

## Master of Science in Financial Technology (FinTech) Programme Specification

<https://www.bradford.ac.uk/courses/pg/financial-technology/>

### PROGRAMME DETAILS

<b>Academic Year</b>	2021-22
<b>Framework for Higher Education Qualifications (FHEQ) Level</b>	Final and Interim Award(s)
<b>FHEQ Level 7</b>	MSc in Financial Technology
<b>FHEQ Level 7</b>	Postgraduate Diploma Financial Technology
<b>FHEQ Level 7</b>	Postgraduate Certificate Financial Technology
<b>Entry and Modes of Study</b>	<ol style="list-style-type: none"> <li>1. September intake – 12 months</li> <li>2. January intake – 15 months</li> </ol>
<b>Degree Awarding Body</b>	University of Bradford
<b>Faculty</b>	Management, Law and Social Sciences
<b>Accrediting Body</b>	ACCA qualification exemptions applies
<b>External Frameworks/ Reference Points</b>	QAA Subject Benchmark Statement for Finance
<b>Date of Original Approval</b>	July 2021

**Please note:** This programme specification 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. Upon commencement of the programme, students will receive further detail about their course and any minor changes will be discussed and/or communicated at this point.

### REVIEW/MODIFICATION SCHEDULE

Date	Review/Modification Activity Since Last Publication
August 21	Annual update for 2021 academic year
October 21	Minor amends and corrected module codes

## PROGRAMME AIMS

Where did the idea for this programme originate?

Financial technology (abbreviated fintech or FinTech) is the technology and innovation that aims to compete with traditional financial methods in the delivery of financial services. The rise of FinTech has permanently changed the way companies do business. It has never been easier and cheaper to not only start up your business but also to expand it. The idea for developing this programme is originated from:

- **Change in financial services career path:** According to a global survey, 47% of financial services employees believe technology is putting their job at risk. The growing tendency of financial institutions to cut jobs in favour of automation has become a worrying phenomenon. Also, McKinsey predicted that automation may wipe out up to 30% of the hours worked globally by 2030, suggesting that every professional – especially in financial services – must plan for the effect of the digital transformation on their career.
- **FinTech professionals & In-Demand skills:** Fintech is one of the world's fastest-growing and in-demand industries. As FinTech gains momentum year on year, there is a huge demand for professionals with specific Tech skills such as Blockchain & Distributed Ledger Experts, programming skills, Machine learning, artificial intelligence and deep learning, cybersecurity expertise.

What makes this programme unique and how will students benefit from it?

This programme is designed to provide the student with a thorough grounding in the multiple disciplines of finance, FinTech and data analytics, underpinned by the main concepts and theories. The programme uses industry-specific cases from our contacts in the FinTech sector to train students how to blend and practice the relevant skills (i.e., Tech, finance, and people skills) in solving problems. While the programme focuses on technical innovations in finance, students also gain insight into how ethics, regulation, financial governance, and risk management contribute to their essential knowledge.

What type of graduate does this programme aim to produce?

In line with the change in business and jobs landscape, the Level 7 MSc Degree in FinTech will be a new exciting and focused programme that equips you with the new requirements and skills of the job market in the financial sector and secures a career in the financial service field. Graduates will achieve three essential required skills for this field such as tech skills (e.g., the ability of programming, solid understanding of artificial intelligence and machine learning, cryptocurrency and blockchain), finance skills (e.g., understanding of financial institutions, instruments, and markets, asset pricing and risk management), and people skills (e.g., ethics, emotional intelligence, communication, creativity, problem-solving, adaptability, and team working) and gain insights how to apply those skills into practice.

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The programme is not aimed at preparing you for a particular professional path, instead, it seeks to develop your critical thinking, research, analytical and communication skills which will help you succeed in your chosen field. Therefore, the programme is of interest to anyone wishing to deepen their understanding of FinTech and graduates are likely to go on to pursue a variety of paths including careers in business, teaching, and academia.

**How will the proposed programme benefit the discipline, employment sector and/or community?**

During the last few decades, technology has penetrated and transformed the major sectors in the UK, and the financial sector is not an exception. FinTech has disrupted most of the aspects of the industry and has challenged traditional banking and financial services.

Despite the concerns about Brexit and fears that investment will plunge, FinTech has continued to grow every year. This rapid growth of FinTech (especially start-ups) has been in a variety of ranges from heavy tech-focused roles to a whole host of other graduate jobs such as operations, sales, marketing and many more. Due to such a huge variety of graduate jobs on offer, FinTech companies will be looking for candidates from alternative degree backgrounds and skillsets.

Also, local FinTech start-ups, SMEs, Tech firms and other businesses could take advantage of this programme as a provider of knowledge and trainer of well-equipped graduates who can bring innovative and tech-based ideas into their businesses.

Therefore, this programme is intended to:

- A1.** Deliver a programme of study in Financial Technology that is contemporary, of policy and practical relevance, and reflects the expertise of the School and Faculty.
- A2.** Develop your competence in a range of subject knowledge and understanding, and necessary analytical and personal skills to enable you to pursue varying careers in the financial industry.
- A3.** Develop a critical awareness of the current issues and complexities affecting the financial industry and the knowledge, skills, and expertise to assist organisations in achieving a sustainable business future.
- A4.** Encourage participative, independent, and reflective learning and the development of personal and professional skills.
- A5.** Equip you to have mastery of the subject, conduct effective research and critically analyse and assess the specific areas of study undertaken and apply this learning in the relevant practical context.

MSc Programme in FinTech is about disrupting the financial system's core functions by

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innovations and how they could help efforts to align financing with sustainable development; therefore, this programme is in line with the new strategy and mission of the University of Bradford in driving sustainable social and economic development through outstanding teaching, research, and innovation.

The graduates of this programme will equip with knowledge, skills, and innovative analysis of how advances in three digital technologies – blockchain, machine learning and artificial intelligence (MLAI) and the Internet of Things (IoT) – could lead to revolutionary innovations for building trust, transparency and traceability for financial transactions and make tomorrow's financial system far more efficient in mobilizing green finance.

This programme is developed under the accounting, finance, and economics (AFE) research centre of the school of management. The AFE centre brings together a dynamic group of younger and more experienced academics in a multi-disciplinary team with substantial experience and expertise in financial technology, blockchain, machine learning and artificial intelligence, corporate finance, international finance, accounting, etc. The primary research focus of the AFE centre is on financial and economic decision making, based on the use of new technologies for advanced analytics and modelling. To enrich the portfolio of programme context and expertise, the programme includes modules from other research centres such as Business Data Analytics.

The programme is in line with the QAA subject benchmark for finance in terms of:

- 1) the principal of this programme that is a joint course of finance with technology;
- 2) the nature and extent of the programme that requires students to study the design and operation of financial systems, structures, and instruments and, in particular, measuring and managing risk, and pricing assets using advance technologies (e.g., AI and machine learning);
- 3) subject-specific knowledge and skills including an ability to interpret financial data, understanding of the relationship between financial theory and empirical testing, and application of this knowledge to the appraisal of the empirical evidence using advanced technologies;
- 4) cognitive abilities and generic skills, including numeracy, the processing and analysis of financial and other numerical data and the appreciation of statistical concepts at an appropriate level.

The programme aligns with 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*:

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- We ensure the accessibility of the programme to students from diverse backgrounds, various career trajectories, and those who for any reason cannot study on-campus or full-time.
- This programme considers inclusivity and diversity in defining problems, case studies, and coursework as well as modules' study sources. Further, you are encouraged to consider inclusivity in choosing research topics for the final dissertation.
- Respect, fairness, and inclusion are integral to our culture and values, and we ensure that all students, staff, and visitors are treated fairly, and with dignity and respect.

## PROGRAMME LEARNING OUTCOMES

Upon successful completion of this program, you will be able to demonstrate the achievement of the following learning outcomes:

### **Subject Knowledge and Skills:**

1. Demonstrate detailed, in-depth knowledge of current developments in FinTech and its impact on investors, the financial services industry, markets, and the global economy.
2. Explore contemporary issues in blockchain, Artificial intelligence and machine learning, crypto assets, Ethics, regulation, and compliance procedures within the FinTech industry.
3. Explain and critically apply a range of state-of-the-art principles, concepts, methods, tools, and technologies in ML and AI, and discuss their current and potential application and impact in the field of finance.
4. Evaluate critically current research and methodologies of discipline, and develop critiques of them and, where appropriate, propose new hypotheses.

### **Practical and Transferable Skills:**

5. Demonstrate the qualities and transferable skills of creativity, innovation, and the ability to come up with new ideas and to problem solve across a range of academic disciplines.
6. Demonstrate the qualities and transferable skills of flexibility and industry variability to work in a complex, innovative, and unpredictable environment.

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7. Demonstrate the qualities and transferable skills of emotional intelligence, communication, and teamwork.
8. Demonstrate the qualities and transferable skills of initiative and personal responsibility for decision-making in complex and unpredictable contexts.
9. Demonstrate the qualities and transferable skills of self-study and independent personal learning in a way that meets their individual needs.

### Professional Behaviours:

10. Commit to their own personal and professional development, having acquired lifelong learning skills, and developed a desire to make a difference in the world.
11. Have experience of the world of work and have developed relevant employability skills, attitudes and behaviours including self-awareness, a commitment to equality and diversity and cultural competence.
12. Consider and articulate issues of accessibility, inclusivity, and diversity in defining problems and proposing solutions.
13. Consider and commit to economic, social, and environmental sustainability from a local to a global level.

## ADMISSIONS REQUIREMENTS

We take into consideration a number of factors when assessing your application. It is not just about your grades; we carefully look to understand your personal circumstances and make decisions based on your potential to thrive at university and beyond. We consider the policy of the University of Bradford related to equality, diversity and inclusion in the admission of protected characteristics such as age, disability, gender reassignment, race, religion/belief, sex, and sexual orientation: <https://www.bradford.ac.uk/equality-and-diversity/>

The University welcomes applications from all prospective students and most important in the decision to offer a place is our assessment of a candidate's potential to benefit from their studies and of their ability to succeed in this programme.

The programme is aimed at graduates interested in acquiring specialist and transferable knowledge and skillsets needed to enhance careers for Financial Technology such as Blockchain developer, App developer, financial or business analysts, product manager, compliance expert, data scientist, quantitative analyst or to start new FinTech startup.

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Consideration of applications will be based on a combination of formal academic qualifications and other relevant experience.

Candidates for the M.Sc. in Financial Technology (FinTech) will normally have a 2:2 UK degree or its equivalent in any discipline (in any STEM or non-STEM-related subjects) from an approved higher education institution.

Mature students will be considered on a case-by-case basis.

Applications are welcome from students with non-standard qualifications and/or students without formal qualifications who have relevant 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. Applicants will be fairly assessed on an interview basis with programme team.

As the programme is delivered entirely in English, applicants must be able to demonstrate proficiency in the English language; thus, UK educated students must have a GCSE grade 4 (C) or above. Non-native speakers must have a 6.0 overall score on the IELTS test of English (with no sub-test less than 5.5) or 94 on the internet-based TOEFL - exceptionally, holders of a UK degree awarded within 2 years before entry to the University of Bradford programme may be exempt from these English test requirements.

The current tariff and accepted qualifications for entry into the programme is published at <https://www.bradford.ac.uk/money/fees/>

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At the beginning of the course, during induction week, students will attend an induction session, which will provide them with the information necessary to study in this programme. Also, there is a 'Meet the programme Leader' session wherein you can understand programme from PL in detail and resolve any query.

The Financial Technology programme comprises a taught component and a research element. The students will study 120 credits of taught modules and undertake 60 credits of independent research projects which culminates in the writing of their dissertation.

There will be two cohorts of students in each academic year- a September and January intake. The two cohorts will run alongside each other, with students in January studying modules in a different order to the September intake. The January intake will commence the programme by studying semester 2 modules and complete the taught element of their programme alongside the September cohort. However, they start their dissertation in the

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summer by choosing their topic and knowing their supervisors. The January intake will have until March of the following year to complete their dissertation/advanced research report, thereby completing their studies in 15 months.

The dissertation is a 60-credit module and provides the student with the opportunity to research and prepare a substantial analysis of a specialist area of interest to them as well as demonstrate understanding of the complex policy and practical dimension of the subject, thereby preparing them with the knowledge and skills for their chosen career.

### Taught Components

#### Aims/Outcomes

The 120 credits taught component aims to introduce a wide array of knowledge on finance and financial technology. To be more specific, one modified existing module (i.e., Fundamentals of Financial Technology, Blockchain, and Value Creation (AFE7510)) and two new 20-credit modules (i.e., Machine Learning & Artificial Intelligence in Finance and FinTech Regulation, Compliance, Ethics and Risk Management) in addition to the optional module of Business Data Analytics (OIM7502) will equip students with a strong understanding of cutting edge knowledge on finance applications of blockchain technology, digital currencies, Big Data, and machine learning techniques. Developing programming skills in R is embedded in two first semester modules of Quantitative Methods in Finance (AFE7501) and Fundamentals of Financial Technology, Blockchain, and Value Creation (AFE7510). Also, developing programming skills in Python is embedded in the second-semester module Machine Learning & Artificial Intelligence in Finance. Additionally, the new module of FinTech Regulation, Compliance, Ethics and Risk Management will equip students with an understanding of ethics and the concept of risk (e.g., compliance, operational, and technology), risk management, regulation, and compliance in FinTech.

Students will develop and customize their finance skills in a variety of core and optional modules such as AFE7501, AFE7503, AFE7509 and AFE7511.

The combination of modules teaching content and method, learning and assessments strategies will help students to develop skills such as emotional intelligence, communication, and other people skills such as creativity, problem-solving, adaptability, flexibility, and creativity.

#### Modules

Students will take **80 credits core taught modules** (4 core 20-credit taught modules):

- 1) Fundamentals of Financial Technology, Blockchain and Value Creation
- 2) Quantitative Methods in Finance
- 3) Machine Learning & Artificial Intelligence in Finance



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### 4) FinTech Regulation, Compliance, Ethics and Risk Management

Module 1 provides students with a conceptual understanding of financial technology, Blockchain, and the way to create value in the FinTech industry. In addition, the module introduces the ethical issues to the use of new technologies in financial services. Also, the skill of programming in R is embedded in this module.

Module 2 provides students with the conceptual understanding and core technical skills in the fields of mathematics, econometrics and statistics that enable them to pursue advanced specialist study in finance. Also, the skill of programming in R is embedded in this module.

Module 3 provides knowledge of computer algorithms to learn from data for different purposes such as forecasting, algorithmic trading, investment analysis, etc. Also, the skill of programming in Python is embedded in this module.

Module 4 introduces students to current developments in FinTech with respect to regulation, governance, compliance, Ethics, and risk management. It explores contemporary FinTech regulation and compliance procedures as well as ethical issues in employing new technologies in financial services.

Students will be required to choose **40 credits from the list of the available/given optional modules** from the list of modules in the programme. This choice allows the students to customize their master's programme in line with their career interests and aspirations while aiming to enhance their finance and people skills.

FHEQ Level	Module Title	Core/Optional	Credit	Study Period	Module Code
7	Fundamentals of Financial Technology, Blockchain, and Value Creation	Core	20	Sem 1	AFE7517-B
7	Quantitative Methods in Finance	Core	20	Sem 1	AFE7501-B
7	Asset Pricing & Financial Markets	Optional	20	Sem 1	AFE7503-B
7	Business Data Analytics	Optional	20	Sem 1	OIM7502-B
7	FinTech Regulation, Compliance, Ethics and Risk Management	Core	20	Sem 2	AFE7516-B
7	Machine Learning & Artificial Intelligence in Finance	Core	20	Sem 2	AFE7518-B
7	Accounting and Finance	Optional	10	Sem 2	AFE7511-A
7	Corporate Finance	Optional	10	Sem 2	AFE7513-A
7	International Finance	Optional	10	Sem 2	AFE7508-A

None of the modules of these programmes is a pre-requisite for the other one, although there is integration in the core modules of these programmes. For example, two modules of “Fundamental of FinTech, Blockchain and value Creation”, and “FinTech Regulation, Compliance, Ethics and Risk management” which are offered in the first semester

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integrate with the context of “Machine Learning and AI in Finance” to develop required knowledge and skills for students.

### Dissertation Component

#### Aims/Outcomes

In this component, students apply the skills and knowledge developed during the taught modules to solving a real-world research question at the intersection of finance/technology. The modules studied, in addition to a taught component of the dissertation module will provide the student with the subject knowledge and skills necessary to complete the final research dissertation. Students should study research topics theoretically and/or empirically by validating potential hypotheses against various credible data sources to provide a significant insightful perspective.

#### Module

FHEQ Level	Module Title	Core/ Optional	Credit	Study Period	Module Code
7	Dissertation	Core	60	Full Year	MAL7502-E

### Student Journey

Please note that we considered the following items in the sequence and distribution of modules in semesters:

- None of the modules is a pre-requisite for the others and as such the January intake students will not be disadvantaged.
- The core modules are distributed equally in two semesters (i.e., two 20-credit core modules in each semester).
- The curriculum may change, subject to the University’s programme approval, monitoring, and review procedures.

You will be eligible to exit with the award of “Postgraduate Certificate” if they have completed 60 credits and achieved the required learning outcomes. Successful completion of two core modules is required for the award to Postgraduate Certificate. Please note that completion of just 60 credit “dissertation” does not qualify you for the exit with Postgraduate Certificate.

You will be eligible to exit with the award of “Postgraduate Diploma” if you have completed 120 credits and achieved the required learning outcomes.

You will be eligible for the award of a “master’s degree” if you have completed 180 credits and achieved the required learning outcomes.

# PROGRAMME STRUCTURE

Following is a comparison of the student journey on the programme between September and January starters.

On-Campus MSc in FinTech Modules Delivery			
Semester	Full-time Delivery September	Semester	Full-time Delivery January
Semester 1 (Autumn)  October-December	<p>Two core modules (20 credits each):</p> <ul style="list-style-type: none"> <li>➤ Quantitative Methods in Finance (Level 7) AFE7501-B</li> <li>➤ Fundamentals of Financial Technology, Blockchain, and Value Creation (Level 7) AFE7517-B</li> </ul> <p>Plus, one optional module (20 credits each), from:</p> <ul style="list-style-type: none"> <li>➤ Business Data Analytics (Level 7) OIM7502</li> <li>➤ Asset Pricing &amp; Financial Markets (Level 7) AFE7503-B</li> </ul>	Semester 2 (Spring)  January – March	<p>Two core modules (20 credits each):</p> <p>Machine Learning &amp; Artificial Intelligence in Finance (Level 7) AFE7518-B</p> <p>FinTech Regulation, Compliance, Ethics and Risk Management (Level 7) AFE7516-B</p> <p>Plus, two optional modules (10 credits), from:</p> <p>International Finance (Level 7) AFE7508-A</p> <p>Corporate Finance (Level 7) AFE7513-A</p> <p>Accounting and Finance (Level 7) AFE7511-A</p>
	Coursework submission & Exam period		Coursework submission & Exam period
		Semester 3 (Summer) June – September	<b>Start of Dissertation MAL7501-E (60 credits)</b> + Dissertation supervisor allocated
Semester 2 (Spring)  January – March	<p>Two core modules (20 credits each):</p> <p>Machine Learning &amp; Artificial Intelligence in Finance (Level 7) AFE7518-B</p> <p>FinTech Regulation, Compliance, Ethics and Risk Management (Level 7) AFE7516-B</p>	Semester 1 (Autumn)  October-December	<p>Two core modules (20 credits each):</p> <p>Quantitative Methods in Finance (Level 7) AFE7501-B</p> <p>Fundamentals of Financial Technology, Blockchain, and Value Creation (Level 7) AFE7517-B</p>

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	<p>Plus, two optional modules (10 credits), from:</p> <p>International Finance (Level 7) AFE7508-A</p> <p>Corporate Finance (Level 7) AFE7513-A</p> <p>Accounting and Finance (Level 7) AFE7511-A</p>		<p>Plus, one optional module (20 credits each), from:</p> <p>Business Data Analytics (Level 7) OIM7502-B</p> <p>Asset Pricing &amp; Financial Markets (Level 7) AFE7503-B</p>
	<i>Coursework submission &amp; Exam period</i>		<i>Coursework submission &amp; Exam period</i>
<i>Semester 3 (Summer)</i> <i>June – September</i>	<p>Dissertation MAL7501-E</p> <p><i>Submission of Dissertation</i> (end of September)</p>	<i>Semester 2 (Spring)</i> <i>January – March</i>	<p>Continuation Dissertation</p> <p><i>Submission of Dissertation</i> (end of March)</p>

## LEARNING, TEACHING AND ASSESSMENT STRATEGY

### Learning and Teaching Strategy

The FinTech programme aims to integrate applied and theoretical knowledge with assessment processes that test both the knowledge of the discipline and understanding of its application and limitations. To this end, the learning, teaching, and assessment strategy for this programme have been developed to help the student build their knowledge over the period of study to develop their research, critical thinking and writing skills.

The learning will be directed, supported, and reinforced through a combination of lectures, tutorials, seminars, labs, project supervision, as well as through personal research and directed and self-directed study. These activities will all be further supported using a virtual learning environment (VLE).

To facilitate learning, lectures will be grounded in active and collaborative learning and will typically utilise expertise from the school of management faculty, industry experts, case studies and problem-solving exercises. The nature of the collaborative activities varies, though typically students may be required to engage as a group, develop and discuss a case(s)/scenario and provide solutions based on sound analysis and logical arguments using information from varying sources. Students also will use the expertise of their peers and will gain the skills to lead start-ups and companies into the fintech revolution. Constructive feedback is provided by peers and the module leader/tutor during the teaching sessions.

Tutorials will be in the format of discussion-based, problem-solving and/or review and Q&A sessions, with oral feedback given in class. Lab sessions will complement formal

## LEARNING, TEACHING AND ASSESSMENT STRATEGY

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.

Learning of the required skills of finance, tech and people are embedded throughout programme delivery as follows:

### **Modules, Tutorials and Assessment.**

A significant part of developing required skills in this programme is embedded in module lectures, tutorials as well as module assessment. Visiting and guest lectures from industry practitioners across different modules are planned to nurture those skills.

***Finance skills** will be delivered in the following modules:*

- 1) Quantitative Methods in Finance;
- 2) Asset Pricing & Financial Markets;
- 3) International Finance;
- 4) Corporate Financial Management;
- 5) Accounting & Finance

Students will experience collaborative lectures and interactive activities, where the related concepts and theories to finance are delivered. Tutorial sessions allow students to interact and discuss the content of the previous lecture. The tutorial learning context provides opportunities for students to engage more thoughtfully with the course concepts and discipline knowledge.

***Tech skills** will be developed in the following modules:*

- 1) Fundamentals of Financial Technology, Blockchain, and Value Creation;
- 2) Machine Learning & Artificial Intelligence in finance;
- 3) FinTech Regulation, Compliance, Ethics and Risk Management;
- 4) Business Data Analytics

Lectures will present the main concepts, theories related to FinTech and the application of technology in finance. One of the inevitable tech skills for the profession in FinTech is programming in the most common programming environments of the field, i.e., R and Python.

- **Python** – in module Machine learning (ML) & AI in finance (Sem 2): each 2-hour lecture consist of explaining the theoretical context of ML following by application of theories using real-data in Python. For this, the programming in Python will be taught to students step-by-step with adequate examples and

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practices. Students will be given some real-world tasks and cases to solve. 1-hour tutorial is allocated to providing answers and discussion on tasks and cases.

- **R** – two modules of “Quantitative Methods in Finance” and “Fundamentals of Financial Technology, Blockchain, and Value Creation” involve step-by-step learning of R programming. The focus of the former module is on the application of R in econometrics and advanced statistics and the latter focus on the application of R in FinTech. Tutorial sessions and coursework challenge students with real cases and problems and push students to make their hands dirty with real datasets.

*People skills are developed throughout the programme:*

- Lectures and tutorials give students the opportunity to develop people skills. The interaction of students during lectures and tutorials will develop their oral communication. Group-based discussion and student presentation during lectures, and group-based case studies during tutorials will improve their team-working, critical thinking, and problem-solving skills.
- All the above-mentioned modules will be assessed using a combination of individual coursework or group-based coursework and presentations which facilitates the development of team-working, emotional intelligence, communication, personal responsibility for decision making, accessibility, inclusivity, and diversity in defining problems and proposing solutions etc.
- Interaction with supervisor during the process of preparing dissertation will develop the skills of communication, personal responsibility and decision making, inclusivity, and diversity in defining problems and proposing solutions etc.

*Ethics in Financial Technology is covered throughout the programme:*

The context of Ethics in FinTech will be covered in two modules of “Fundamentals of Financial Technology, Blockchain, and Value Creation” (Sem1) and “FinTech regulation, compliance, Ethics and Risk Management” (Sem2). Specifically, the following key ethical concerns are covered in these two modules:

- The impact of increasingly pre-emptive, data-driven approaches to financial decision-making for consumer privacy and autonomy, particularly the ability of individuals to determine and manage their own (financial) identities.
- The scope for bias and discrimination against vulnerable persons due to the use of these technologies.

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- Unfair price discrimination, and the implications of predictive risk measurement for those whose perceived riskiness increases as a result (i.e., the problem of too much information).
- The power differential between the large-scale financial institutions and the small scale customers, which suggests big financial institutions should be subject to greater ethical scrutiny and responsibility than retail customers.

### Optional Workshops for FinTech programme

We will hold targeted short-term online workshops that are specifically serving the FinTech program. for example, we plan to hold series of workshops on **understanding the challenges of local start-up/FinTech companies**. Students are invited to attend other Bradford seminars and research talk series. We also encourage students to attend Library workshop series on research, access to databases etc.

The career booster, as an extra-curricular activity, offer more workshops regarding these skills. We plan to hold workshops about R and Python during career booster. We currently hold workshops on SAS, STATA, and SPSS as other famous programming software in the field of business.

### Supporting returning students to study:

As a returning student to study or mature student, you will not be treated any differently during the study, but there will be a support mechanism available throughout the programme duration. You will be allocated a Personal Academic Tutor who provides extra help and guidance on how to get back to study. You also will be offered extra training workshops (e.g., research skills and tools, computer skills etc.) by library and career booster week to fill the possible gaps of your study and get back on track.

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### Assessment Strategy

The assessment strategy on this programme is robust, adopting a range of assessment methods, thereby and aiming to be inclusive, and giving students the opportunity to play to their strengths while also developing areas of weakness.

The skills and knowledge developed throughout the programme are formatively and summatively assessed by a mixture of written examinations, assessed coursework, 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.

There is a balance of formative and summative assessments, including feedback during individual and group tasks to ensure that students are supported effectively in their learning and can produce their best work for the summative assessment. Formative

## LEARNING, TEACHING AND ASSESSMENT STRATEGY

assessment is built into specific modules but not all, the expectation is that, as the students develop as independent learners, they will need to rely less on this form of support and can transfer the skills learned from one module to another. Emphasis is placed on the feedback function of formative assessment as part of the learning, teaching, and assessment strategy. Besides, feedback of summative assessment helps Master students to understand the marks they have been given, know what/where to improve for future assessments, and understand their progress against learning outcomes.

Modules and tutorials include formative feedback techniques such as many interactive classroom activities, short case studies from industry, online quizzes through an interactive framework (e.g., Socrative, poll everywhere, and zoom) that are complemented with feedback. This formative feedback builds student's learning and helps them through the final summative assignment. Further, it identifies areas for teaching improvement and evaluates how much students and the class has learned.

Also, the programme aims to improve the "assessment literacy" of students – ensuring that students fully understand the purpose and methods of assessment, how it relates to learning outcomes, the criteria by which it will be marked etc. Active engagement of Master students in the assessment will help them develop capabilities in analysing their learning, and the ability to critically reflect on their work, recognise where improvement is needed and plan how to achieve it.

Learning outcomes 1 to 4 are focused on knowledge and subject-specific skills, needed to enhance careers for FinTech and Finance 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, as well as closed book examinations.

Learning outcomes 5 to 13 are focused on practical and transferable skills, as well as professional behaviours, that are so important to employability. They are assessed by a mixture of closed-book examinations and individual pieces of coursework and group work.

The dissertation assesses all learning outcomes and is mandatory. Students have the opportunity to interact with their supervisors during the process of working on their dissertation. Students can reflect on the provided feedback from their supervisors, recognise where improvement is needed and plan to achieve it.

The type of assessment for each module is specified in the module descriptor with more detail being available in the module handbook.

All assessments are related to programme learning outcomes, in particular, there are in line with the requirements of accreditation bodies such as ACCA. Assessments are used to cover some specific issues covered by PLOs in modules meeting them. For example, in the module "Machine Learning & Artificial Intelligence in Finance" students will be asked to optimise a portfolio of assets considering risk and return. To do this assignment,



## LEARNING, TEACHING AND ASSESSMENT STRATEGY

students need to understand current development in FinTech and its impact on the investor (PLO1), have an analytical understanding of contemporary issues in ML (PLO2) to apply an effective MLAI technique to solve the problem (PLO3) considering current methodologies applied in the field (PLO4).

Students should demonstrate some level of innovation and creativity in developing new techniques/approaches to optimise the portfolio (PLO5). The assignment will enhance the personal responsibility of students in decision making (PLO8) and boost their skills of self-study and personal learning (PLO9).

In the group-based coursework of this module, students are encouraged to consider inclusivity and diversity in defining a financial problem (e.g., focusing on emerging or underdeveloped financial markets) and providing a solution (PLO13).

Students will be encouraged to engage and consider the financial problems of local SMEs or FinTech start-ups. Students will be assessed based on their relevant employability skills, attitudes and behaviours including self-awareness (PLO 11).

## PLACEMENT/STUDY ABROAD OPPORTUNITIES

Placement is not available for this programme.

## REGULATIONS

This Programme conforms to the standard University Postgraduate Assessment Regulations which are available at the link: <http://www.bradford.ac.uk/regulations/>

However, there is one waiver exception to these regulations as listed below:

On completion of the taught element of the programme and at the Interim Exam Board, a student who has 50 credits or more requiring supplementary assessment will not be permitted to proceed to the dissertation stage of the programme. The decision to allow progression will only be reconsidered at the Supplementary Exam Board