



## BSc (Hons) Computer Science Programme Specification

### 1. General Information

UCAS Code	Award	Programme Title	Expected Duration	Study Mode
N/A	BSc (Hons)	Computer Science	3 years 4 years 6 years	Full-time Part-time 1 Part-time 2
		<b>Programme Code</b>		
		UK-LIBF-BACS		
	<b>Exit Awards</b>	<ul style="list-style-type: none"> <li>• BSc (non-Hons)</li> <li>• Diploma of Higher Education</li> <li>• Certificate of Higher Education</li> </ul>		

Credit Count	<b>360 FHEQ credits</b>
Awarding Institution	The London Institute of Banking & Finance
Teaching Institution	The London Institute of Banking & Finance
Delivery Modes	<ul style="list-style-type: none"> <li>• Face-to-face</li> <li>• Blended</li> <li>• Online - Synchronous</li> <li>• Online - Asynchronous</li> </ul>

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## 2. Programme Overview

### Programme Summary

With the rapid growth of technology and the increasing demand for software development, computer science graduates are in high demand across many industries.

The BSc (Hons) Computer Science seeks to prepare you for a rapidly evolving and highly competitive field. The programme provides you with a comprehensive understanding of the fundamental concepts and principles of computer science. The programme covers a range of topics such as mathematics, computer architecture and operating systems, computer networks and distributed systems, database modelling and database systems and web application development. You also gain practical skills in programming languages such as Python and are introduced to the social and ethical considerations relevant to the field. The programme also provides a wide range of electives which allow you to gain insights into industry-relevant fields and areas of practical application of computer science, such as Artificial Intelligence, Cyber Security, and Business Intelligence.

### Programme Aims

The BSc (Hons) Computer Science aims to

- provide you with a strong foundation in computer science concepts, theories and principles, as well as practical skills in programming and software development.
- equip you with the knowledge and skills needed to analyse complex problems and design appropriate solutions using computer science techniques and tools.
- enable you to develop critical thinking and problem-solving skills and apply these in theoretical and practical contexts.
- enhance your awareness of the social and ethical considerations in computer science.
- provide you with a holistic understanding of computer science through a wide-range of elective modules giving insights into industry-relevant fields and areas of practical application of computer science.

### Employability & Graduate Outcomes

Graduates of this programme are likely to pursue careers in a number of areas such as IT project management, system and network administration, software development or cyber security consulting. This programme of study should support graduates in developing the following employability skills:

- digital and technical literacy
- critical thinking and problem-solving skills
- communication and collaboration skills

- numerical and analytical skills
- professional responsibility and ethical awareness

### 3. Intended Learning Outcomes of the Programme

This programme has been developed in accordance with the QAA Subject Benchmark Statement for Computing (C) (2022).

Please note: The programme's intended learning outcomes below are described at the Bachelor's with Honours level (Level 6).

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

LO1	Demonstrate a critical understanding of the fundamental aspects of computer science including computer architecture and operating systems, computer networks and distributed systems, theoretical computer science, and mathematical logic. (C 4.6)
LO2	Critically discuss relevant theoretical underpinnings and fundamental concepts of computing that do not change with rapid technological development including mathematics, algorithms, data structures, programming languages, data modelling, and database systems. (C 4.6)
LO3	Critically assess common and modern software engineering methods including requirements engineering in relation to developing programmes and models and programming decisions. (C 4.6)
LO4	Develop applications which involves identifying problems and analysing, designing, or developing systems, accompanied by appropriate documentation, while recognising the interrelationships between these components. (C 4.6)
LO5	Apply fundamental concepts, principles, and practices in computer science, including software engineering and software development, to solve complex IT and societal problems, while conducting rigorous evaluations of the outcomes. (C 4.6)
LO6	Analyse interdisciplinary aspects at the forefront of computing to explore innovative and dynamic technologies that align with the sustainable development agenda, thereby contributing to the global digital skills economy. (C 4.6)
LO7	Evaluate interdisciplinary engineering and project-based practices in software engineering and development, while effectively employing established analysis and problem-solving techniques throughout the software lifecycle to address complex problems accurately. (C 4.6)
LO8	Apply appropriate research methodologies to conduct independent research to find solutions to the problems in the field of computer science and communicate the findings with diverse groups. (C 4.6)

## 4. The Structure of the Programme

The BSc (Hons) Computer Science programme is offered as a 3-year full-time programme or in part-time mode over a 4 or 6-year period.

The programme is divided into modules which include both compulsory and elective modules weighing 15 credits each and a thesis weighing 30 credits. All modules in the programme are assigned to one of three levels (L4/L5/L6) which reflect the depth of learning required in the relevant level and year of study.

To achieve a full-honours award, students need to complete modules with a combined weight of 360 credits, including the final thesis.

Table 1: Structure of the Programme

Module Code	Module Name	Level	Credit	Compulsory/ Elective
Year 1				
LIBFEXDLBCSICS	Introduction to Computer Science	4	15	C
LIBFEXDLBCSM1	Mathematics I	4	15	C
LIBFOARPDLCSCW	Collaborative Work	4	15	C
LIBFEXDLBCSCAOS	Computer Architecture and Operating Systems	4	15	C
LIBFEXDLBCSDMDS	Database Modeling and Database Systems	4	15	C
LIBFEXDLBCSRE	Requirements Engineering	4	15	C
LIBFEXDLBCSCNDS	Computer Networks and Distributed Systems	4	15	C
LIBFEXDLBDSIPWP	Introduction to Programming with Python	4	15	C
Year 2				
LIBFAWDLBCSIAW	Introduction to Academic Work	5	15	C
LIBFAWDLBCSL	Algorithms, Data Structures, and Programming Languages	5	15	C
LIBFAWDLBCSTCSML	Theoretical Computer Science and Mathematical Logic	5	15	C
LIBFAWDLBCSWAD	Web Application Development	5	15	C
LIBFOPRRPDLBDSPBDM	Project: Build a Data Mart in SQL	5	15	C

LIBFOPRRDLBCSPSE	Project: Software Engineering	5	15	C
Elective from Group A			15	E
Elective from Group A			15	E
Year 3				
LIBFWAWADLBCSCSAS	Computer Science and Society	6	15	C
LIBFWAREDLBCSSCTCS	Seminar: Current Topics in Computer Science	6	15	C
Elective from Group B			15	E
Elective from Group B			15	E
Elective from Group C			15	E
Elective from Group C			15	E
LIBFBTDLBBT	Bachelor's Thesis	6	30	C

Table 2: List of Electives

Module Code	Module Name	Level	Credit	Subject Area*
Electives A				
LIBFAWDLBDBCM_E	Change Management	5	15	n/a
LIBFOPRDLBCSAPM	Agile Project Management	5	15	n/a
LIBFAWDLBWIEPM_E	Introduction to Process Management	5	15	n/a
LIBFPDLBDSOOFPP	Object Oriented and Functional Programming with Python	4	15	n/a
LIBFAWDLBDSDSSE	Data Science Software Engineering	5	15	n/a
LIBFIRPFSINTER1	Internship I <sup>1</sup>	5	15	n/a
LIBFIRPFSINTER2	Internship II <sup>1</sup>	5	15	n/a

<sup>1</sup> Check eligibility before booking the module.

Electives B				
LIBFWAWAIWNF1_E	Techniques and Methods for Agile Software Development	6	15	SE
LIBFWAPRIWNF2_E	Project: Agile Software Engineering	6	15	SE
LIBFWAWADLBCSITSM-01	IT Service Management	6	15	ITPM
LIBFWAPRDLBCSPITSM	Project: IT Service Management	6	15	ITPM
LIBFWAWADLBCSIDPITS	Introduction to Data Protection and Cyber Security	6	15	CS
LIBFWAWADLBCSCT	Cryptography	6	15	CS
LIBFWAWADLBDSBDT	Big Data Technologies	6	15	BD&BI
LIBFWAWADLBDSCC	Cloud Computing	6	15	BD&BI
LIBFWAWADLBDSEAIS1	Artificial Intelligence	6	15	AI
LIBFPDLBDSEAIS2	Project: Artificial Intelligence	6	15	AI
Electives C				
LIBFWAREISSE_E	Seminar: Software Engineering	6	15	SE
LIBFWAPRDLBSEPPSD_E	Project: Software Development	6	15	SE
LIBFWAWADLBCSEITPAM1	IT Project Management	6	15	ITPM
LIBFWAWAIAMG_E	IT Architecture Management	6	15	ITPM
LIBFWAWATOISC	Technical and Operational IT Security Concepts	6	15	CS
LIBFWAPRPCASS	Project: Configuration and Application of SIEM Systems	6	15	CS
LIBFWAWADLBCSEBI1	Business Intelligence	6	15	BD&BI
LIBFWAPRDLBCSEBI2	Project: Business Intelligence	6	15	BD&BI
LIBFWAWADLBDSEAD1	Self-Driving Vehicles	6	15	AI
LIBFWAREDLDSEAD2	Seminar: Current Topics and Trends in Self-Driving Technology	6	15	AI

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SE = Software Engineering	CS = Cyber Security	AI = Artificial Intelligence
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## 5. Teaching, Learning and Assessment

Information about teaching, learning and assessment can be found in the Teaching, Learning and Assessment Strategy.

Our programmes are designed to:

- integrate theory with practice,
- develop your ability to critique and challenge models and theoretical frameworks,
- stimulate debate, discussion, and research,
- foster a variety of academic skills,
- be accessible and inclusive,
- develop global citizens.

You are expected to undertake a considerable amount of independent study, including reading, industry-related research, and personal reflection.

### Teaching Formats

You will have access to both asynchronous and synchronous teaching formats.

Via the Course Feed in the virtual learning environment, myCampus, you will be able to contact the module tutor in a flexible and accessible way.

This is also where Intensive Live Sessions are conducted synchronously with video-based elements. They serve to answer students' individual questions as well as to allow for group discussions.

Additionally, Learning Sprints<sup>2</sup> will offer a seven-week intense learning experience in which the lecturers guide students through the learning material in a very structured manner, with the goal of successfully preparing them to take the final assessment at the end. During this time, frequent synchronous online meetings are held, offering keynote speeches and interactive tasks.

Both the Intensive Live Sessions and Learning Sprints are recorded to further assist asynchronous learning.

### Learning Resources

You will have access to a wide range of resources, which may include the following:

- myCampus: This Moodle-based central information and digital learning platform is organized based on programmes and modules. On the respective module pages in

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<sup>2</sup> Offered only when the minimum number of participants is reached.

myCampus, you can access all study materials (e.g., course books (i.e., text books), reading lists, practice exams, and video galleries) as well as the links to all related resources and databases (e.g., MS Teams, links to the library for further reading, contact details of lecturers, links to the booking tool for online exams, and the Turnitin submissions page).

- Learnhub App: You can access your learning materials in a digital app and have all your notes and highlights synchronised. The app supports different learning formats, such as reading and annotating course books using different colour codes, assessing knowledge with interactive self-tests, or watching the latest videos of the current module.
- Our comprehensive online library is aligned with the study content and kept up to date. Compulsory and further reading is mentioned in the course and module descriptions available for the students and aims to provide them with unlimited access.

## Assessment & Feedback

Regulations relating to progression and assessment, including information on late submissions, are as set out in The London Institute of Banking & Finance's General and Academic Regulations for Students.

Assessment strategies follow The London Institute of Banking & Finance's Higher Education Accessible and Inclusive Learning Policy.

Assessment consists of both formative and summative approaches, and feedback and feedforward are provided as outlined in the London Institute of Banking & Finance's Higher Education Assessing Learning & Feedback Policy. The different types of assessment used by the London Institute of Banking & Finance are described in the Higher Education Types of Summative Assessment Guidance.

Module assessment methods are included in Module Handbooks which are made available in myCampus.

## 6. Credit and Award

### Credit Framework

The BSc (Hons) Computer Science is made up of 360 FHEQ credits. One credit approximates to 10 student effort hours; therefore, the total course requires an average of 3,600 hours effort. Typically, one ECTS credit is the equivalent to two UK credits, although this may vary depending on the individual European state's requirements.

### Award

On successful completion of the full programme, you will be awarded the



Bachelor's Honours Degree	360 credits, of which at least 90 credits must be at Level 6 and 30 credits must be obtained through the Bachelor's Thesis
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## Regulations

The London Institute of Banking & Finance's General and Academic Regulations for Students detail

- regulations governing the award of credit,
- how grades for awards are granted,
- time limits for completion of programmes of study, and
- capping of marks and regulations relating to the resitting of assessment components
- academic misconduct e.g., malpractice, and
- accreditation of prior learning (APL).

## Exit Awards

In line with The London Institute of Banking & Finance's General and Academic Regulations for Students, the following applies:

Bachelor's' Degree (non-Honours)	minimum of 300 credits, of which at least 60 credits must be at Level 6
Diploma of Higher Education	minimum of 240 credits, of which at least 90 credits must be at Level 5
Certificate of Higher Education	minimum of 120 credits, of which at least 90 credits must be at Level 4

Note: The London Institute of Banking & Finance does not award interim qualifications. For example, a student registered for the Bachelor's degree will not automatically be awarded a Diploma or Certificate of Higher Education on completion of the required number of credits.

## 7. Professional Recognition

Credits gained via APL into our awards may mean that students will not get certain exemptions from other institutions' higher education or professional awards that recognise our programme.

## 8. Criteria for Admission

All applications will be considered holistically and offers will be based on qualifications, subjects studied, any relevant work experience and personal statements demonstrating a desire to work in the relevant industry.

Students must be able to satisfy the general admissions criteria of The London Institute of Banking & Finance. Entry requirements for all proposed undergraduate programmes are:

- 2 A Levels, and
- GCSE Maths 4 (C in old grading system) or above, and
- GCSE English 4 (C in old grading system) or above, and
- English language competence equivalent to IELTS 6.0 with no less than 5.5 in any element. An online English test is offered (SPEEX) if IELTS not available.

Overseas qualifications may be accepted and will be subject to evidence of equivalency normally verified through ECCTIS (UK ENIC).

If applicants do not satisfy these criteria, they can communicate with the LIBF Admissions Team and discuss entry requirements.

Suitable work experience may be accepted as an alternative on an individual basis.

Mature students who do not meet the entry criteria may be eligible to enrol under the LIBF mature student process. Applicants should contact a member of the Admissions Team if they do not meet the criteria.

## 9. Benchmarks

### External

- QAA UK Quality Code, including:
  - Subject Benchmark Statement for Computing (2022)
  - Level 6 descriptors in the Framework for Higher Education Qualifications in England, Wales and Northern Ireland
  - The Frameworks for Higher Education Qualifications of UK Degree Awarding Bodies (FHEQ)

### Internal

- The London Institute of Banking & Finance Code of Practice
- The London Institute of Banking & Finance General and Academic Regulations for Students

In addition, research with the relevant sector has been undertaken to ensure that the learning outcomes of the programme addresses identified skills and knowledge gaps.

## 10. Links

Teaching, Learning and Assessment Strategy

The London Institute of Banking & Finance's General and Academic Regulations for Students

The London Institute of Banking & Finance's Code of Practice for Quality Assurance, Chapter 3: Accreditation of Prior Learning (APL)

Accessible and Inclusive Learning Policy

Types of Summative Assessment

Higher Education Assessing Learning & Feedback Policy

Subject Benchmark Statement for Computing

Framework for Higher Education Qualifications in England, Wales and Northern Ireland

Higher Education Credit Framework for England

## 11. Curriculum Map of Modules against Intended Learning Outcomes of Programme

	Module Code	Module Name	Intended Learning Outcomes of the Programme							
			LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8
Year 1	LIBFEXDLBCSICS	Introduction to Computer Science	X	X						
	LIBFEXDLBCSM1	Mathematics I	X	X		X				
	LIBFOARPDLBCSCW	Collaborative Work				X	X	X	X	X
	LIBFEXDLBCSCAOS	Computer Architecture and Operating Systems	X		X	X	X			
	LIBFEXDLBCSDMDS	Database Modeling and Database Systems		X						
	LIBFEXDLBCSRE	Requirements Engineering			X	X	X		X	
	LIBFEXDLBCSCNDS	Computer Networks and Distributed Systems	X			X	X		X	
	LIBFEXDLBDSIPWP	Introduction to Programming with Python		X	X	X	X		X	
Year 2	LIBFAWDLBCSIAW	Introduction to Academic Work					X		X	X
	LIBFAWDLBCSL	Algorithms, Data Structures, and Programming Languages		X	X	X	X		X	
	LIBFAWDLBCSTCSML	Theoretical Computer Science and Mathematical Logic	X	X		X				X
	LIBFAWDLBCSWAD	Web Application Development			X	X	X	X	X	
	LIBFOPRRPDLBDSPBDM	Project: Build a Data Mart in SQL		X	X	X		X	X	X

	LIBFOPRRPDLBCSPSE	Project: Software Engineering			X	X	X	X	X	X
	Elective from Group A									
	Elective from Group A									
Year 3	LIBFWAWADLBCSCSAS	Computer Science and Society	X				X	X	X	X
	LIBFWAREDLBCSSCTCS	Seminar: Current Topics in Computer Science		X	X	X	X	X	X	X
	Elective from Group B									
	Elective from Group B									
	Elective from Group C									
	Elective from Group C									
	LIBFBTDLBBT	Bachelor's Thesis	X				X	X	X	X
<p>This table shows the distribution of the programme's intended learning outcomes (as specified in the programme specification) across the programme modules.</p>										

## 12. Mapping of Teaching Formats and Types of Media used in the Programme Modules

	Module Code	Module Name	Type of Assessment <sup>1</sup>	Teaching Formats <sup>2</sup>			Types of Media <sup>3</sup>					
				CF	ILSE	LS <sup>4</sup>	CB	RL	OT	RB	V	PE
Year 1	LIBFEXDLBCSICS	Introduction to Computer Science	EX	X	X	X	X	X	X		X	X
	LIBFEXDLBCSM1	Mathematics I	EX	X	X	X	X	X	X	X	X	X
	LIBFOARPDLCSCW	Collaborative Work	OARP	X	X	X	X	X	X		X	
	LIBFEXDLBCSCAOS	Computer Architecture and Operating Systems	EX	X	X	X	X	X	X		X	X
	LIBFEXDLBCSDMDS	Database Modeling and Database Systems	EX	X	X	X	X	X	X		X	X
	LIBFEXDLBCSRE	Requirements Engineering	EX	X	X	X	X	X	X		X	X
	LIBFEXDLBCSCNDS	Computer Networks and Distributed Systems	EX	X	X	X	X	X	X		X	X
	LIBFEXDLBDSIPWP	Introduction to Programming with Python	EX	X	X	X	X	X	X		X	X
Year 2	LIBFAWDLBCSIAW	Introduction to Academic Work	AW	X	X	X	X	X	X		X	
	LIBFAWDLBCSL	Algorithms, Data Structures, and Programming Languages	AW	X	X	X	X	X	X		X	
	LIBFAWDLBCSTCSML	Theoretical Computer Science and Mathematical Logic	AW	X	X	X	X	X	X		X	

	LIBFAWDLBCSWAD	Web Application Development	AW	X	X	X	X	X	X		X	
	LIBFOPRRPDLBDSPBDM	Project: Build a Data Mart in SQL	OPRRP	X	X	X						
	LIBFOPRRPDLBCSPSE	Project: Software Engineering	OPRRP	X	X	X						
	Elective from Group A											
	Elective from Group A											
Year 3	LIBFWAWADLBCSCSAS	Computer Science and Society	WAWA	X	X	X	X	X	X		X	
	LIBFWAREDLCSSCTCS	Seminar: Current Topics in Computer Science	WARE	X	X	X						
	Elective from Group B											
	Elective from Group B											
	Elective from Group C											
	Elective from Group C											
	LIBFBTDLBBT	Bachelor's Thesis	BT									

This table shows the distribution of teaching formats and types of media used in the programme modules

<sup>1</sup>EX = Exam, WAWA = Written assignment, WACS = Case study, WARE = Research essay, WAPR = Project report, P = Portfolio, AW = Advanced Workbook, OARP = Oral Assignment + Reflection Paper, OPRRP = Oral Project Report + Reflection Paper, BT/MT = Bachelor's / Master Thesis

<sup>2</sup>CF = Course Feed, ILSE = Intensive Live Sessions, LS = Learning Sprints

<sup>3</sup>CB = Course Book, RL = Reading List, OT = Online Tests, RB = Review Book, V = Videos, PE = Practice Exams

<sup>4</sup>Offered only when the minimum number of participants is reached.