



## 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>• 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>

<b>Date of original production:</b> Month Year	<b>Date of current version:</b> Month Year
<b>Record of modifications:</b> 1) Month Year, 2) Month Year, 3) Month Year	

## 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 with Honours level (Level 6).

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

LO1	Demonstrate systematic knowledge and critical understanding of the fundamental aspects of computer science, such as computer architecture and operating systems, computer networks and distributed systems, theoretical computer science, and mathematical logic. (C 4.6)
LO2	Demonstrate knowledge and critical understanding of relevant theoretical underpinnings and fundamental concepts of computing that do not change with rapid technological development, such as mathematics, algorithms, data structures, programming languages, data modelling, and database systems. (C 4.6)
LO3	Demonstrate knowledge and critical understanding of interdisciplinary engineering and project-based practice in software engineering and development and accurately deploy established analysis and problem-solving techniques within the software lifecycle to solve complex problems. (C 4.6)
LO4	Demonstrate knowledge and critical understanding of interdisciplinary programming and project-based practice and apply this knowledge to develop web applications. (C 4.6)
LO5	Demonstrate knowledge and critical understanding of interdisciplinary aspects at the forefront of computing and demonstrate the capability to explore creative and dynamic technologies that adhere to the sustainable development agenda to become part of the global digital skills economy. (C 4.6)
LO6	Critically evaluate current research topics in computer science, explicitly addressing sustainable development goals, including accessibility and gender equality. (C 4.6)
LO7	Employ research methods and techniques to extend their knowledge of current topics at the forefront of computer science, data science, and digital technology and apply this knowledge to solve problems within other disciplines and to appreciate the uncertainty, ambiguity, and limit of knowledge. (C 4.6)

LO8	Demonstrate cognitive skills to control complexity by abstraction, simplification, and synthesis and adopt the depth and intellectual richness of theory in computer science by critically evaluating arguments, assumptions, and abstract concepts, such as theoretical computer science and mathematical logic. (C 4.6)
LO9	Formulate research questions to identify a range of solutions, make judgements, maintain academic rigour and theoretical foundations, and integrate theory and innovative practices to explore content beyond computing subjects. (C 4.6)
LO10	Apply computing knowledge and computational thinking skills to solve complex societal problems and explore the potential role of digital technologies through creativity, programming practice, and inquiry within the computer science discipline, showing teamwork skills, emotional intelligence, empathy, and sensitivity to diversity regarding people and cultures. (C 4.6)
LO11	Incorporate the skills for lifelong learning and keep up with the rapidly evolving global digital skills economy, taking personal responsibility for their professional development. (C 4.6)
LO12	Develop transferable skills to meet the needs of the global digital skills economy that often shows the effects of the social impact of technologies, which require decision-making to mitigate or remove biases connected to inclusion, accessibility, or gender equality. (C 4.6)
LO13	Develop transferable skills for future careers and entrepreneurship by communicating information, ideas, problems, and solutions to specialist and non-specialist audiences. (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
LIBFOADLBCSCW	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
LIBFOPRDLBDSPBDM	Project: Build a Data Mart in SQL	5	15	C
LIBFOPRDLBCSPSE	Project: Software Engineering	5	15	C
Elective from Group A		5	15	E
Elective from Group A		5	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		6	15	E
Elective from Group B		6	15	E
Elective from Group C		6	15	E
Elective from Group C		6	15	E
LIBFBTDLBBT	Bachelor Thesis	6	30	C

Table 2: List of Electives

Module Code	Module Name	Level	Credit	Subject Area*
Electives A (Level 5)				
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
Electives B (Level 6)				
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
LIBFWAWADLBDSCT	Cloud Computing	6	15	BD&BI

LIBFWAWADLBDSEAIS1	Artificial Intelligence	6	15	AI
LIBFPDLBDSEAIS2	Project: Artificial Intelligence	6	15	AI
LIBFIRPFSINTER1	Internship I <sup>1</sup>	6	15	n/a
LIBFIRPFSINTER2	Internship II <sup>1</sup>	6	15	n/a
Electives C (Level 6)				
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

\*

SE = Software Engineering	CS = Cyber Security	AI = Artificial Intelligence
ITPM = IT Service and Project Management	BD&BI = Big Data and Business Intelligence	

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

## 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 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,

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



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. The university keeps the compulsory and further reading 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 Code of Practice for Quality Assurance, Chapter 7: Assessment.

Assessment consists of both formative and summative approaches. The different types of assessment used by LIBF are detailed in the Types of Summative Assessment document.

Feedback and feedforward on formative and summative assessments will be provided in line with The London Institute of Banking & Finance's Code of Practice for Quality Assurance, Chapter 7: Assessment and the Assessment Feedback policy.

Module assessment methods are included in Module Specifications 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, students will be awarded the

Bachelor Honours Degree

360 credits, of which at least 90 credits must be at Level 6

Bachelor's Degree (non-Honours)                      minimum of 300 credits, of which at least 60 credits must be at Level 6

## 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.

## Exit Awards

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

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 the BSc (Hons) Computer Science are:

	<b>Grades</b>	<b>Old UCAS tariff</b>	<b>New UCAS tariff</b>
<b>'A' Levels</b>	ABB - BBC	320 – 280	128 - 112
<b>BTEC</b>	D*DD – DDM	380 – 320	152 - 128
<b>IB</b>	32 - 28	435 – 348	New tariff is at component level
<b>Students are also required to hold:</b>			
<b>GCSEs</b>	<b>Old grading system</b>	<b>New grading system</b>	
<b>Maths</b>	A	7	
<b>English</b>	C	4	
<b>IELTS</b>	<b>Overall Score</b>	<b>Individual Elements</b>	
	6.0	5.5	

Entry at Level 5 still requires an applicant to meet the above requirements, however, if the applicant has studied at Level 4/5 at another university consideration is given to APL.

If the applicant is a non-native speaker of English, they also need to meet an IELTS grade of 6.0 overall or above with no element below 5.5 (or equivalent). Alternatively, evidence students have previously studied in English at an appropriate level and at a recognised institution, may be accepted.

Entry at Level 6 is only permitted where we have a specific arrangement with a partner organisation, or the applicant has previously studied with us and gained a relevant Diploma of Higher Education.

Offers of admission are normally based on 128-112 UCAS points or ABB-BBC at A Level (this excludes General Studies, Critical Thinking, Extended Projects, and Citizenship Studies). All applicants are usually required to hold a minimum of GCSE Maths Grade A or Grade 7, and above GCSE English Grade C or Grade 4. Ideally, applicants will have studied one of the following A Levels: Mathematics, Further Mathematics, Economics, Statistics, or Physics. We accept the BTEC Extended Diploma at D\*DD and the Diploma and Subsidiary Diploma along with other qualifications. We also accept the International Baccalaureate (32-28 points). We will consider a range of T-Level qualifications for entry. If applicants do not satisfy these criteria, they can communicate with the LIBF Admissions Team and discuss entry requirements.

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
  - Higher Education Credit Framework for England

### 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 address identified skill 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 \(APL\)](#)

[The London Institute of Banking & Finance's Code of Practice for Quality Assurance, Chapter 7: Assessment](#)

Types of Summative Assessment

Assessment 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	LO9	LO10	LO11	LO12	LO13
Year 1	LIBFEXDLBCSICS	Introduction to Computer Science	X												
	LIBFEXDLBCSM1	Mathematics I		X											
	LIBFOADLBCSCW	Collaborative Work									X				
	LIBFEXDLBCSCAOS	Computer Architecture and Operating Systems	X												
	LIBFEXDLBCSDMDS	Database Modeling and Database Systems		X											
	LIBFEXDLBCSRE	Requirements Engineering			X										X
	LIBFEXDLBCSCNDS	Computer Networks and Distributed Systems	X												
	LIBFEXDLBDSIPWP	Introduction to Programming with Python				X									
Year 2	LIBFAWDLBCSIAW	Introduction to Academic Work									X		X		
	LIBFAWDLBCSL	Algorithms, Data Structures, and Programming Languages		X						X					
	LIBFAWDLBCSTCSML	Theoretical Computer Science and Mathematical Logic	X							X					
	LIBFAWDLBCSWAD	Web Application Development				X									X

	LIBFOPRDLBDSPBDM	Project: Build a Data Mart in SQL				X			X			X			X
	LIBFOPRDLBCSPSE	Project: Software Engineering			x				X			X			X
	Elective from Group A														
	Elective from Group A														
Year 3	LIBFWAWADLBCSCSAS	Computer Science and Society					X	X	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 Thesis		X		X	X	X	X	X		X	X	X	X
This table shows the distribution of the programme's intended learning outcomes (as specified in the programme specification) across the programme modules.															

## 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
	LIBFOADLBCSCW	Collaborative Work	OA	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	
	LIBFOPRDLBDSPBDM	Project: Build a Data Mart in SQL	OPR	X	X	X						
	LIBFOPRDLBCSPSE	Project: Software Engineering	OPR	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	
	LIBFWAREDLBCSSCTCS	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 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, OA = Oral Assignment, OPR = Oral Project Report, BT/MT = Bachelor / 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.