grounds for appeal are strictly limited to the criteria outlined in the Academic Framework Regulations: Students cannot submit an Academic or AMP Appeal just because they do not agree with the score or the decision of the Panel. Appeals will be considered only on the grounds that there has been a material administrative error, or that an assessment was not conducted in accordance with the regulations, or that some other material irregularity has occurred.

   There are also strict time limits for lodging an appeal, that is, within 10 working days after the publication of the decision of the Boards of Examiners or the date of the decision of the AMPs. Further information about appeals can be found here: https://www.ljmu.ac.uk/about-us/public-information/student-regulations/appeals-and- complaint

Academic Misconduct

Academic misconduct is deemed to cover deliberate attempts to gain an unfair advantage in assessments. This includes attempts to cheat, plagiarise, unauthorised collusion or any other deliberate attempt to gain an unfair advantage in summatively assessed work. Summative assessments include all forms of written work (including in-class tests), e-assessments, presentations, demonstrations, viva voices, recognition of prior learning portfolios and all forms of examination.

Cheating includes:

(i) Any form of communication with, or copying from, any other source during an examination, and communicating with any person other than an authorised member of staff during an examination;

(ii) Introducing any written, printed or other material into an examination (including electronically stored information) other than that specified in the rubric of the examination paper (Liverpool John Moores University, Page 19);

(iii) Gaining access to unauthorised material in any way during or before an assessment;

(iv) The use of mobile phones or any other communication device during an assessment or examination;

(v) The submission of false claims of previously gained qualifications, research or experience in order to gain credit for prior learning;

(vi) The falsification of research data, the presentation of another's data as one's own and any other forms of misrepresentation in order to gain advantage;

(vii) The submission of work for assessment that has already been submitted as all or part of the assessment for another course; and

(viii) The submission of material purchased or commissioned from a third party, such as an essay-writing service, as one's own.

Plagiarism is defined as the representation of the work, artifacts or designs, written or otherwise, of any other person, from any source whatsoever, as a student's own. Examples of plagiarism may be as follows:

(i) The verbatim copying of another's work without clear identification and acknowledgement, including the downloading of materials from the Internet without proper referencing of materials;

(ii) The paraphrasing of another's work by simply changing a few words or altering the order of presentation, without clear identification and acknowledgement;

(iii) The unidentified and unacknowledged quotation of phrases from another's work; and

(iv) The deliberate and detailed presentation of another's concept as one's own.

Every student will be given access to TurnitIn, which is integrated with Canvas on the LJMU platform. The learner is expected to submit the proposal/interim report and the final report on the Canvas for the purpose of plagiarism check. The learner will be allowed to check multiple times before submitting the Submissions. After the deadline, if more than 10% plagiarism is found, and then the case will be forwarded to the Academic Misconduct Panel (AMP). All the filters on the TurnitIn tool are fixed by upGrad and cannot be changed. The outcome of the Plagiarism depends on the Academic Misconduct Panel.

Collusion includes:

(i) The conscious collaboration, without official approval, between two or more students in the preparation and production of work that is ultimately submitted by each in an identical or substantially similar form and/or is represented by each to be the product of his or her individual efforts; and

(ii) Instances where there is unauthorised cooperation between a student and another person in the preparation and production of work that is presented, as the student's own.

The LJMU Penalty Tariff

The University strives to ensure fairness and consistency in the application of penalties to students across all faculties and has adopted a standard penalty tariff to be used in all cases of proven academic misconduct. The principle behind the tariff is simple and serves to ensure that all the students are aware of the penalties that they will receive if they are found guilty of academic misconduct. For information about Academic Misconduct, please visit http://www.ljmu.ac.uk/about-us/publicinformation/student-regulations/appeals-and-complaints.

Escalation Matrix

upGrad believes in adopting a transparent approach with all its learners, and in order to match our learners' expectations in terms of grievance redressal, we have created an Escalation Matrix. Based on the type of queries that we receive from our learners, we have defined the levels of the Escalation Matrix. We request you to refer to the same in case you ever find the need to escalate an issue.

Escalation Matrix

Type of Query	Point of Contact
Non-academic queries (for example, queries related to live sessions, program structure)	Your Student Mentor
Content-related issues/queries (if you have any issue with or have queries pertaining to the content on a session page)	Click on the **'Report an Error'** button on the bottom left corner of the session page
Not satisfied with the guidance provided by your Thesis Supervisor?	Write to your Student Mentor
Not satisfied with the resolution provided by your Student Mentor?	Write to msescalations@upgrad.com