KEY PROGRAMME INFORMATION

Originating institution(s) Bournemouth University	**Faculty responsible for the programme** Faculty of Science and Technology

Final award(s), title(s) and credits
BSc (Hons) Computer Networks – 120 (60 ECTS) Level 4 / 120 (60 ECTS) Level 5 / 120 (60 ECTS) Level 6 credits

Intermediate award(s), title(s) and credits Dip HE Computer Networks – 120 (60 ECTS) Level 4 / 120 (60 ECTS) Level 5 credits Cert HE Computing – 120 (60 ECTS) Level 4 credits

UCAS Programme Code(s) (where applicable and if known) G610	**HECoS (Higher Education Classification of Subjects) Code and balanced or major/minor load.** 100366 (80%) Computer science 100374 (20%) Software engineering

External reference points - The UK Quality Code for Higher Education; - Chapter A1: The National Level (incorporating the Framework for Higher Qualifications (FHEQ) in England, Wales and Northern Ireland); - Chapter A2: The Subject and Qualification Level (incorporating the Subject benchmark statements for Computing (2015)); - BCS – The Chartered Institute for IT guidelines

Professional, Statutory and Regulatory Body (PSRB) links BCS – The Chartered Institute for IT accreditation (http://wam.bcs.org/wam/coursesearch.aspx#CoursesPL)

Places of delivery Bournemouth University, Talbot Campus

Mode(s) of delivery Full-time/Full-time sandwich	**Language of delivery** English

Typical duration Programme duration: 3 years full-time / 4 years full-time sandwich Level 4: 1 year Level 5: 1 year Optional sandwich placement: 1 year Level 6: 1 year

Date of first intake September 2019	**Expected start dates** September
Maximum student numbers Not applicable	**Placements** 30 weeks, optional
Partner(s) Not applicable	**Partnership model** Not applicable

Date of this Programme Specification January 2022

Version number 1.6-0923

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PROGRAMME STRUCTURE

Programme Award and Title: BSc (Hons) Computer Networks								

Year 1/Level 4
Students are required to complete all 6 core units

Unit Name	Core/ Option	No of credits	Assessment Element Weightings			Expected contact hours per unit	Unit version no.	HESA HECoS code(s)	
			Exam 1	Cwk 1	Cwk 2			HESA HECoS Subject Code and %	HESA HECoS Subject Code and %
Principles of Programming	Core	20	50%	50%		48	1.1	100956 (100%)	
Computer Fundamentals	Core	20	50%	50%		48	2.2	100735 (50%)	100734 (50%)
Data and Databases	Core	20	50%	50%		48	4.2	100754 (50%)	100755 (50%)
Networks and Cyber Security	Core	20	50%	50%		48	2.2	100376 (50%)	100365 (50%)
Applications of Programming Principles	Core	20		100%		48	1.1	100956 (70%)	100373 (30%)
Business Systems Analysis and Design	Core	20	30%	70%		48	2.1	100753 (50%)	100360 (50%)

Progression requirements: Requires 120 credits at Level 4

Exit qualification: Cert HE Computing (requires 120 credits at Level 4)

Year 2/Level 5
Students are required to complete 4 core and 2 option unit.

Unit Name	Core/ Option	No of credits	Assessment Element Weightings			Expected contact hours per unit	Unit version no.	HESA HECoS code(s)	
			Exam 1	Cwk 1	Cwk 2			HESA HECoS Subject Code and %	HESA HECoS Subject Code and %
Systems Design	Core	20	50%	50%		36	3.1	100753 (100%)	
Infrastructure Strategy	Core	20	50%	50%		36	3.1	100734 (60%)	100365 (40%)
Project Management & Teamwork	Core	20		100%		24	4.1	100812 (100%)	
Networks	Core	20	50%	50%		36	1.1	100365 (100%)	
Data Management	Option	20	50%	50%		36	3.1	100755 (50%)	100754 (50%)
Application Programming	Option^	20	30%	70%		36	3.1	100956 (100%)	
Web Programming	Option^	20	50%	50%		36	3.1	100373 (50%)	100956 (50%)
Tools & Technologies of Data Science	Option	20	30%	70%		36	1.1	100367 (50%)	100741 (50%)
User Centred Web Development	Option	20		40%	60%	36	4.2	100736 (50%)	100373 (50%)
Machine Learning	Option	20		100%		36	1.2	100992 100%	

^ The students must take at least one Programming unit (Application Programming/Web Programming), and they can also take both.

Progression requirements: Requires 120 credits at Level 5

Exit qualification: Dip HE Computer Networks (requires 120 credits at Level 4 and 120 credits at Level 5)

Year 3/Level P - Compulsory/Optional placement year in industry/business
For programmes with a compulsory placement - exemption is possible for those who have worked in industry/business at a relevant level

Progression requirements: Satisfactory completion of a minimum 30-week placement in industry/business and successful completion of *any additional requirements*. Students who do not choose to undertake the optional sandwich placement may progress directly from Level 5 to Level 6.

Year 3/4/Level 6									
Unit Name	Core/ Option	No of credits	Assessment Element Weightings			Expected contact hours per unit	Unit version no.	HESA HECoS code(s)	
			Exam 1	Cwk 1	Cwk 2			HESA HECoS Subject Code and %	HESA HECoS Subject Code and %
Advanced Networks	Core	20		100%		36	3.2	100365 (100%)	
Network Configuration Management	Core	20	50%	50%		36	3.1	100365 (100%)	
Advanced Development	Option	20	50%	50%		36	3.1	100956 (100%)	
Data Mining	Option	20	50%	50%		36	3.1	100359 (50%)	100992 (50%)
Deep Learning	Option	20		100%		36	1.0	I400 (50%)	I430 (50%)
Business Continuity Management*	Option	20		100%		36	2.2	100823 (100%)	
Human Factors in Computing Systems*	Option	20		100%		36	3.1	100736 (100%)	
Information Assurance*	Option	20		100%		36	3.1	100366 (100%)	
Machine Intelligence*	Option	20		100%		36	3.1	100359 (50%)	100992 (50%)
Ubiquitous Computing*	Option	20		40%	60%	36	3.2	100366 (100%)	
Software Systems Modelling*	Option	20		100%		36	3.1	100374 (100%)	
Web Information Systems*	Option	20		100%		36	3.2	100371 (60%)	100373 (40%)
Individual Project	Core	60		100%		21	3.1	100358 (60%)	100812 (40%)
BSc Computing students need to select 2 core units from A and 1 optional unit from B.									
* = may not run, depends on student numbers and staff availability.									
Exit qualification: BSc (Hons) Computer Networks **Sandwich UG award:** Requires 120 credits at Level 4, 120 credits at Level 5, 120 credits at Level 6 and successful completion of a placement year. **Full-time UG award:** Requires 120 credits at Level 4, 120 credits at Level 5 and 120 credits at Level.									

AIMS OF THE DOCUMENT

The aims of this document are to:

- define the structure of the programme;
- specify the programme award titles;
- identify programme and level learning outcomes;
- articulate the regulations governing the awards defined within the document.

AIMS OF THE PROGRAMME

Students studying for the B BSc (Hons) Computer Networks programme will focus in depth on the theoretical principles and technical aspects of network system configuration and management. Throughout the programme, emphasis is placed on detailed network design knowledge and implementation choices.

Topics covered include setting up optimum network infrastructure configurations, including management of redundancy and scalability, and active management of network systems including optimization of behavior and performance of key intermediary devices, in a variety of network designs and organizational scenarios.

Graduates will learn principles and practices of advanced networks that will allow them to understand and design current and future networks.

Graduates of the programme will be able to put their technical knowledge into modern business or organizational setting including the legal and ethical aspects of computer network management, such as security and issues of disaster recovery.

ALIGNMENT WITH THE UNIVERSITY'S STRATEGIC PLAN

The BSc (Hons) Computer Networks programme is informed by and well aligned with Bournemouth University's 2012-18 strategic plan and the fusion of excellent teaching, world-class research and professional practice that is at the heart of the institution's visions and values. Students are supported by academics with a wealth of industry experience, many of whom are actively engaged in various data-related projects with several external organisations. Academics delivering the programme are actively engaged in cutting edge research, while students are encouraged to participate in a range of co-creation and co-publication projects. The programme's innovative pedagogic approach offers students the opportunity to learn by engaging in a series of practical, industry focused tasks, such as Simulated Business 2 Days (SB2D). These are aimed at equipping students with the full range of skills necessary to succeed in the contemporary ICT environment, and are informed by the academic team's own industrial experience as well as by a network of industry contacts, who may also contribute directly to the programme by delivering guest lectures.

LEARNING HOURS AND ASSESSMENT

Bournemouth University taught programmes are composed of units of study, which are assigned a credit value indicating the amount of learning undertaken. The minimum credit value of a unit is normally 20 credits, above which credit values normally increase at 20-point intervals. 20 credits is the equivalent of 200 study hours required of the student, including lectures, seminars, assessment and independent study. 20 University credits are equivalent to 10 European Credit Transfer System (ECTS) credits.

The assessment workload for a unit should consider the total time devoted to study, including the assessment workload (i.e. formative and summative assessment) and the taught elements and independent study workload (i.e. lectures, seminars, preparatory work, practical activities, reading, critical reflection).

Assessment per 20 credit unit should normally consist of 3,000 words or equivalent. Dissertations and Level 6 and 7 Final Projects are distinct from other assessment types. The word count for these assignments is 5,000 words per 20 credits, recognising that undertaking an in-depth piece of original research as the capstone to a degree is pedagogically sound.

STAFF DELIVERING THE PROGRAMME

Students will usually be taught by a combination of senior academic staff with others who have relevant expertise including – where appropriate according to the content of the unit – academic staff, qualified professional practitioners, demonstrators/technicians and research students.

INTENDED LEARNING OUTCOMES – AND HOW THE PROGRAMME ENABLES STUDENTS TO ACHIEVE AND DEMONSTRATE THE INTENDED LEARNING OUTCOMES

PROGRAMME AND LEVEL 6 INTENDED PROGRAMME OUTCOMES

A: Subject knowledge and understanding This programme/level provides opportunities for students to develop and demonstrate knowledge and understanding of:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the programme/level learning outcomes:
A1 Principles of Network communication systems; **A2** Configuration and management of network systems; **A3** Principles of secure applications in networked systems; **A4** A rigorous engineering approach to investigating and solving network problems; **A5** The development of software or other IT solutions to business and other problems; **A6** The professional, legal & ethical responsibilities of computing personnel within the organisational, technical and global contexts in which computing is applied.	Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): • lectures (A1-A6); • seminars (A1-A6); • directed reading (A1-A6); • independent research (for dissertation) (A1-A6).
	Assessment strategies and methods (referring to numbered Intended Learning Outcomes): • examinations (A1 – A6); • coursework (A1 – A6); • dissertation (A1 – A6).
B: Intellectual skills This programme/level provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the programme/level outcomes:
B1 Reason critically; **B2** Demonstrate independent thought; **B3** Analyse, interpret, synthesise and evaluate information;	Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): • lectures (B1 – B6); • seminars (B1 – B6);

B4 Identify and solve problems; **B5** Select and apply appropriate design methods to the solution of problems; **B6** Evaluate resource requirements of alternative solutions.	• directed reading (B3 – B6); • use of the VLE (B2 – B6); • independent research (for dissertation) (B1 – B6).
	Assessment strategies and methods (referring to numbered Intended Learning Outcomes): • examinations (B1- B6); • coursework essays (B1 – B6); • dissertation (B1 – B6).
C: Practical skills This programme/level/stage provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the programme/level learning outcomes:
C1 Retrieve, select and evaluate information from a variety of sources; **C2** Formulate a set of requirements for an IT solution; **C3** Design a solution to an IT problem; **C4** Implement a solution to an IT problem; **C5** Evaluate an IT system; **C6** Plan, monitor and evaluate the progress of an IT project.	Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): • lectures (C1 – C6); • seminars (C1 – C6); • independent research for empirical dissertation (C1 – C6);
	Assessment strategies and methods (referring to numbered Intended Learning Outcomes): • examinations (C2, C3, C5); • coursework (C1 – C6); • dissertation (C1 – C6).
D: Transferable skills This programme/level/stage provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the programme/level learning outcomes:
D1 Structure and communicate ideas effectively both orally and in writing; **D2** Learn independently in complicated contexts;	Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): • lectures (D1 – D4); • seminars (D1 – D4);

D3 Work professionally as an individual to develop creative solutions to problems; **D4** Work professionally in teams to develop creative solutions to problems.	• use of the VLE (D1 – D4); • directed reading (D1 – D4).
	Assessment strategies and methods (referring to numbered Intended Learning Outcomes): • coursework (D1 – D4); • examinations (D1, D3); • dissertation (D1- D4).

LEVEL 5/DipHE INTENDED LEVEL <u>OR</u> STAGE OUTCOMES

A: Knowledge and understanding This level provides opportunities for students to develop and demonstrate knowledge and understanding of*:*	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:
A1 The different platforms on which IT systems operate and the importance of security; **A2** The principles and techniques for specifying and designing IT systems and their interfaces; **A3** The principles and techniques of project management and of working professionally and ethically in teams; **A4** The principles and techniques of developing IT applications to provide solutions to problems of intermediate complexity;	Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): • lectures (A1 – A5); • seminars (A1 – A5); • directed reading (A1 – A5); • use of the VLE (A1 – A5);
A5 The principles and techniques involved in applying a rigorous, engineering approach to the development of network systems, and to their interrelationship.	Assessment strategies and methods (referring to numbered Intended Learning Outcomes): • examinations (A2 – A4); • coursework essays/presentations (A1 – A5); • coursework design and/or implementation (A1 – A5).
B: Intellectual skills This level provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:

B1 Apply appropriate analysis, design and development concepts to problems of intermediate complexity, with minimal guidance; **B2** Analyse processes and problems, and specify, design and evaluate appropriate solutions; **B3** Investigate technologies and approaches systematically and show how they can be used to solve problems; **B4** Understand the factors that affect how people work in teams.	Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): • lectures (B1 - B4); • seminars (B1 – B4); • directed reading (B1 – B4); • use of the VLE (B1 – B4).
	Assessment strategies and methods (referring to numbered Intended Learning Outcomes): • examinations (B1- B4); • coursework essays/presentations (B1 – B4).
C: Practical skills This level provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:
C1 Select appropriate platforms and security measures for different security measures for different IT systems; **C2** Specify, design and evaluate IT solutions to problems of intermediate complexity; **C3** Select, apply and evaluate appropriate models and techniques in the design and development of applications; **C4** Use computer programs or development tools to build IT systems to provide solutions to problems of intermediate complexity; **C5** Apply engineering principles and techniques to the specification, design, development and evaluation of network systems; **C6** Work in teams to manage and monitor network projects of intermediate size and complexity.	Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): • lectures (C1 – C6); • seminars (C1 – C6); • directed reading (C1 – C6); • group exercises (C1 – C6).
	Assessment strategies and methods (referring to numbered Intended Learning Outcomes): • examinations (C1, C3, C5); • coursework (C1 – C6);
D: Transferable skills This level provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level learning outcomes:

D1 Organise and use ideas to communicate orally and in writing;	Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes):
D2 Learn independently in contexts of intermediate complexity;	• lectures (D1 – D4);
D3 Work as an individual to seek solutions to problems, with minimal guidance;	• seminars (D1 – D4);
	• use of the VLE (D1 – D4);
D4 Work ethically in teams to seek solutions to problems, with minimal guidance.	• directed reading (D1- D4).
	Assessment strategies and methods (referring to numbered Intended Learning Outcomes):
	• coursework essays/presentations (D1 – D4);
	• coursework design and implementation (D1 – D4).

LEVEL 4/Cert HE _OR_ LEVEL 7/PG Cert INTENDED LEVEL _OR_ STAGE OUTCOMES

A: Knowledge and understanding This programme/level/stage provides opportunities for students to develop and demonstrate knowledge and understanding of*:*	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level/stage learning outcomes:
A1 Basic principles of programming using one of the major programming languages;	Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes):
A2 Principles and techniques of database design and development;	• lectures (A1- A6);
A3 Principles and techniques of systems analysis and design in a commercial context;	• seminars (A1 – A6);
	• directed reading (A1, A6);
A4 Principles of computer networks and security;	• use of the VLE (A1, A6);
A5 The principles and techniques of designing and developing usable applications;	
	Assessment strategies and methods (referring to numbered Intended Learning Outcomes):
A6 Principles of computers and operating systems.	• examinations (A1 – A6);
	• coursework essays (A3);
	• coursework design and implementation (A1, A2, A4, A6)

B: Intellectual skills This programme/level/stage provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level/stage learning outcomes:
B1 Apply analysis, design and development concepts with guidance, using given principles; **B2** Analyse small well-defined scenarios and design, and implement and test appropriate solutions; **B3** Analyse, categorise and interpret data and information; **B4** Utilise analyses to plan and develop further investigations; **B5** Identify and investigate computing security issue.	Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): • lectures (B1 – B5); • seminars (B1 – B5); • directed reading (B1 – B5); • use of the VLE (B1 – B5);
	Assessment strategies and methods (referring to numbered Intended Learning Outcomes): • examinations (B1- B5); • coursework essays (B1 - B5); • coursework design and implementation (B1, B2, B5)
C: Practical skills This programme/level/stage provides opportunities for students to:	The following learning and teaching and assessment strategies and methods enable students to achieve and to demonstrate the level/stage learning outcomes:
C1 Write computer programs to solve simple problems; **C2** Design and implement databases using a query language; **C3** Set up and configure a simple system (a computer or small network) with consideration of cyber security; **C4** Design and build simple applications applying design principles;	Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): • lectures (C1 – C6); • seminars (C1 - C6); • group exercises (C4, C5).
C5 Use and apply modelling techniques to analyse and design solutions to simple problems representative for a commercial context; **C6** Work in small teams to solve simple development problems.	Assessment strategies and methods (referring to numbered Intended Learning Outcomes): • coursework design and implementation (C1 – C6); • Reflection (C1- C6).
D: Transferable skills	The following learning and teaching and assessment strategies and methods

This programme/level/stage provides opportunities for students to:	enable students to achieve and to demonstrate the level/stage learning outcomes:
D1 Communicate orally and in writing using appropriate structures, facts and events; **D2** Conduct and report within a set time and context on work assigned; **D3** Find facts to describe and explain simple phenomena and artefacts; **D4** Work independently to achieve set goals, **D5** Work efficiently and effectively in small groups within limited and set contexts; **D6** Appreciate the professional and ethical issues involved in.	Learning and teaching strategies and methods (referring to numbered Intended Learning Outcomes): • lectures (D1 – D6); • seminars (D1 – D6); • use of the VLE (D1 – D6); • directed reading (D1 – D6). Assessment strategies and methods (referring to numbered Intended Learning Outcomes): • coursework essays (D1 – D6); • examinations (D1 – D6); • presentations (D1 – D6).

ADMISSION REGULATIONS

Please refer to the course website for further information regarding admission regulations for this programme: BSc (Hons) Computer Networks | Bournemouth University

PROGRESSION ROUTES

Partnership arrangements provide formally approved progression routes through which students are eligible to apply for a place on a programme leading to a BU award. Please find information on Global Partnerships here: Global partnerships | Bournemouth University

ASSESSMENT REGULATIONS

The regulations for this programme are the University's Standard Undergraduate Assessment Regulations.

WORK BASED LEARNING (WBL) AND PLACEMENT ELEMENTS

Students, under the guidance of lecturers and the Placement Office, are required to complete a sandwich year with a 30 week minimum placement requirement before Level 6.

The placement is assessed on a pass/fail basis using the log book and employer appraisal. The 30 week sandwich placement must be completed between Levels 5 and 6 and is a requirement for progression to Level 6 for the successful completion of the sandwich mode award.

Placement draws on some or all of the units studied on the first two levels of the programme. It provides the opportunity for the student to develop their abilities and understanding of BIT and related subjects, as well as providing a platform for successful entry into the profession following graduation. It applies and develops understanding and skills acquired in Levels 4 and 5, makes a major contribution to the understanding of the final level units, further develops final projects or dissertation research by utilising the context of the work experience as appropriate and enhances students' prospects of future employment.

Refer to *4K – Placements: Policy and Procedure* for more details.

Programme Skills Matrix

	Units	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	B6	C1	C2	C3	C4	C5	C6	D1	D2	D3	D4
	Programme Intended Learning Outcomes																						
LEVEL 6	**Advanced Networks**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Network Configuration Management	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Advanced Development			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Data Mining					X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X
	Deep Learning	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Business Continuity Management*				X	X	X	X	X	X		X	X	X	X	X		X		X	X	X	X
	Human Factors in Comp. Systems*			X	X	X	X	X	X	X		X	X	X	X	X		X		X	X	X	X
	Information Assurance*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Machine Intelligence*					X	X	X	X	X		X	X	X	X	X		X		X	X	X	X
	Ubiquitous Computing*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Software Systems Modelling*			X	X	X	X	X	X	X		X	X	X	X	X		X		X	X	X	X
	Web Information Systems*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Individual Project	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
LEVEL 5	**System Design**			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Infrastructure Strategy	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Machine Learning	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
	Project Management & Teamwork	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Networks	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Data Management					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Application Programming	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Web Programming	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	User Centred Web Development			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
	Tools & Technologies of Data Science				X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
LEVEL 4	**Principles of Programming**	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Computer Fundamentals	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X
	Data and Databases				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Networks and Cyber Security	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Applications of Programming Principles	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Business Systems Analysis and Design	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

A – Subject Knowledge and Understanding	C – Subject-specific/Practical Skills
This programme provides opportunities for students to develop and demonstrate knowledge and understanding of: 1. Principles of Network communication systems; 2. Configuration and management of network systems; 3. Principles of secure applications in networked systems; 4. A rigorous engineering approach to investigating and solving network problems; 5. The development of software or other IT solutions to business and other problems; 6. The professional, legal & ethical responsibilities of computing personnel within the organisational, technical and global contexts in which computing is applied.	This programme provides opportunities for students to: 1. Retrieve, select and evaluate information from a variety of sources; 2. Formulate a set of requirements for an IT solution; 3. Design a solution to an IT problem; 4. Implement a solution to an IT problem; 5. Evaluate an IT system; 6. Plan, monitor and evaluate the progress of an IT project.
B – Intellectual Skills	**D – Transferable Skills**
This programme provides opportunities for students to: 1. Reason critically; 2. Demonstrate independent thought; 3. Analyse, interpret, synthesise and evaluate information; 4. Identify and solve problems; 5. Select and apply appropriate design methods to the solution of problems; 6. Evaluate resource requirements of alternative solutions.	This programme provides opportunities for students to: 1. Structure and communicate ideas effectively both orally and in writing; 2. Learn independently in complicated contexts; 3. Work professionally as an individual to develop creative solutions to problems; 4. Work professionally in teams to develop creative solutions to problems.