Template C4

Kingston University London

Programme Specification

Title of Course: *BSc (Hons) Computer Science (Network & Network Security)*

Date first produced	06/08/2025
Date last revised	28/08/2025
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Version number	3
Faculty	Faculty of Engineering, Computing and the Environment
Cross-disciplinary	
School	School of Computer Science and Mathematics
Department	Department of Computer Science
Delivery Institution	ESOFT

This Programme Specification is designed for prospective students, current students, academic staff and employers. It provides a concise summary of the main features of the programme and the intended learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if they take full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes and content of each modules can be found in the course VLE site and in individual Module Descriptors.

SECTION 1: GENERAL INFORMATION

Award(s) and Title(s):	BSc (Hons) Computer Science (Network & Network Security)
Exit Award(s) and Title(s):	CertHE Computer Science (Network & Network Security) DipHE Computer Science (Network & Network Security) BSc Computer Science (Network & Network Security)
Course Code *For each pathway and mode of delivery*	UFCSN1CSN21
UCAS code *For each pathway*	N/A

Awarding Institution:	Kingston University
Teaching Institution:	ESOFT
Location:	ESU Colombo and ESU Kandy
Language of Delivery:	English
Delivery mode:	Primarily campus based (up to 20% of scheduled L&T hours delivered online)
Learning mode(s):	Full-time
Minimum period of registration:	Full-time - 3 years
Maximum period of registration:	Full-time - 6 years

Entry requirements	The minimum entry qualifications for the programme are:
	1. Three Passes in one sitting at one of the following examinations or equivalent foreign qualifications
	    1. G.C.E. (A/L) – conducted by the Department of Examinations, Sri Lanka
	    2. G.C.E. (A/L) – conducted by Pearson Edexcel, UK (London A/L)
	    3. International (A/L) IGCSE's – conducted by Pearson Edexcel, UK
	    4. G.C. E. (A/L) – conducted by Cambridge International Examinations, UK

	OR 1. ESOFT International Foundation Diploma. A minimum overall IELTS score of 6.0 with a minimum of 5.5 each element, iBT TOEFL 80 with R at 20, L at 19, S at 21 and W at 20 or equivalent is required for those for whom English is not their first language. A minimum of a Credit pass at the Sri Lankan G.C.E O/L English Language exam will also be considered as equivalent to this level. We will consider a range of alternative qualifications or experience that is equivalent to the typical offer. Applications from international students with equivalent qualifications are welcome.
Regulated by	The University and its courses are regulated by the Office for Students
Programme Accredited by:	Non-accredited programme
Approved Variants:	
Is this Higher or Degree Apprenticeship course?	No

SECTION 2: THE COURSE

A. Aims of the Course

The programme aims to :

- Produce graduates with the knowledge, skills, and professional attitudes needed to work effectively in computing roles across industry and commerce.
- Equip students to meet the academic, professional, and practical requirements for membership of relevant bodies, such as the British Computer Society.
- Foster understanding of the scope and impact of computer-based systems and their interactions with human, organisational, and social environments.
- Prepare students for advanced study, research, or development within computing and information systems.
- Develop the ability to apply knowledge in diverse contexts, both independently and collaboratively within teams.
- Encourage a reflective mindset and inquisitiveness in system modelling, with insight into functional and qualitative system properties.
- Build the capacity to evaluate and predict key system attributes, such as security, performance, and efficiency, within varying contexts.
- Promote awareness of the legal, ethical, social, and cultural dimensions of computing problems and solutions.
- Support lifelong learning by nurturing the ability to acquire new skills independently, adapt to emerging trends, and contribute creatively to the field.

B. Programme Learning Outcomes

The programme learning outcomes are the high-level learning outcomes that will have been achieved by all students receiving this award. They have been aligned to the levels set out in ‘Sector Recognised Standards in England’ (OFS 2022).

Programme Learning Outcomes					
	Knowledge and Understanding On completion of the course students will be able to:		**Intellectual Skills** On completion of the course students will be able to		**Subject Practical Skills** On completion of the course students will be able to
A1	Demonstrate and apply essential concepts, theories, principles and practices of computer networking and network security.	B1	analyse, abstract and decompose problems to design effective solutions	C1	Develop and critically evaluate specifications for specialist network and security systems, and effectively communicate these specifications to other computing and security professionals
A2	Analyse the social, ethical, legal, commercial and other human factors that affect the design, development, deployment, and security of computer networks and systems.	B2	synthesise information from disparate and potentially incomplete sources to model and build systems, documents and other related artefacts	C2	Use (and, where appropriate, modify) established network configuration, security assessment, and system development methods, techniques, and tools to build and secure network-based solutions.
A3	Identify security issues and evaluate risk for the safe operation of computing and information systems	B3	analyse and evaluate the extent to which a network or security system meets performance, security, and operational criteria for its current use and future development	C3	collaborate and communicate effectively with other professionals/stakeholders to plan, design, manage, implement and deliver IT projects
A4	Describe and com[pare the different ways in which data and	B4	elicit, evaluate and model business, customer and user requirements, incorporating	C4	implement software solutions using a variety of programming

	information may be represented, stored and transmitted		considerations such as sociological and commercial contexts, user experience, aesthetics and technical practicalities		languages, environments and platforms
A5	identify the different project management approaches commonly used in the IT industry and select, modify or construct one for a given context	B5	critically evaluate security policies, standards, and practices, proposing improvements based on current industry best practices and emerging threats	C5	Conduct network vulnerability assessments, penetration tests, and incident response activities following industry best practices and ethical guidelines

C. Future Skills Graduate Attributes

In addition to the programme learning outcomes, the programme of study defined in this programme specification will engage students in developing their Future Skills Graduate Attributes:

1. Creative Problem Solving
2. Digital Competency
3. Enterprise
4. Questioning Mindset
5. Adaptability
6. Empathy
7. Collaboration
8. Resilience
9. Self-Awareness

D. Outline Programme Structure

Full details of each module will be provided in module descriptors and in the module canvas pages.
Note: As per GR5 within the general regulations, the University aims to ensure that all option modules listed below are delivered. However, for various reasons, such as demand, the availability of option modules may vary from year to year or between teaching blocks. Students will be informed of the availability of option modules through the Online Module Selection process.

BSc (Hons) Computer Science (Network & Network Security)

Level 4							
BSc (Hons) Computer Science (Network & Network Security)							
Core modules	**Module code**	**Credit Value**	**Level**	**Teaching Block**	**Pre-requisites**	**Full Time**	**Part Time**
Computing Fundamentals	CI4250	30	4	Year Long	None	1	
Professional Environments 1	CI4450	30	4	Year Long	None	1	
Programming I – Thinking Like a Programmer	CI4105	30	4	Year Long	None	1	
Requirements Analysis and Design	CI4305	30	4	Year Long	None	1	

Exit Awards at Level 4

Students exiting the course at this point who have successfully completed 120 credits at level 4 or above are eligible for the award of Certificate of Higher Education.

Level 5							
BSc (Hons) Computer Science (Network & Network Security)							
Core modules	**Module code**	**Credit Value**	**Level**	**Teaching Block**	**Pre-requisites**	**Full Time**	**Part Time**
Computing Systems	CI5250	30	5	Year Long	None	2	
Database-Driven Application Development	CI5320	30	5	Year Long	None	2	
Networking Concepts	CI5210	30	5	Year Long	None	2	
Professional Environments 2	CI5450	30	5	Year Long	None	2	

Exit Awards at Level 5

Students exiting the programme at this point who have successfully completed 120 credits at level 5 or above are eligible for the award of Diploma of Higher Education.

Level 6							
BSc (Hons) Computer Science (Network & Network Security)							
Core modules	**Module code**	**Credit Value**	**Level**	**Teaching Block**	**Pre-requisites**	**Full Time**	**Part Time**
Individual Project	CI6600	30	6	Year Long		3	
Advanced Data Modelling	CI6416	15	6	TB2		3	
Cryptography and Network Security	CI6015	30	6	Year Long	None	3	
Future Skills Apply ESU	CI6003	15	6	TB1		3	
Internet Services and Protocols	CI6250	30	6	Year Long	None	3	

Exit Awards at Level 6

Students exiting the programme without completing the full 120 credits but have successfully completed 60 credits at level 6 or above are eligible for the award of an Ordinary Degree.

E. Teaching, Learning and Assessment

This course uses a range of teaching and assessment methods which have been designed to support students' learning and achievement of the learning outcomes. The course has been developed with reference to the Kingston University Academic Framework which sets-out core principles relating to Course and Credit Structure (including Module delivery Structure and Pattern, and Learning Hours and Learning Formats); Curriculum Design (inclusion Learning Design Principles and Inclusive Curriculum); and Future Skills.

Teaching and Learning on the course consist of Scheduled Learning and Teaching and Guided Independent Study (self-managed time). Scheduled Learning and Teaching includes the following, and the format for each module is set out in the module specification:

- Laboratory Sessions
- Lectures
- Seminars
- Tutorials
- Workshops
- Placements

Guidance for students on the use of independent study time is communicated through the 'Succeed in your module' section on the Canvas Virtual Learning Environment and through other communications during the course.

In addition to the core Scheduled Learning and Teaching activities for the course, the University may offer students additional optional opportunities for learning. Examples of these include Study abroad and Work-based learning.
The course will provide students with the opportunity to develop their knowledge and skills relating to at least two United Nations Sustainable Development Goals (UN SDGs). We are committed to empowering students with the knowledge, skills and opportunities to understand and address the UN SDGs: each course is thus also required to prepare students for at least two of the SDGs (not including Quality Education, which all courses must deliver).

F. Support for Students and their Learning

Students are supported through a range of services that provide academic and wider support. These include:

- A Module Leader for each module
- A Course Leader to help students understand the course structure
- Personal Tutors to provide academic and personal support
- Technical support to advise students on IT and the use of software

- A designated Programme Administrator
- Student Voice Committee – to ensure the views of students are heard
- EMLS– EMC's Virtual Learning Environment
- Student support facilities that can provide advice on issues such as finance, regulations, legal matters, accommodation, international student support
- Disabled student support
- ESOFT Student Council (ESC)
- Careers and Employability Service

The students are introduced to all these mechanisms during induction sessions at the beginning of each new academic year. It is here that the level 4 students first encounter the Campus' computer network, which includes their personal access to the ELMS and how to use it as a learning environment.
Students are expected to be involved in the development of their programme. On an individual level through meetings with their personal tutors at which they can discuss their academic progress, personal development and can seek advice on course and module choices in the light of their career aspirations. As a cohort, students can contribute to many aspects of programme evolution for example by student representation on meetings including SVC as well as by their formal and informal feedback such as end-of-module reviews.
Learning cyber security is often most readily undertaken in the context of the search for solutions to real-life problems. This is reflected in the approach adopted throughout this programme which is problem-centred wherever appropriate. The strategy is to start with a relevant problem then to move forward from there to explore the theory and techniques necessary to investigate that problem. The 'top down' approach provides more motivation for students to engage with material/concepts and opportunities for relatable (concrete), inclusive example problems to be used. Students frequently work in groups to tackle these problems both in timetabled sessions and outside, thereby creating a learning community in which the students collaborate with each other and staff. As the students work together in groups, both formatively and summatively, this community supports them automatically allowing for different learning styles and varied backgrounds.
Students are encouraged to develop as independent learners as they progress through their degree course. This is supported explicitly through, for example, the strand of professional skills modules culminating in the individual project in the final year

G. Ensuring and Enhancing the Quality of the Course

The University has policies and procedures for evaluating and improving the quality and standards of its provision. These include:

- Continuous Monitoring of courses through the Kingston Course Enhancement Programme (KCEP)
- Student evaluation including Module Evaluation Questionnaires (MEQs)
- Internal and external moderation of graded assignments

H. External Reference Points

External reference points which have informed the design of the course. These include:

- QAA Benchmark statement
  website: https://www.qaa.ac.uk/docs/qaa/sbs/sbs-computing-22.pdf
- Professional or statutory body information: http://www.bcs.org/
- Guidance on Enterprise and Entrepreneurship
  (Draft) http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/EE_Draft_Guidance.pdf
- Shadbolt
  review https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/518575/ind-16-5-shadbolt-review-computer-science-graduate-employability.pdf

I. Development of Course Learning Outcomes in Modules

This table maps where programme learning outcomes are **summatively** assessed across the **core** modules for this course. It provides an aid to academic staff in understanding how individual modules contribute to the course aims, a means to help students monitor their own learning, personal and professional development as the course progresses and a checklist for quality assurance purposes.

Module Code		Level 4				Level 5				Level 6				
		CI4305	CI4450	CI4250	CI4105	CI5250	CI5450	CI5210	CI5320	CI6250	CI6015	CI6600	CI6416	CI6003
Knowledge & Understanding	A1	S	S	S	S	S	S	S						
	A2	S	S	S	S	S	S			S	S			
	A3	S	S		S	S	S	S	S					
	A4			S	S				S	S				
	A5	S	S		S	S	S	S	S		S			
Intellectual Skills	B1	S	S	S	S				S		S			
	B2	S	S	S	S		S	S	S	S				

	B3			S		S			S	S				
	B4				S					S				
	B5		S		S		S	S			S			
Practical Skills	C1	S			S		S	S	S	S				
	C2		S		S		S	S	S	S	S			
	C3		S	S	S			S	S					
	C4				S				S					
	C5		S	S	S	S			S	S	S			

Students will be provided with formative assessment opportunities throughout the course to practise and develop their proficiency in the range of assessment methods utilised.

Additional Information