Applied Artificial Intelligence and Data Analytics MSc Programme Specification

Academic Year:	2026/2027
Degree Awarding Body:	The University of Bradford, School of Management
Qualifications Framework:	HE Qualifications of UK Degree Awarding Bodies (FHEQ: QAA 2014)
Subject Benchmark:	Masters in Business and Management (Quality Assurance Agency 2019)
Target Degree Award:	Master of Science in Applied Artificial Intelligence and Data Analytics
Intermediate awards:	Postgraduate Diploma (PGD) in Applied Artificial Intelligence and Data Analytics; Postgraduate Certificate (PGC) Safe Artificial Intelligence; PGC Business Analytics and Safe Artificial Intelligence; PGC Artificial Intelligence and Data Analytics [Framework for Higher Education Qualifications Level 7]
Programme Admissions:	UK (all routes) and international (full time only)
Programme Start Date:	September and January
Modes of Study:	12 months full-time (September start) 15 months full-time (January start) 15 months full-time (September start with placement) 18 months full-time (January start with placement) 24 months part-time (September start) 24 months part-time (January start) 27 months part-time (September start with placement) 27 months part-time (January start with placement)

The University has a set of terms and conditions for all students accepting an offer to study on a course here at Bradford. This is called the Student Contract. This document sets out the Terms and Conditions which apply when an offer of a place on a programme of study at the University of Bradford is accepted. **View our Student Contract for further details**. Information about this programme and its modules has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but changes may occur given the interval between publishing and commencement of teaching. Any change which impacts the terms and conditions of an applicant's offer will be communicated to them.

Recent changes

1. September 2025: Annual changes for 2025/26 including new academic regulations.
2. May 2026: Annual changes for 2026 entry including admissions and updated references
3. November 2026: Fixed document display error and corrected credit values

Programme Aims

Today, the world is more data-driven than ever; and while specialist analytical, digital, data science, and artificial intelligence skills are in high demand, the supply is still very limited. There is a lack of experts in artificial intelligence, data science, and data analytics and this lack of

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expertise means that, currently, only few companies are actually able to exploit the full potential of their data sets and transform the same into competitive advantage.

The goal of this conversion course is to respond to the shortage of Artificial Intelligence (AI) and Data Science (DS) specialists in the UK, as evidenced by both market data Labour Market Report 2019 and by the Government's Digital Strategy, which states that "many jobs have a digital element, and it is predicted that within 20 years 90% of all jobs will require some element of digital skills". Applications of AI and data analytics form the modern toolkit for taking many disciplines and businesses forward and retaining future market relevance.

In line with this market and business need, the Framework for Higher Education Qualifications (FHEQ) Level 7 Postgraduate conversion course leading to an MSc in Applied Artificial Intelligence and Data Analytics is an exciting and focused programme that provides graduates with specialist and transferable knowledge and skill sets needed to enhance careers for applied AI and DS professionals, graduate analysts, technology consultants, or to start new tech-businesses. The course provides students with an applied understanding of AI and DS, with learners developing a critical understanding of relevant analytical frameworks in the context of contemporary issues. This programme offers students the opportunity to work on real-world briefs generated from project partners and the local community, thus ensuring impact.

The programme modules seek to equip students with the right tools, techniques and skills necessary to gain up-to-date knowledge and transferrable skills to secure employment in this exciting and increasingly critical area. The programme uses role models and mentorship opportunities, endeavouring to put students in contact with role models across their student journey, introducing them to successful alumni, professionals and employers. Each module has employability outcomes and students will further be able to develop their intellectual and employability skills via the Faculty's Career Booster professional development programme. Students will further be able to gain additional professional skills and certifications (micro-badges) through Amazon Web Services Academy and SAS (with a reduced examination fee to be borne by the student).

Some of the indicative content and themes of this course cover topics such as Machine Learning, Big Data, Visual Analytics, Government Data Analytics, Data Analytics in Healthcare, Digital Marketing, Safe AI, Project Management, Management Consulting, Entrepreneurship and Innovation, Developing Skills for Business Leadership, among others. Students develop both technical and non-technical skills.

- Among the technical skills, students will be equipped with knowledge of technical tools such as Python, R, SAS, SPSS, and Excel, among others. Furthermore, for course work/dissertation implementation purposes, students can choose to use either programming languages (like Python/R) or software/cloud/platforms for machine learning. This important differentiator allows far-STEM and near-STEM students to develop and implement technology on par with students entering the field with a STEM background.
- Among the non-technical skills, the programme prioritises the enhancement of business skills, such as project management skills, management consulting skills, entrepreneurship and innovation skills, and business leadership skills; and soft skills, such as data-driven decision-making and proactive problem-solving skills, critical thinking skills, situation-awareness skills, teamwork skills, effective communication skills, and presentation skills.

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Academic Student Journey

Students can choose to embark on the programme with or without placement. The variants of the programme are open to UK, home and international applicants. See the **Placement and Study Abroad Options** section for more details about the placement. The programme (excluding placement) is completed within 4 semesters. Full-time students entering the full-time programme in September or January study modules in a different order to each other as follows:

Table 1: Student journey comparison between September and January start

September Full-Time	Study Period and Year	January Full-Time Start
Start Taught Component with Semester 1 Modules	Autumn Semester 1, Year 1	/
Conclude Taught Component with Semester 2 Modules. Start Dissertation.	Spring Semester 2, Year 1	Start Taught Component with Semester 2 Modules
International Master's Summer School (Credit or attendance). Continuation of Dissertation.	Summer Semester 3, Year 1	International Master's Summer School (Credit or attendance). Start Dissertation.
Submission of Dissertation in September - complete programme and/or take placement. Graduation in December.	Autumn Semester 1, Year 2	Conclude Taught Component with Semester 2 Modules. Continuance of Dissertation.
/	Spring Semester 2, Year 2	Submission of Dissertation in March - complete programme and/or take placement.
/	Summer Semester 3, Year 2	Graduation in July.

Students studying part-time are expected to complete 4 taught modules a year. The model student journey is based on approximately 1 day attendance per week (subject to timetable). Part-time students may study the taught core modules in any order but must complete 60 credits before starting the dissertation.

Table 2: Example part-time study pattern starting in Autumn

Study period	Modules studied
Year 1, Autumn Semester 1	Two core modules
Year 1, Spring Semester 2	One core module and one option module
Year 2, full year	Work on AAIDA Capstone Dissertation
Year 2, Autumn Semester 1	Two core modules
Year 2, Spring Semester 2	One core module and one option module
Year 3, Autumn Semester 1	Elective integrated placement

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Programme Learning Outcomes

Students eligible for the FHEQ Level 7 Degree award of Master will be able to:

1. Explain and critically apply a range of state-of-the-art principles, concepts, methods, tools, and technologies in AI and DS, and discuss their current and potential application and impact in a variety of applied fields.

2. Define and apply machine learning techniques and big data technology, analytics, and associated business strategies which underpin the understanding and application of AI solutions in a range of applied fields.

3. Develop coding analytics skills and coding-free analytics skills relevant to the students' own applied fields.

4. Recognise and critically examine the legal, ethical, social, and moral considerations involved in the design, development, and implementation of AI methods, tools, and technologies in different fields.

5. Research, design, develop, and evaluate an AI solution or AI artefact in view of a practical problem, using relevant AI tools and techniques.

6. Demonstrate initiative and personal responsibility.

7. Demonstrate decision-making competence in complex and unpredictable situations.

8. Demonstrate independent learning ability required for continuing professional development.

9. Communicate complex ideas/ information and field-specific terminology clearly to a variety of specialist and non-specialist audiences.

10. Exhibit data analytics, research, and enquiry skills using library-based and online data sets, corporate sources and reports and produce an original, substantial, and complex project (with appropriate ethical approval) within a specified timeframe.

11. Develop and pitch creative/innovative ideas to given problems.

12. Consider and articulate issues of accessibility, inclusivity, and diversity in defining problems and proposing solutions.

Assessment Strategy

The programme is formatively and summative assessed by a mixture of assessed coursework, case studies, group projects and multimedia presentations. Assessment is integrated with learning and teaching to support and demonstrate achievement of the learning outcomes for individual modules and the programme as a whole. Emphasis is placed on the feedback function of formative assessment as part of the learning, teaching and assessment strategy as a whole. Overall, modules will seek to strike a balance between formative and summative assessments, all of which will be designed with the aim of developing a range of skills in students. Assessments will consist of a variety of tasks and will take different formats, and students will have an opportunity to demonstrate the achievement of a defined set of learning outcomes by having the

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option to choose the format in which they can present their learning. This will ensure that the assessments reflect the diversity of students and optimise inclusivity.

Learning outcomes 1 to 5 are focused on knowledge and subject-specific skills, needed to enhance careers for applied AI and DS professionals, graduate analysts, technology consultants, or to start new tech-businesses. They are assessed by a mixture of individual pieces of coursework and group work, including multimedia presentations.

Learning outcomes 6 to 12 are focused on practical and transferable skills, as well as professional behaviours which are so important to employability. They are assessed by a mixture of individual pieces of coursework and group work, including multimedia presentations.

Learning and Teaching Strategy

The programme aligns with the University's Access and Participation Plan (APP), which forms a key element of the University's overall strategy to position it as a sector-leader in creating and sustaining the conditions for holistic, inclusive learning that enables social mobility and progression into graduate employment. This alignment is demonstrated through the conversion course adopting the key principles of Active and Collaborative Learning.

Learning will be directed, supported, and reinforced through a combination of lectures, tutorials, seminars, labs, demonstration, project supervision, as well as through personal research and directed and self-directed study. These activities will all be further supported through face-to-face and online learning environment, within a blended-learning framework.

The programme will aim to integrate applied and theoretical knowledge with assessment processes that test both knowledge of the discipline and understanding of its application and limitations. To facilitate learning, lectures, tutorials, and seminars will be grounded in active and collaborative learning and will typically utilise case studies and problem-solving exercises. Sessions may be delivered weekly or in blocks. Small group sessions will use case studies and problem-solving exercises, with oral feedback given in class. Lab sessions will complement formal lectures and tutorials and will be an opportunity for students to do some hands-on-system work and focus on developing and practising both coding analytics skills and coding-free analytics skills.

Students will be guided to suitable primary and secondary (open access) data sources and be required to conduct research, analysis, and presentation exercises. Resources to support the teaching and learning activity will be provided on the University's virtual learning environment.

Curriculum

In the 120-credit taught stage of the programme, students will be introduced to a range of principles, methods, tools, and technologies in AI and DS, from fundamental to advanced, and how these can provide real-time support to relevant stakeholders in a variety of applied fields. Students will develop both coding analytics skills (using Python/R) and coding-free analytics skills using reputable platforms. Students will explore use cases and applications of AI and DS and will work collaboratively with peers on guided group projects to put their newly acquired subject-specific knowledge and skills into practice. Additionally, students will be equipped with a variety of non-technical skills and a strong business understanding in the context of industrial applications. Throughout these modules, students will gain knowledge of the role of data

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analytics for a modern business/organisation and the legal, social, moral, and ethical implications of AI.

Students will take 2 core 10-credit taught modules in Semester 2, which will equip students with knowledge of business leadership, entrepreneurship, and innovation skills: Developing Skills for Business Leadership, and Entrepreneurship and Innovation. To complete the 120 taught credits of the programme, module options are available from the Faculty's catalogue.

Students study 100 core credits and select 20 credits from 1-3 modules on the following list:

Table 3: Applied AI and Data Analytics Modules (core/option) FHEQ Level 7

Code	Module Title	Credit	Period	Selection
OIM7513-A	Blockchain in Business Digitalisation	10	Sem 1	Core
OIM7502-B	Business Data Analytics	20	Sem 1	Core
OIM7510-B	Responsible AI: Ethics, Law and Governance	20	Sem 1	Core
HRM7503-A	Developing Skills for Business Leadership	10	Sem 1	Option 1
MAR7509-A	Digital Marketing Metrics	10	Sem 1	Option 2
COS7046-B	Big Data Visualisation	20	Sem 1	Option 3
OIM7508-B	Applied Machine Learning and Big Data Strategy	20	Sem 2	Core
OIM7507-B	Artificial Intelligence and Data Science	20	Sem 2	Core
EAE7503-A	Technopreneurship and Innovation	10	Sem 2	Core
SIB7506-A	International Masters Summer School	10	Sem 3	Option 4
SIB7505-A	Corporate and Social Responsibility	10	Sem 2	Option 5
SIB7507-Z	International Master's Summer School (attendance only)	0	Sem 3	Option

This programme offers the Summer School as attendance only (Z) which allows you to select a 2nd or 3rd module within your 20 credits. You may not study SIB7506-A and SIB7507-Z together.

If students choose Big Data Visualisation (COS7046-B) as their option, they will not select a Semester 2 option, as they have selected 20 credits. It is advised that only students with advanced technical skills, from a STEM background, undertake this module, as it is delivered by the School of Computing and Engineering.

Table 4: Applied AI and Data Analytics Dissertation (FHEQ Level 7)

Code	Module Title	Credit	Period	Selection
MAL7504-E	Applied Artificial Intelligence and Data Analytics Capstone Dissertation	60	NSYR	Core

The capstone dissertation assesses all programme learning outcomes and aims to bring together the professional skills and knowledge developed and/or acquired by the students in the previous stage of taught components. It focuses on the development of students as AI as DS professionals

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in industry. Alongside this dissertation, students will hone a variety of non-technical skills and a strong business understanding in the context of industrial applications.

Students are strongly encouraged to apply relevant analytics and AI techniques developed throughout the programme, where appropriate and aligned with the research question, as outlined in the assessment brief

Placement and Study Abroad Options

Further information about internships and placements and study abroad opportunities is published on the University's website.

Study Abroad

This programme is not designed to include a study abroad component. We do not recommend you take up "study abroad semester" opportunities while studying on this programme. This is due to the unique Applied AI and Data Analytics core modules being studied across both semesters. Students can still explore opportunities for short international activities (1-6 weeks) that are held over the summer periods by speaking to the University International Opportunities team.

Work Placement

Placements are a fantastic way of building on the professional skills developed during the programme and boosting students' practical industry experience prior to going into employment.

The programme with placement includes a 3-month work placement at the end of the 12-month full-time programme (making this a 15-month degree) or at the end of the 24-month part-time programme (making this a 27-month degree). The placement element is an integral part of the programme and is embedded into the programme. Students complete the placement module with non-credit bearing assessment. Nevertheless, completing the placement is not dependent on getting the degree.

Table 5: Applied AI and Data Analytics Placement (FHEQ Level 7)

Module Code	Module Title	Credit	Period	Selection
OIM7509-Z	Placement: Artificial Intelligence	0	Sem 1	Placement (September Course Start)
OIM7509-Z	Placement: Artificial Intelligence	0	NSYR	Placement (January Course Start)

Placements will be sourced either by University of Bradford or student (via the university's Career and Employability Services). Paid placements to underrepresented groups can be offered to Go Higher West Yorkshire (GHWY) members and other collaborators, and to our Tier 1 students with start-up companies based on campus.

Students who wish to participate in a work placement will be required to apply for and make the most of their chosen opportunity and will be supported in doing so by the Programme Team as well as the central University Careers and Employability Service. Any placement is subject to approval by the Programme Team.

Under certain circumstances, it may be possible to take the placement overseas.

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Assessment, Continuation and Award Regulations

This programme follows the Assessment, Continuation and Award regulations published on the University's website for postgraduate courses (**Regulation 9**).

Award of the Masters degree requires 180 FHEQ Level 7 credits and achievement of the award learning outcomes. Students who exit the programme with 120 or 60 credits completed may be eligible for an intermediate award in line with the regulations.

The **Masters degree** and **Postgraduate Diploma** award are titled "Applied Artificial Intelligence and Data Analytics". Students will be eligible to exit with the award of **Postgraduate Certificate** if they have successfully completed 60 credits, with the following possible titles:

- PgCert Applied Artificial Intelligence and Data Analytics: Completing 60 credits including OIM7507-B AND/OR OIM7508-B.
- PgCert Business Analytics and Safe Artificial Intelligence: Completing 60 credits including both OIM7502-B AND OIM7510-B.
- PgCert Safe Artificial Intelligence: Completing 60 credits including OIM7510-B.
- PgCert Business Analytics: Completing 60 credits including OIM7502-B.

Admissions Requirements

We are proud to be **one of the most inclusive universities in the UK**. All our students have potential, and we believe that as many people as possible should have the chance to benefit from higher education, no matter what their background or circumstances.

We take the time to understand the background of our applicants, understand their journey to education, and make decisions based on an applicant's potential to thrive at university and beyond.

People thinking of studying with the University of Bradford don't need to wait for the start of the year to contact our Disability Service. The University can arrange for anyone to talk to this team about what support is on offer at Bradford including an invitation to our Get Set Day. To contact the Disability Service please complete the **request support form**.

As the programme is taught in English, all applicants are required to have GCSE Grade 4 (national grade C) or above in English Language. Alternative RQF Level 2 qualifications such as Key Skills are also acceptable if equivalent. For international students, the level of English required is listed on the **University of Bradford English language requirements website**. Exceptionally, holders of a UK degree awarded within 2 years prior to entry to the University of Bradford programme may be exempt from these English test requirements.

Applicants typically have at least an undergraduate degree passed at 50% or above, such as an Honours degree of Bachelor classified 2:2, or equivalent from an accredited higher education institution.

The programme is aimed at existing graduates interested in acquiring specialist and transferable knowledge and skill sets needed to enhance careers for applied Artificial Intelligence and Data Science professionals, graduate analysts, technology consultants, or to start new tech-businesses.

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Applications are welcome from students with non-standard qualifications and/or students without formal qualifications who have at least 3 years relevant full time work experience. For such applicants, evidence of their interests and work experience would be required and this would likely take the form of a work certificate/portfolio. Applicants applying through this route will be assessed on an interview basis.

If applicants have prior certificated learning or professional experience which may be equivalent to parts of this programme, the University of Bradford has procedures to evaluate and recognise this learning to provide applicants with exemptions from specified modules or parts of the programme. Find more information about **recognition of prior learning decisions** on the University website.

Information in this document is for the contemporary recruitment cycle and was accurate at time of publication. The current tariff and accepted qualifications for entry onto the programme is published at the online course page:
https://www.bradford.ac.uk/courses/pg/applied-artificial-intelligence-and-data-analytics

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