Finance and Data Analytics BSc (Hons)

COURSE DETAILS

- A level requirements: AAB
- UCAS code: N312
- Study mode: Full-time
- Length: 3 years

KEY DATES

- Apply by: 25 January 2023
- Starts: 25 September 2023

Course overview

In choosing to study this course, you will receive rigorous training in areas such as econometrics for finance, programming with Python, theoretical finance, and computational methods. You will have the opportunity to study cutting- edge topics such as data mining, machine learning, financial data visualisation, and financial technology. You will be able to combine your knowledge of finance, programming in Python, and analytics to solve finance problems and generate insights.

INTRODUCTION

The BSc Finance and Data Analytics blends together the areas of finance and data analytics and equips you with the knowledge, skills, and abilities to follow a range of careers, e.g. finance and consulting.

The first year equips you with the foundational knowledge of finance and introduces you to Python, the programming language. The second year develops your understanding of advanced finance theories and their implications for the industry. You will learn to use Python and industry-leading datasets to empirically test finance theories. You will also learn to use data visualisation techniques to communicate your insights with the audience.

During the third year, you will deepen your knowledge of the finance industry and have the opportunity to take cutting-edge modules such as Data Mining and Machine Learning. You will also develop a range of transferable skills, including flexibility, problem-solving ability, commercial awareness, and communication, which are highly valued by employers.

Studying Finance with Data Analytics at Liverpool will enable you to reach your full potential as you will benefit from our range of industry links and research expertise in addition to being exposed to our cutting-edge curriculum, the state-of-the-art computer room, and innovative teaching methodologies.

WHAT YOU'LL LEARN

- Corporate finance
- Financial markets
- Financial econometrics
- Python programming
- Data mining and machine learning
- Data visualisation
- Database management
- Computational methods
- Corporate reporting and analysis

ACCREDITATION

The University of Liverpool Management School holds accreditation from AACSB, AMBA and EQUIS. This makes it one of an elite group of institutions worldwide to hold the gold standard triple accreditation.

Course content

Discover what you'll learn, what you'll study, and how you'll be taught and assessed.

YEAR ONE

In the first year of study, you will acquire the foundational knowledge of accounting, finance, and data analytics. During this year, you will learn about the key concepts and datasets and their implications for decision-making. You will also begin to develop an expertise in the area of data analytics and computational methods by using Python to write computer codes to solve finance problems. In addition to your technical abilities, you will also develop key employability skills that will be important in your future career.

COMPULSORY MODULES

INTRODUCTION TO FINANCIAL ACCOUNTING (ACFI101)

Credits: 15 / Semester: semester 1

ACFI101 aims to develop a sound understanding of the fundamental principles and techniques of financial accounting.The context and purpose of financial statements is introduced, after which students are introduced to the techniques of recording financial transactions, adjusting financial records and preparing basic financial statements. Successful students will possess a sound base of knowledge for progression towards studying financial reporting in greater depth in the second and final years: the preparation of complex financial statements in conformity with International Financial Reporting Standards (IFRS), both for single entities and groups of companies, and for entities undertaking a wide range of accounting transactions.This module is delivered by means of lectures and tutorials, supported by online self-study question material. The assessment is conducted via two mid-term tests (30%) and a final exam (70%).

QUANTITATIVE METHODS FOR ACCOUNTING AND FINANCE (ACFI111)

Credits: 15 / Semester: semester 1

The module aims to provide an introduction to quantitative methods that will assist students in establishing basic quantitative and statistical skills for the study of accounting and finance.

INTRODUCTION TO FINANCE (ACFI103)

Credits: 15 / Semester: semester 2

This module introduces students to fundamental concepts in finance. The course aims to provide a firm foundation for the students to build on later on in the second and third years of their programmes, by covering basic logical and rational analytical tools that underpin financial decisions. The course covers topics such as the structure of firms and time value of money. Building on these notions, we then discuss the valuation of simple securities such as bonds and equities. The course also introduces students to project appraisal techniques.

INTRODUCTION TO THE GRADUATE RECRUITMENT PROCESS (ULMS170)

Credits: 15 / Semester: semester 2

This module aims to introduce students to the graduate recruitment process by providing them with the skills required to secure a work placement or summer internship. It also provides the opportunity to acquire, develop and apply these skills.

Programme details and modules listed are illustrative only and subject to change.

YEAR TWO

In the second year of study, you will build upon the foundations of the first year to learn about advanced finance theories and evaluate their implications for the business world. You will also develop the ability to not only theoretically evaluate key concepts but also to leverage financial datasets to evaluate their empirical relevance. In so doing, you will improve your analytical skills and learn to use Tableau to prepare insightful visual elements. You will achieve this goal by combining your knowledge of finance theory, programming, and econometrics.

COMPULSORY MODULES

ECONOMETRICS FOR FINANCE I (ACFI225)

Credits: 15 / Semester: semester 1

Econometrics for Finance I is an important module that equips students with the knowledge of quantitative techniques and the practical expertise needed to solve finance problems. The course involves the analysis of real-world financial datasets to solve finance problems pertinent to a wide range of financial markets. This course is very relevant to students with a keen interest in the quantitative modelling of financial markets or those interested in pursuing an MSc degree in finance or related areas.

The lectures equip students with the theoretical knowledge necessary to formulate, estimate, and correctly interpret multivariate econometric models. In particular, the students will learn about multiple regression models, multiple hypotheses tests, diagnostic checks, and parameter stability. The seminar sessions, which take place in the computer lab, will provide students with the opportunity to apply their knowledge by using Eviews, a statistical software, to analyse real-world data from leading financial databases and solve finance problems. Overall, the students will develop a range of skills, including communication skills, digital fluency, analytical skills, and problem-solving skills. The assessment is conducted via a mid-term multiple choice test (30%), a written coursework (60%), and an individual pre-recorded video presentation (10%) at the end of the course.

FINANCIAL REPORTING AND ANALYSIS (ACFI220)

Credits: 15 / Semester: semester 2

This module will cover the main issues related to financial reporting and its evaluation and analysis that is relevant for a graduate in finance. The module will also allow cover the topics specified under the heading Financial Reporting and Analysis as envisaged in the CBOK of the CFA.

ETHICS AND REGULATIONS IN FINANCE (ACFI230)

Credits: 15 / Semester: semester 1

This module will offer students the opportunity to critically reflect on the ethical dimension of finance. The module also critically evaluates the regulatory environment in which financial institutions operate.

Programme details and modules listed are illustrative only and subject to change.

YEAR THREE

In the final year, you will have the opportunity to develop your understanding of the key players of the financial sector, their business models, the key asset classes in financial markets and the impact of technology on the finance sector. You will also have the opportunity to further develop your Python programming skills by learning about topics such as data mining and machine learning. Furthermore, you will have the unique opportunity to put your knowledge of finance, Python programming, and data analytics to practice by completing a year-long research project analysing a substantive finance issue. This is a great opportunity to develop and demonstrate key skills desired by graduate employers.

NOTICE

Please note that this is a new course and some modules are pending approval and will be available to view shortly.

In semester one of year three, you will select one module out of the following list: Development Finance(ACFI317), Financial Crises and Defaults(ACFI319), and Data Mining and Machine Learning(ACFI331).

In semester two of year three, you will select two modules out of the following list: Behavioural Finance (ACFI311), Corporate Governance (ACFI320), Financial Technology (ACFI332), and Institutional Investors and Alternative Investments (ACFI333).

COMPULSORY MODULES

DERIVATIVE SECURITIES (ACFI310)

Credits: 15 / Semester: semester 1

In the last three decades, derivatives have become increasingly important in the world of ⚫finance. Futures and options are now traded actively on many exchanges and OTC around the world. Yet most of our undergraduate finance courses, which mostly study underlying assets and institutions, simply do not have enough time for an in-depth discussion of derivatives. This class presents both a practical and theoretical approach to derivatives markets. The course starts with basic definitions and properties of put and call options, and forward and futures contracts. Payoff diagrams are used to illustrate these basic notions. Determinants of derivatives values are discussed. The basic no-arbitrage pricing relationships between different types of derivatives are established.

PROJECT IN FINANCE (ACFI318)

Credits: 30 / Semester: whole session

The module will provide students with an opportunity to undertake an empirical piece of work (in the style of an academic paper) on a finance topic by drawing from their knowledge and skills. This module is strongly based on the University of Liverpool hallmarks of research-connected teaching, active learning and authentic assessment.

FINANCIAL RISK MANAGEMENT (ACFI342)

Credits: 15 / Semester: semester 2

The module on Financial Risk Management covers both the internal aspects of financial institutions and the external factors that affect the investment arena and modern financial markets in general. The degree provides an in-depth understanding of the theoretical foundations that underpin modern investment and risk management techniques. The course has a strong practical dimension so you can acquire a sound knowledge of how to apply these techniques to equity and credit markets as well as investment strategies in general.

OPTIONAL MODULES

ISSUES IN DEVELOPMENT FINANCE (ACFI317)

Credits: 15 / Semester: semester 1

This module will provide an advanced, albeit non-technical, critical understanding for students with a variety of academic backgrounds of a number of current issues faced by both academics and practitioners in the area of finance for development. These will include, for example, trying to answer the question of whether foreign aid works, the impact of multinational firms upon the economy of host countries, the evolving roles of the IMF and World Bank and whether microcredit really provides a "silver bullet" solution to poverty. The module will also cover the main principles of Islamic Finance. This a very strongly research-led module based on the "flipped classroom" approach, whereby students access learning material before the class and the class is used for discussion. In-class discussions will be based on "real" data and documents used by practitioners involving active learning. Finally, the final module will have a developmental form of assessment in the form of a research-based proposal for a new textbook that will allow students to apply the knowledge they have acquired in the module.

FINANCIAL CRISES AND DEFAULTS (ACFI319)

Credits: 15 / Semester: semester 1

The module will introduce students both to the theoretical arguments and the empirical evidence related to financial crises and defaults. The module will discuss in detail the main aspects of the recent financial crisis that shook the world economy including (a) the economic and financial environment in the years just before the crisis, (b) the causes of the crisis and (c) the action taken by policy-makers to deal with the crisis. The module will proceed by discussing the main aspects of the recent Eurozone debt crisis, as well as GREXIT and BREXIT issues. Noting the increasing role of social media both in becoming a popular open forum for analysing economic issues and reflecting public sentiment minute by minute, the module will draw on recent academic work to explain the impact of #Grexit tweets on the Eurozone bond market over and above the impact of economic fundamentals.

Some of the module content will be applied. In particular, using the econometric software EVIEWS and a number of macroeconomic and financial datasets, case studies will be developed to (a) test the adverse impact of excessive debt on economic growth for the G7 economies and (b) provide an empirical assessment of whether financial assets become mispriced prior, during and after financial crises. Students taking this module will need to have basic knowledge of macroeconomic and statistical theory as well as very basic knowledge of simple regression analysis. Prior knowledge of EVIEWS is not essential. A short introduction to EVIEWS will be offered as part of the module.

BEHAVIOURAL FINANCE (ACFI311)

Credits: 15 / Semester: semester 2

Behavioural finance attempts to explain several widely cited market phenomena (including e.g. excess volatility, overreaction, bubbles and crises) by drawing on concepts and principles from psychology and their applications in investors' behaviour. The module provides a thorough introduction to this area, with theoretical analyses being enhanced through the use of short videos, experiments and quantitative finance both during lectures and seminars. Its assessment relies 100% on a final exam.

CORPORATE GOVERNANCE (ACFI320)

Credits: 15 / Semester: semester 2

The module covers the history and development of corporate governance, and the key principles and systems that underpin corporate governance today.

Programme details and modules listed are illustrative only and subject to change.

HOW YOU'LL LEARN

During the lectures, you will be exposed to the key ideas as well as the latest academic research and case studies. You will engage with the subject through a range of activities, including live polls, class activities, and class room discussions. The knowledge from the lecture is reinforced by small-group seminars where you will put your knowledge into practice.

You are normally expected to prepare work in advance for seminars and may be expected to present work or give presentations from time to time. On several modules, the seminars take the form of practical sessions in the McKenzie computer suite, where you will use data from leading financial sources, e.g. Bloomberg, Datastream, and Compustat, to test key finance theories. This practical approach enables you to not only learn about theory but also to be able to empirically evaluate its practical relevance. Furthermore, the module leader will provide guidance in the form of suggested readings based on academic journals or newspapers articles.

The degree features E-learning and blended learning methods. You will be able to pre-learn and prepare for each teaching session by accessing the lecture materials on the virtual learning environment (VLE) ahead of each lecture. Furthermore, you will have access to the recording of individual sessions thus giving you the opportunity to revise the material at your own pace and time. The VLE will also be used to share digital material, e.g. videos, podcasts, and articles, highlighting the recent business events that are connected to the key concepts discussed in-class.

HOW YOU'RE ASSESSED

You will be assessed through a combination of individual and group-based activities. The methods of assessment include the written examination, the employability portfolio, the (pre-recorded) video presentation, the multiple choice question, the poster presentation, the referee report, the pitchbook, and the visualisation dashboard. The exact method(s) of assessments and weight(s) will vary from one module to another.

LIVERPOOL HALLMARKS

We have a distinctive approach to education, the Liverpool Curriculum Framework, which focuses on research-connected teaching, active learning, and authentic assessment to ensure our students graduate as digitally fluent and confident global citizens.

Careers and employability

The curriculum is inspired by the growing demand by employers for graduates with a mixture of finance and technology skills. By undertaking this degree, you will have the opportuity to develop your expertise in finance, programming with Python, as well as cutting-edge topics such as machine learning and data visualisation. Moreover, you will develop a range of transferable skills, including flexibility, problem-solving ability, commercial awareness, and communication, which are highly valued by employers.

We're committed to enhancing employability and supporting you all the way to your future career. Our programmes offer flexibility, choice and opportunities allowing you to pursue your life aspirations. Our innovative Careers and Employability Service will be on hand throughout your time with us to help you prepare for life after graduation.

Students are also encouraged to undertake a Year in Industry as part of the four-year sandwich degree programme. You will be supported in finding and applying for a placement in an organisation which could range from a local small and medium-sized enterprise to a global blue-chip company – the choice in yours!

Students completing the BSc Finance and Data Analytics programme at the University of Liverpool Management School develop the knowledge, skills and abilities needed to successfully pursue careers in a range of industries such as asset management, banking, financial technology (FinTech) firms, large corporations, consultancy firms, and financial services firms. They will also have the possibility to pursue further degrees, including a taught postgraduate degree (e.g. MSc) or a research degree (e.g. PhD under the ESRC 1+3 route).

PREPARING YOU FOR FUTURE SUCCESS

At Liverpool, our goal is to support you to build your intellectual, social, and cultural capital so that you graduate as a socially-conscious global citizen who is prepared for future success. We achieve this by:

• Embedding employability within your curriculum, through the

modules you take and the opportunities to gain real-world experience offered by many of our courses.

• Providing you with opportunities to gain experience and develop connections with people and organisations, including

student and graduate employers as well as our global alumni.

• Providing you with the latest tools and skills to thrive in a competitive world, including access to Handshake, a platform which allows you to create your personalised job shortlist and apply with ease.

• Supporting you through our peer-to-peer led Careers Studio, where our career coaches provide you with tailored advice and support.

Fees and funding

Your tuition fee covers almost everything, but you may have additional study costs to consider, such as books, specialist equipment or field trips.

TUITION FEES

Tuition fees cover the cost of your teaching and assessment, operating facilities such as libraries, IT equipment, and access to academic and personal support. [Learn more about tuition fees, funding and student finance](#).

UK fees	
Full-time place, per year	£9,250
Year in industry fee	£1,850
Year abroad fee	£1,385

International fees	
Full-time place, per year	£20,550

*Fees stated are for the **2022-23** academic year and may rise for 2023-24.*

ADDITIONAL COSTS

All students have the opportunity to spend a semester studying overseas during their second year, subject to your year one performance. If you elect to study abroad you will need to cover associated travel and living costs. University travel bursaries and subsistence grants are available.

Find out more about the [additional study costs](#) that may apply to this course.

SCHOLARSHIPS AND BURSARIES

We offer a range of scholarships and bursaries to help cover tuition fees and help with living expenses while at university.

[Scholarships and bursaries you can apply for from the United Kingdom](#)

Select your country or region for more scholarships and bursaries.

Entry requirements

The qualifications and exam results you'll need to apply for this course.

Your qualification	Requirements [About our typical entry requirements](#)
A levels	AAB
GCSE	GCSE Mathematics at grade 6 required.
BTEC Level 3 Diploma	D*DD plus A-Level at a minimum grade of B.
BTEC Level 3 National Extended Diploma	D*D*D. BTEC qualifications must be in a Business related subject.
International Baccalaureate	35 with no score less than 4
Irish Leaving Certificate	H1, H1, H2, H2, H2, H3.
Scottish Higher/Advanced Higher	Scottish Advanced Highers accepted at AAB.
Welsh Baccalaureate Advanced	Accepted at grade A or B alongside two A Levels only.
Access	45 credits at Distinction in graded level 3 units in a relevant Diploma.
International qualifications	Select your country or region to view specific entry requirements. Many countries have a different education system to that of the UK, meaning your qualifications may not meet our entry requirements. Completing your Foundation Certificate, such as that offered by the [University of Liverpool International College](#), means you're guaranteed a place on your chosen course.

ALTERNATIVE ENTRY REQUIREMENTS

- If your qualification isn't listed here, or you're taking a combination of qualifications, [contact us](#) for advice

- Aged 20+ and without formal qualifications? The one-year Go Higher diploma qualifies you to apply for University of Liverpool arts, humanities and social sciences programmes
- Applications from mature students are welcome.

THE ORIGINAL REDBRICK