Goldsmiths
UNIVERSITY OF LONDON

MSc AI and Data Analytics

Programme specification

1. Programme details

Item	Information
a) Programme name (incl. pathways):	MSc AI and Data Analytics
b) Programme code(s)	TBC
c) Programme credit value(s)	180 CATS 90 ECTS
d) Programme author(s)	Dr.Devakunchari Ramalingam & Dr.Basel Barakat
e) Entry requirements	BSc Degree at level 2:1 in a science, technology, engineering, mathematical or other relevant quantitative subject. OR A BSc Degree at level 2:2 in a quantitative subject and at least 2 years of relevant professional experience. Non-standard entry criteria: If you do not have a quantitative background, we may accept applications from other disciplines, following the successful completion of a free primer that builds your skills in coding and maths: A BA or BSc Degree at level 2:1 or 2:2 with at least 2+ years of relevant work experience. No degree, but 5+ years of relevant work experience
f) Academic year effective from	2026/27

2. Programme Aims & Overview

Aims

The MSc Artificial Intelligence and Data Analytics aims to develop highly skilled professionals who can design, build, and evaluate intelligent data-driven systems that address complex real-world challenges. The programme equips you with advanced knowledge of AI methodologies, machine learning, data engineering, and analytical techniques, while fostering a critical understanding of the ethical, social, and professional

responsibilities associated with AI technologies. Through hands-on experience with industry relevant tools, real-world datasets, and applied research, you will be prepared to generate meaningful insights, communicate technical findings effectively and lead innovation across a wide range of data driven sectors.

Overview

This programme offers industry focused learning in artificial intelligence and data analytics, blending theory with hands-on, end-to-end technical experience. No prior deep knowledge of AI or data analytics is required. The programme is designed to support learners from a wide range of STEM backgrounds. You will build expertise in applying core AI methods for data analytics while also developing a thoughtful understanding of the ethical and societal responsibilities that come with emerging AI.
Through practical work with professional tools and advanced techniques, you will design and deploy complete data and AI pipelines, tackle complex real-world challenges and create innovative, impactful solutions.
Alongside technical mastery, the programme strengthens high-level research capability and the ability to communicate complex technical insights clearly to both technical and non-technical stakeholders, preparing you to operate confidently in industry or doctoral research roles across today's data-driven landscape.

3. External reference

Item	Information
a) FHEQ Level of Award:	7
b) UCAS Code(s):	N/A
c) HECoS Code(s):	TBC
d) QAA Benchmark group:	Computing

4. Awards

Item	Information
a) Awarding institution:	University of London (Interim Exit Awards made by Goldsmiths' University)
b) Teaching institution:	Goldsmiths, University of London
c) Home School:	Computing **If other, name here:** N/A
d) School(s) also involved in teaching of the programme:	1. None 2. None 3. None **If other, name here:** N/A
e) Entry awards:	☐ Foundation Cert ☐ CertHE ☐ DipHE ☒ PGCert ☒ PGDip
f) Interim exit awards:	☐ Foundation Cert ☐ CertHE ☐ DipHE ☒ PGCert ☒ PGDip
g) Final awards:	PGCert AI and Data Analytics; PGDip. AI and Data Analytics; MSc AI and Data Analytics.

5. Delivery

Item	Information	
a) Language of study:	English	
b) Valid intake points in year:	☐ January ☒ Sept/Oct ☒ Other If other, specify: August, September, March and June Click or tap here to enter text.	
c) Mode of study:	Online Distance Learning Indicate the overall balance of teaching modes in the rows below. Row d) shows total hours of directed learning, with e) and f) showing how this is broken down in in-person vs. online learning, in hours and percentages.	
d) Total hours directed learning/year	**1800**	
e) In-person hours	0	0%
f) Online hours	1800	100%
g) Pace of study:	☐ Full time ☒ Part time	
h) Duration of programme	Full time: N/A ☐years ☐months Part time: 24 ☐years ☒months	
i) External accreditation:	N/A	
j) Apprenticeship Standard:	N/A	

6. Programme Learning Outcomes

Also, see the curriculum map at the end of document.

For UG exit awards, Learning Outcomes must be achieved in the level indicated below:

- CertHE = Level 4
- DipHE = Level 5

Learning outcomes are grouped in categories of:

- **Declarative learning** - knowledge, thinking & facts (D1-3)
- **Functional learning** - application of knowledge, thinking & facts (F1-3)
- **Professional and transferable skills and behaviours** (P1-3)

On successful completion of the programme, you will be able to:

	Learning Outcome	Level	Graduate Attribute
D1	Demonstrate a systematic understanding of the theoretical, mathematical, statistical and computational foundations underpinning AI and data analytics.	7	Diversity of perspective
D2	Critically evaluate the principles, paradigms and contemporary developments across the core AI and data analytics disciplines.	7	Political in the personal
D3	Demonstrate critical awareness of the ethical, legal, societal and professional challenges associated with data-driven systems, making informed judgements regarding privacy, bias, governance, compliance and responsible innovation.	7	Responsible agency
F1	Click or tap here to enter text. Apply advanced knowledge with originality to design and implement data-driven solutions using advanced techniques and state-of-the-art tools for domain-specific problems.	7	Responsible agency
F2	Critically analyse and interpret complex datasets through the application of advanced analytical methods, programming languages and frameworks to generate robust, evidence-based insights.	7	Diversity of perspective
F3	Critically evaluate and justify alternative approaches to novel and complex challenges, considering their effectiveness, efficiency, limitations and suitability within diverse contexts.	7	Diversity of perspective
P1	Communicate complex technical concepts, research findings and evidence-based recommendations effectively to specialist and non-specialist audiences using appropriate professional and academic conventions.	7	Political in the personal
P2	Click or tap here to enter text. Independently design and undertake ethically responsible research, critically evaluating and synthesising current research and advanced scholarship, selecting and justifying appropriate methodologies, and generating defensible conclusions.	7	Responsible agency
P3	Exercise autonomy, initiative and professional judgement in the planning, management and delivery of complex AI and data analytics projects using appropriate project management methodologies.	7	Diversity of perspective

7. Programme Structure

For Undergraduate programmes (UG), each level must amount to at least **120 CATS** (60 ECTS).

Postgraduate (PGT) programmes must amount to at least 180 CATS (90ECTS), with exception to interim exit awards.

Programmes are staged in **Phases**, where each Phase relates to an exit award.

Compulsory modules must be taken by all students.

Option modules – you must choose one or more of the options available to this programme at this level and point. The option modules available from this list may vary from year to year, depending on student numbers and staff availability. Selection takes place during your studies, not before.

Programme structure notes (where relevant):

You will typically study one 15 credit module before moving onto the next.

Phase 1 (PT)

Module Name	Code	Credit	Level	Type	Term	Year PT	Pathway
Research Methods	OL71019A	15	7	Compulsory	Multi	N/A	N/A
Programming and Algorithms	OL71020A	15	7	Compulsory	Multi	N/A	N/A
Data Programming	OL71021A	15	7	Compulsory	Multi	N/A	N/A
Artificial Intelligence	OL71022A	15	7	Compulsory	Multi	N/A	N/A

Phase 2 (PT)

Module Name	Module Code	Credit	Level	Module Type	Term	Year PT	Pathway
Machine Learning	OL71024A	15	7	Compulsory	Multi	N/A	N/A
Natural Language Processing	OL71026A	15	7	Compulsory	Multi	N/A	N/A
Data Mining	TBC	15	7	Compulsory	Multi	N/A	N/A
Data Engineering and analytics for AI	TBC	15	7	Compulsory	Multi	N/A	N/A

Phase 3 (PT)

Module Name	Module Code	Credit	Level	Module Type	Term	Year PT	Pathway
Data Visualisation	TBC	15	7	Compulsory	Multi	N/A	N/A
Final Project	TBC	45	7	Compulsory	Multi	N/A	N/A

8. Learning, Teaching & Assessment

Learning & Teaching methods

Teaching will be via a range of formats to be as relevant as possible to the topic and learning outcomes. This may be through VLE content including recorded lectures, curated readings, structured formative activities, and forum discussions. It may have a mix of synchronous webinars and online activities, designed to give you the best learning experience and to make the most out of your learning experience. You are expected to attend all your timetabled learning activities.

Specifically, this programme will be taught in the following ways:
Each online module spans eight weeks. Weeks 1-7 include structured content, readings, formative activities, and assessment preparation tasks, while Week 8 is dedicated solely to assessment. Modules are delivered via Goldsmiths Moodle VLE, incorporating H5P and other interactive tools. Learning is organized into sequential, designed journeys that integrate multimedia elements graphics, video, interactive components, and linked readings within the activities. You will progress through one week at a time and may choose when to study during that period; therefore, time-specific activities should be avoided. Activity submissions are due the following Monday before midday. Optional live sessions may be scheduled in Week 1 (introduction and welcome), Week 5 (interactive assignment feedback), and Week 7 (assessment briefing and Q&A). Throughout the module, the online tutor provides guidance and feedback during the live run.

Assessment modes and approaches

You will be assessed in a range ways throughout your course. These will be both Formative (for feedback and development), and Summative (required to pass and progress to the next level). Summative assessments are compulsory.

Feedback is a crucial part of your learning and development in this programme. You will receive feedback both on your Formative (work in progress) tasks/assessments, and your Summative (graded) assessments. This feedback will help the assessment to be a part of your learning, not just a test. It may be verbal, written or video based. Please engage with this feedback to improve your future work.

Specifically, this programme will be assessed in the following ways:
Standard modules include one major assessment submitted in Week 8. Some modules require closed-book, invigilated exams delivered through an online exam portal, while others use portfolio-based assessments developed progressively throughout the module. Assessments should incorporate self-reflection and personalized elements to discourage reliance on AI tools. Additionally, an interactive challenge or other formative assessment with feedback is scheduled for Week 5.

Assessment diet (number of assessments for compulsory modules)

Mode	Level 3	Level 4	Level 5	Level 6	Level 7	Total
Coursework	0	0	0	0	1	1
Exam	0	0	0	0	4	4
Live	0	0	0	0	1	1

Mode	Level 3	Level 4	Level 5	Level 6	Level 7	Total
Portfolio (multi-modal)	0	0	0	0	4	4
Practical / multimedia	0	0	0	0	0	0
Written	0	0	0	0	1	1
TOTAL:	**0**	**0**	**0**	**0**	**11**	**11**
Of which...	**Individual:**	**11**	**Group:**	**0**		

9. Other information

Item	Information
a) Assessment regulations	https://www.gold.ac.uk/gam/taught-programmes/assessment/
b) Placement opportunities	N/A
c) Programme-specific requirements	Own PC with webcam and audio set-up for live webinars and seminars.
d) Programme specific costs and resources	N/A
e) Employability and potential career opportunities	Employers increasingly seek professionals who can turn raw data into actionable insights, build and deploy AI systems responsibly, communicate complex technical findings with clarity, and understand both the technical and ethical dimensions of artificial intelligence. The MSc AI & Data Analytics equips you with this blend of technical and professional skills. In the programme, you will have opportunities to work on the real-world industry datasets, helping them build confidence and practical experience that supports a variety of career pathways. Upon graduating you will be well prepared for high demand roles across technology, finance, healthcare, government, the creative industries, and emerging AI driven sectors. Typical job titles include: Data Analyst - analysing datasets, producing insights, dashboards, and reports for decision making. Data Scientist - building predictive models, statistical analysis, machine learning pipelines. AI Engineer / Machine Learning Engineer - designing, training, and deploying AI/ML models in production.

Item	Information
	Business Intelligence (BI) Analyst / Developer - developing dashboards, KPIs, and analytics systems. Data Engineer -building data pipelines, ETL processes, and cloud-based data infrastructure. Automation & AI Solutions Developer - creating intelligent automation workflows. Research Assistant / Research Scientist (AI/ML) - contributing to academic or industrial research projects. Quantitative Analyst (Finance) - applying statistical and ML methods to financial modelling. Risk Analyst / Fraud Analyst - using analytics to detect anomalies and support risk management. Doctoral study (PhD) in AI, machine learning, data science, or related fields. Entrepreneurship in AI driven products, analytics consulting, or automation services.

10. Academic support

There is a range of support available to you to give you the best possible chance of success in this programme.

Please see your tutors and student portal/VLE for details of what's available and how to access this support.

11. Curriculum map

Programme Learning Outcomes assessed by each module:

Module name	Code	Type	D1	D2	D3	F1	F2	F3	P1	P2	P3
Research Methods	TBC	Compulsory	☒	☒	☒	☐	☐	☒	☒	☒	☒
Programming and Algorithms	TBC	Compulsory	☒	☒	☒	☒	☒	☐	☐	☐	☒
Data Programming	TBC	Compulsory	☒	☒	☐	☒	☒	☒	☐	☐	☐
Artificial Intelligence	TBC	Compulsory	☒	☒	☒	☒	☒	☒	☐	☐	☐
Machine Learning	TBC	Compulsory	☒	☒	☐	☒	☒	☒	☐	☐	☐
Natural Language Processing	TBC	Compulsory	☒	☒	☐	☒	☒	☒	☐	☒	☐
Data Mining	TBC	Compulsory	☒	☒	☒	☒	☒	☒	☐	☐	☐
Big Data Analysis	TBC	Compulsory	☒	☒	☒	☒	☒	☒	☐	☒	☒
Data Visualisation	TBC	Compulsory	☐	☒	☒	☐	☒	☒	☒	☐	☐
Final Project	TBC	Compulsory	☒	☒	☒	☒	☒	☒	☒	☒	☒