



## PROGRAMME SPECIFICATION – UNDERGRADUATE PROGRAMMES

### KEY FACTS

Programme name	Finance with Actuarial Science Finance with Actuarial Science (with Professional Placement)
Award	BSc (Hons)
School	Bayes Business School
Department or equivalent	UG Programme (Bayes Business School)
UCAS Code	G3N3 Finance with Actuarial Science G33N Finance with Actuarial Science (with Professional Placement)
Programme code	USFIAS
Type of study	Full Time
Total UK credits	380
Total ECTS	190

### PROGRAMME SUMMARY

The BSc (Hons) Finance with Actuarial Science degree gives a sound education in finance, mathematics and statistics as well as an introduction to actuarial science. You will also gain skills and knowledge in the key areas of probability theory, economics, accounting and computing. The modules in the first year are compulsory, while in the second and final years there are a number of optional modules to choose from, allowing you to tailor your degree to your strengths and future job requirements.

This is a three year programme (or four years, if a sandwich year is taken or you apply for the programme with an integrated Professional Placement).

If you apply for the four year with Professional Placement programme you will need to secure a Professional Placement between years 2 and 3. If you do not secure a Placement you will be transferred to the BSc Finance with Actuarial Science programme.

Bayes is one of very few business schools in the City of London. Our close links with international corporations are reflected in all our degree programmes, which are constantly evolving to meet the needs of an ever-changing business world.

Many of our lecturers are qualified actuaries or finance professionals and have worked in industry and continue to consult for corporate organisations, so you will benefit from their first-hand knowledge and business experience. As we place a high value on teaching both theory and application, you will emerge from your degree with a good understanding of how to use your newly acquired knowledge in the workplace, whether

this concerns a career as a finance specialist, an actuary or an alternative direction (such as, for example, risk manager).

Due to its academic rigour, the programme also enables students to further their studies after graduation through a postgraduate degree.

In line with City, University of London's Employability Development Plan, you are expected to gain practical experience with an employer as part of your undergraduate degree. You can gain this experience through a placement where you work for a period with an employer or through taking one or more modules which are delivered in conjunction with an employer. You should take this requirement into account in choosing which elective modules to take and whether to include a placement within your studies.

Indicative modules and other ways to provide the practical experience would be

BM2104 Micro-Placement  
MS2203 Mentoring and Coaching for Leadership  
Professional Placement Year

#### Aims

1. To equip you with a strong understanding of finance, statistics, mathematics, actuarial science and related disciplines.
2. To develop the ability to communicate your knowledge and understanding effectively.
3. To develop your understanding of the respective roles of mathematical and statistical calculation, analysis and judgement in finance and actuarial science.
4. To develop your ability to make reasoned judgements, frame appropriate questions and draw independent conclusions.
5. To equip you with the technical skills, as well as soft skills such as effective teamworking and communication, required to work as a finance professional or an actuary or in alternative fields related to statistics, finance and business.
6. To prepare you to enter postgraduate study in finance, actuarial science or related disciplines.
7. To develop socially aware professionals who exhibit high degrees of professionalism and sensitivity to ethical issues, as many of the decisions that you will make in your career will affect numerous stakeholders, all of whose views and situations must be taken into account.

On successful completion of Programme Stage 1 of the Programme you will have acquired a foundational knowledge and understanding of the key concepts and principles underlying your area of study, the ability to recognize and explain these, and to identify and apply appropriate solutions when presented with a problem. On successful completion of Programme Stage 1 you will be eligible for the award of Certificate of Higher Education should you choose to leave the Programme.

On successful completion of Programme Stage 2 of the Programme you will have built on the knowledge and understanding gained at Programme Stage 1 and demonstrated an ability to analyse and apply these concepts and principles to complex problems and scenarios. You will also have broadened their field of study through the completion of elective modules. On successful completion of Programme Stage 2 you will be eligible for the award of Diploma of Higher Education should you choose to leave the Programme.

When you undertake a programme of study at Bayes Business School we will expect you not only to learn but also to challenge and look critically at the world in which we live. We will constantly ask you to question the ethical underpinning of the assumptions you have made and the decisions you have reached, and that inquisitive, ethical approach is woven through every element of a Bayes education. In recognition Bayes is one of the few business schools to have been awarded Champion Status by the UN PRME (Principles of Responsible Management Education) initiative at Davos in 2018.

### **WHAT WILL I BE EXPECTED TO ACHIEVE?**

**On successful completion of this programme, you will be expected to be able to:**

#### Knowledge and understanding:

- Describe and apply tools from core financial, mathematical, statistical and actuarial subjects, including financial analysis, calculus, linear algebra, differential equations and computing.
- Select and utilise appropriate specialist methods in solving problems related to finance, actuarial science and statistics.
- Critically evaluate the roles played by actuaries and financial analysts in commercial or regulatory organisations.
- Analyse the importance of assumptions in financial and statistical modelling, be able to identify them where used and understand the consequence of their violation.
- Explain, apply and evaluate financial and statistical models and appreciate their limits and shortcomings.

#### Skills:

- Devise and sustain rational arguments and be able to analyse others' arguments and their rationale and to identify the assumptions and conclusions made.
- Perform calculations and manipulations in the core financial, mathematical, statistical and actuarial subjects.
- Identify and select information relevant to a project from a number of sources and to perform a critical analysis of that information. (This skill will in particular be assessed in the individual project.)
- Work under guidance on an extended task.
- Design and evaluate code written in a variety of programmes, languages and packages so that applied tasks, such as statistical assignments, are performed efficiently and effectively.

- Communicate results or findings from analysis clearly, both orally and in writing, and to be able to respond to questions regarding method, results and interpretation.

Values and attitudes:

- Reflect on the importance of an ethical approach to work to a finance specialist or professional actuary.
- Articulate the need for and demonstrate the use of careful documentation of your computations, to allow for verification by your peers.
- Work productively as part of a group. Be an effective team player who is tolerant of disagreement, and open and sensitive to diversity in cultures and people.
- Manage your time effectively.

This programme has been developed in accordance with the QAA Subject Benchmark for both finance and mathematics, statistics and operational research.

## **HOW WILL I LEARN?**

Teaching and Learning methods are designed to foster your knowledge of and enthusiasm for the subject and stimulate engagement and participation in the learning process. They encourage deep learning and encourage you to reflect on and take responsibility for your own learning and to develop your academic self-confidence.

- Lectures provide knowledge and set the context for your private study. This could, for example, be through question and answer sessions, examples, case studies, discussions and (short) exercises. Most contact hours during the degree programme take the form of lectures.

-Tutorials, exercise classes and surgery hours are opportunities to apply the knowledge and to participate in the discussion of the subject area. The main purpose of exercise classes is to give you practice at solving problems, with tutors on hand to help you if you get stuck. Surgery hours have been scheduled if you are having difficulties with the module concerned. A number of tutorials, exercise classes and surgery hours are scheduled during the first year; these serve to help scaffold your learning and develop you as an independent learner. The number of tutorials, exercise classes and surgery hours decreases as you progress and you become more able to direct your own learning.

-In several modules, the face-to-face teaching is complemented by online lectures and an active use of the Virtual Learning Environment. This will vary by module but may take the form of delivery of learning materials and resources, submission and feedback of coursework assessments, on-line lecture delivery, discussion forums, question-and-answer sessions or sample/mock questions and quizzes to help you prepare for assessments.

- In addition to the taught elements of the programme, there will be the need for private study. This time will be spent working on background reading, revision of lecture notes, work on tutorial problems, coursework and individual or group work on projects including the major project in Stage 3 of the programme.

## **WHAT TYPES OF ASSESSMENT AND FEEDBACK CAN I EXPECT?**

### Assessment and Assessment Criteria

Assessment is carried out according to context and purpose and recognises that you may exhibit different aptitudes in different forms of assessment:

- Some assessment is by coursework which you take home and complete with the aid of your notes.
- There are formal unseen written examinations every year. They take place at the end of each term (or at the end of a year, if a module is taught over two terms).
- Some assessment takes the form of class tests.
- Some assessment takes the form of online quizzes and tests, using the Virtual Learning Environment.
- A small number of modules require you to give a presentation.
- A group project forms the basis of assessment in one compulsory module and some electives.
- An individual project forms an integral part of the Programme Stage 3 assessment if you choose to take it, but you can instead substitute two additional elective modules.

Assessment takes an overall view of your achievements. A level of success in each individual module that is commensurate with the overall performance is not necessarily required.

Assessment Criteria are descriptions, based on the intended learning outcomes, of the skills, knowledge or attitudes that you need to demonstrate in order to complete an assessment successfully, providing a mechanism by which the quality of an assessment can be measured. Grade- Related Criteria are descriptions of the level of skills, knowledge or attributes that you need to demonstrate in order to achieve a certain grade or mark in an assessment, providing a mechanism by which the quality of an assessment can be measured and placed within the overall set of marks. Assessment Criteria and Grade-Related Criteria will be made available to you to support you in completing assessments. These may be provided in programme handbooks, module specifications, on the virtual learning environment or attached to a specific assessment task.

### Feedback on assessment

Feedback will be provided on all assessed work (either formative or summative) and on other relevant aspects of your performance and progress in a module. In accordance with the University policy, you will normally be provided with feedback within three weeks of the submission deadline or assessment date. This will normally include a provisional grade or mark. For end of module examinations, or an equivalent significant task (e.g. an end of module project), feedback will normally be provided when results are released following the Assessment Board.

### Assessment Regulations

In order to pass your Programme, you should complete successfully or be exempted from the relevant modules and assessments and will therefore acquire the required number of credits. You also need to pass each Programme Stage of your Programme in order to progress to the following Programme Stage.

To qualify for the Honours Degree, you must acquire the total credits indicated in the Student Handbook. Calculation of results and classification of the final award is based on a weighted average of module marks. The contribution of each module is proportional to its credit value.

BSc degrees are awarded with First Class Honours, Second Class Honours (Upper and Lower) or Third Class Honours.

The overall class of honours awarded is based on the overall weighted average mark achieved throughout the three Programme Stages of your degree. The weights given to each Programme Stage are shown below:

<b>Programme Stage</b>	<b>Weight</b>
One	10%
Two	30%
Three	60%

The Pass mark for each module is 40%.

### **Progression from Programme Stage 1 to Programme Stage 2**

The modules taken at Programme Stage 1 sum to 135 core credits. To be admitted to Programme Stage 2 it is necessary to achieve:

- A module mark of at least 40% in each passed module, and
- 135 credits at Programme Stage 1.

### **Progression from Programme Stage 2 to Programme Stage 3**

To be admitted to Programme Stage 3 it is necessary to achieve:

- A module mark of at least 40% in each module\*, and
- 125 credits at Programme Stage 2.

\*for module AS2205 Contingencies, you are required to pass the coursework and examination assessment components separately with a mark of 40%.

If you fail an assessment component or a module, the following will apply:

## **1. Compensation**

### **Compensation at Programme Stages 1 & 2**

Where you fail up to a total of one sixth of the total credits of Programme Stages 1 or 2 at first or resit attempt, you may be allowed compensation if:

- Compensation is permitted for the module involved (see the What will I Study section of the programme specification), and
- It can be demonstrated that you have satisfied all the Learning Outcomes of the modules in the Programme Stage, and

- A minimum overall mark of 30% has been achieved in the module to be compensated, including a minimum of 30% in the exam and 30% in the coursework, and
- An aggregate mark of 40% has been achieved for the Programme Stage.

### **Compensation at Programme Stage 3**

Once 90 credits have been earned, the remaining credits for Programme Stage 3 can be earned either by passing modules or through compensation provided that:

- Compensation is permitted for the module involved (see the What will I Study section of the programme specification), and
- It can be demonstrated that you have satisfied all the Learning Outcomes of the modules in the Programme Stage, and
- A minimum overall mark of 30% has been achieved in each module to be compensated, and
- An aggregate mark of 40% has been achieved for Programme Stage 3.

Where you are eligible for compensation at the first attempt, this will be applied in the first instance rather than offering a resit opportunity.

If you receive a compensated pass in a module you will be awarded the credit for that module. The original component marks will be retained in the record of marks and your original module mark will be used for the purpose of your Award calculation.

### **2. Resit**

Where you are not eligible for compensation at the first attempt, you will be offered one resit attempt.

If you are successful in the resit, you will be awarded the credit for that module. The mark for each assessment component that is subject to a resit will be capped at the pass mark for the module. This capped mark will be used in the calculation of the final module mark together with the original marks for the components that you passed at first attempt.

If you do not meet the pass requirements for a module and do not complete your resit by the date specified you will not progress to the next Programme Stage and the Assessment Board will require you to be withdrawn from the Programme.

If you fail to meet the requirements for a particular Programme Stage or the Programme, the Assessment Board will consider whether you are eligible for an Exit Award as per the table below.

If you would like to know more about the way in which assessment works at City, please see the full version of the Assessment Regulations at:

[http://www.city.ac.uk/\\_data/assets/word\\_doc/0003/69249/s19.doc](http://www.city.ac.uk/_data/assets/word_doc/0003/69249/s19.doc)

### **WHAT AWARD CAN I GET?**

Bachelor's Degree with Honours:

Programme Stage	HE Level	Credits	Weighting (%)
1	4	135	10
2	5	125	30
3	6	120	60

Class	% required
I	70
II upper division	60
II lower division	50
III	40

Ordinary Degree:

Programme Stage	HE Level	Credits	Weighting (%)
1	4	135	10
2	5	125	30
3	6	60	60

Class	% required
With Distinction	70
With Merit	60
Without classification	40

Diploma of Higher Education:

Programme Stage	HE Level	Credits	Weighting (%)
1	4	135	35
2	5	125	65

Class	% required
With Distinction	70
With Merit	60
Without classification	40

Certificate of Higher Education:

Programme Stage	HE Level	Credits	Weighting (%)
1	4	135	100

Class	% required
With Distinction	70
With Merit	60
Without classification	40

**WHAT WILL I STUDY?**

Programme Stage 1

Programme Stage 1, which is worth 135 credits, provides a grounding in mathematics, statistics, computing, financial mathematics and economics. In addition to the core modules that you must pass to progress to Stage 2 there are four optional electives that you can take. Those who wish to benefit from the possibility of transferring to BSc Actuarial Science at the end of stage 1 will be allowed to do so if they have taken the optional electives Introduction to Actuarial Methods and Introduction to VBA and passed them. In addition, the Introduction to Actuarial Methods module will allow you to develop your group-working skills and presentation skills while VBA is becoming a more common requirement for positions in the financial sector. These modules and the Career Planning and Microplacement modules will therefore increase your employability.



Module Title	SITS Code	Module Credits	Core/ Elective	Can be compensated?	Level
Mathematics for Actuarial Science 1	AS1056	25	C	N	4
Introduction to Economics (Actuarial Science)	AS1057	30	C	N	4
Probability and Statistics I	AS1101	25	C	N	4
Financial and Investment Mathematics	AS1201	30	C	N	4
Introduction to Excel and Statistical Packages	AS1104	10	C	Y	4
Introduction to Actuarial Methods and Career Planning	AS1003	15	C	Y	4
Introduction to VBA for Excel	AS1203	0	E	Y	4

### Programme Stage 2

At Programme Stage 2, which is worth 125 credits, the statistical and actuarial subjects are further developed along with the mathematical skills required to master the applications-oriented material at Programme Stages 2 & 3. Students must choose three elective modules. Those students seeking exemption from the maximum number of professional examinations should take Financial Reporting, Contingencies and one other elective. Note that Contingencies will only lead to a possible exemption if you also take Advanced Contingencies at Stage 3. Also note that the Financial Economics module covers some material from CM2 but will *not* get you an exemption.

Module Title	SITS Code	Module Credits	Core/ Elective	Can be compensated?	Level
Calculus and Linear Algebra (Maths 2)	AS2052	15	C	Y	5
Fundamentals of Finance	AS2114	15	C	Y	5
Stochastic Models	AS2111	20	C	Y	5
Derivatives Trading & Hedging	FR2211	15	C	Y	5
Financial Markets	IF2207	15	C	Y	5
Contingencies	AS2205	15	E	Y	5
Alternative Investment Management	FR2210	15	E	Y	5
Corporate Risk Management	FR2105	15	E	Y	5
Decision Analysis	AS2021	15	E	Y	5
Financial Economics	AS2109	15	E	Y	5
Risk Analysis and Modelling	FR2208	15	E	Y	5
Financial Reporting	AS2207	15	E	Y	5
Financial Econometrics	FR2107	15	E	Y	5
Asset Management	IF2210	15	E	Y	5
Micro-Placements	BM2104	15	E	Y	5
Probability & Statistics 2	AS2110	30	E	N	5

### Programme Stage 3

Three core financial subjects are compulsory, in addition to which you may choose to take the Final Year Project along with three electives or alternatively choose five electives. To gain an exemption in CM1 you must take Advanced Contingencies as one of your electives.

<b>Module Title</b>	<b>SITS Code</b>	<b>Module Credits</b>	<b>Core/ Elective</b>	<b>Can be compensated?</b>	<b>Level</b>
Fixed Income Portfolio Management	FR3100	15	C	Y	6
Financial Engineering	FR3200	15	C	Y	6
Asset-Liability Management	FR3102	15	C	Y	6
Final Year Finance Project	IF3000	30	E	N	6
Advanced Contingencies	AS3210	15	E	Y	6
Operational Research	AS3021	15	E	Y	6
General Insurance	AS3303	15	E	Y	6
Technical Analysis	FR3110	15	E	Y	6
Real Estate Finance and Funding	FR3202	15	E	Y	6
Statistical Reasoning, Communication & Ethics	AS3208	15	E	Y	6
Advanced Econometrics & Forecasting	IF3103	15	E	Y	6
Emerging Markets	IF3206	15	E	Y	6
Financial Services Regulation	FR3207	15	E	Y	6
International Financial Management	BS3200	15	E	Y	6
Statistical Modelling	AS3110	15	E	Y	6
Game Theory	MA3662	15	E	Y	6

This list of electives is an indication of the range of modules that can be on offer and is subject to change due to circumstances such as: enhancing or updating the quality and content of educational provision; responding to student feedback; academic staffing changes; the number of students in each programme; a lack of student demand for certain modules; or factors beyond the institution's reasonable control, such as meeting the latest requirements of a commissioning or accrediting body. For these reasons, not all the electives listed will be offered every year. New (additional or replacement) modules may also be added for these reasons.

The list of electives offered in a given year will be confirmed by 1<sup>st</sup> September.

Certain electives may be pre-requisites for other electives you may wish to take later in the programme. Full details can be found in the individual Module Specifications and will be updated annually in your Course Handbook.

In view of the importance of foreign language skills and employability, you also have the opportunity to study extra-curricular (non-credit bearing) language courses; these are typically offered in languages such as Arabic, French, German, Mandarin, Russian and Spanish.

### **TO WHAT KIND OF CAREER MIGHT I GO ON?**

Graduates are particularly well suited for work in the financial services sector, in areas such as investment management, trading, actuarial work or risk management. You may wish to embark on a career in investment banking, accountancy, commercial banking, financial engineering or financial analysis. If you wish to choose a different direction, you will be well prepared for a career in management consultancy, management, computing or teaching. You will also have the option of progressing to postgraduate study.

If you would like more information on the Careers support available at City, please go to: <http://www.city.ac.uk/careers/for-students-and-recent-graduates>.

### **WHAT STUDY ABROAD OPTIONS ARE AVAILABLE?**

If you opt to apply for a sandwich year abroad and are accepted you will study at one of our overseas partner universities in between Years 2 & 3. You will be required to pass all Programme Stage 2 assessments at the first attempt.

Studying abroad enables you to improve your language skills, develop future business contacts and provides you with an international outlook on business.

There is pass/fail assessment of the sandwich year abroad, where a student is deemed to have passed the year if the modules at the partner institution being visited are passed. No credit is awarded for modules taken on the sandwich year.

### **WHAT PLACEMENT OPPORTUNITIES ARE AVAILABLE?**

#### Professional Work Placement Option

Programme Details: The Professional Work Placement programme is a recognised part of your degree, which is endorsed on your final degree certificate. It is undertaken during your 3<sup>rd</sup> year, giving you the opportunity to add a valuable additional year to your degree working for a professional organisation, either in the UK or abroad. You will then return to Bayes, after your Placement, to complete your final year.

The aims of the Professional Work Placement go beyond work experience. You will spend a period of 9 – 12 months within a professional working environment taking on real responsibilities whilst receiving a competitive salary. This option is intended to give you practical experience which can be related to the knowledge gained at University and is greatly valued by graduate employers. You also get the opportunity to explore the industry you would like to enter after graduation. You will develop key personal, transferable and professional skills, along with the added possibility of securing a graduate position on completing your placement.

Eligibility: You are required to pass all of your Year 2 assessments at the first attempt. However, students not meeting this requirement will be considered on a case by case basis.

#### Summer Internships:

Taken at the end of your 2<sup>nd</sup> Year for a period of 4 – 12 weeks, this is a great opportunity to gain vocationally relevant work experience within a professional

organisation. On completion of your internship you will receive a 'Certificate of Professional Experience'

Eligibility: No requirements

BSc Finance with Actuarial Science students are invited to participate in the Careers Service Micro-Placements scheme. See <https://www.city.ac.uk/careers/city-opportunities/the-micro-placements-programme> for full details of the scheme and how to apply.

### **WILL I GET ANY PROFESSIONAL RECOGNITION?**

**Accrediting Body:** Institute and Faculty of Actuaries

**Nature of Accreditation:** Subject Recognition Agreement

Specific modules in all 3 years earn exemptions from 4 of the 13 professional subjects of the Institute and Faculty of Actuaries.

Performance in particular groups of modules qualifies Honours graduates for exemption from the following Institute and Faculty of Actuaries' examinations.

Subject CM1: Actuarial Mathematics

Subject CS1: Actuarial Statistics 1

Subject CB1: Business Finance

Subject CB2: Business Economics

### **HOW DO I ENTER THE PROGRAMME?**

For A-level students our standard offer is A (Maths) AA.

For International Baccalaureate students our standard offer is 36 points overall, including 7 in HL Maths and minimum 5 in all subjects.

We also make offers on other international qualifications that are recognised by British Universities.

For students whose first language is not English, evidence of English language proficiency is required.

IELTS: 6.5 with a minimum of 6 in any unit.

Pearson Academic English: 58 overall with a minimum of 50 in any component

Version: 4.2

Version date: April 2022

For use from: 2022-23