Course Specification

Course Summary Information		
1	**Course Title**	BSc (Hons) Computing and Information Technology
2	**Course Code**	US0821
3	**Awarding Institution**	Birmingham City University
4	**Teaching Institution(s)** (if different from point 3)	
5	**Professional Statutory or Regulatory Body (PSRB) accreditation** (if applicable)	Institution of Engineering and Technology (IET)

6	**Course Description**
	The multidisciplinary BSc (Hons) Computing and Information Technology degree will equip you with the technical and managerial skills you will need to embark on a successful IT career. You will use industry-standard equipment and labs and have the chance to put your academic learning into practice during an optional placement year, all of which will prepare you for a computing career with a range of companies. We are also an academy with leading industry names such as Microsoft, Cisco and the Linux Professional Institute providing access to additional industry certifications during your course. Your curriculum is supported by a range of leading industry partners to ensure it continues to be relevant and employment focused. Throughout your computing degree, you will be supported by expert teaching staff, many of whom have worked in the field of computing, are active in transformational research and are continually innovating with industry partners to achieve success. **What's covered in the course?** This course is for you if you want to combine a highly rigorous academic qualification with real-life practical work experiences, enabling you to put your learning into innovative practice. You will be based at our City Centre Campus, where you will use dedicated, industry-standard facilities to research and work on enterprise software and virtual environments to develop enterprise solutions and real-time systems. You will develop the strategic mindset to address global challenges; the kind that businesses and communities face on a day-to-day basis to maintain their digital infrastructure. You will have access to virtual learning environments, as well as networking, electronics, enterprise systems, cloud computing and business intelligence laboratories. In order to prepare you for industry, you will learn about computing and develop skills that are needed to design, develop, operate and manage effective systems. Your knowledge of the application of computing to provide IT solutions will evolve, allowing you to develop sustainable business solutions. Studying computing with us puts you at the heart of an exciting, innovative community. Part of your first-year assessment will involve taking part in our annual Innovation FEST, where

	students get together to solve society's problems with sustainable solutions using creative technology. It is not just about academic and technical knowledge – we will also help you to develop your personal and professional skills so that you can work effectively as a team member and team leader to positively impact many of the challenges facing modern society. **Professional Placement Year** This optional year-long industrial placement will enhance your employability and will also make you stand out from the crowd. While these positions may vary from company to company, you will be working alongside current professionals as you apply skills you have learned on campus in the real world. You will return to your studies with a greater array of technical skills, confidence and noticeably sharper transferable skills.

7	**Course Awards**		
7a	**Name of Final Award**	**Level**	**Credits Awarded**
	For BSc (Hons): Bachelor of Science with Honours Computing and Information Technology Bachelor of Science with Honours Computing and Information Technology with Professional Placement Year	 6 6	 360 480
7b	**Exit Awards and Credits Awarded**		
	Certificate of Higher Education Computing and Information Technology Diploma of Higher Education Computing and Information Technology Bachelor of Science Computing and Information Technology	4 5 6	120 240 300

8	**Derogations from the University Regulations**
	N/A

9	**Delivery Patterns**		
Mode(s) of Study	**Location(s) of Study**	**Duration of Study**	**Code(s)**
Full Time	City Centre	3 years	US0821
Full Time with Professional Placement Year	City Centre	4 years	US1092

10	Entry Requirements
	The admission requirements for this course are stated on the course page of the BCU website at https://www.bcu.ac.uk/.

11	Course Aims
	The BSc (Hons) Computing and Information Technology (CIT) course endeavours to develop you into a versatile and resilient graduate, equipped to apply a range of technologies required in today's rapidly evolving computing industry. The course combines research and theory with practical application and development, enabling you to put your learning into innovative practice. You will develop a strategic mindset of addressing global, business and societal needs. You will learn computing and information technology skills that are needed to design, develop, operate and maintain systems, whilst ensuring you can innovate to deliver business value and sustainable solutions. We recognise the significance of employability; therefore, our course encourages and enables collaborative activity, engagement with work placements, projects, international exchanges and engagement with emerging technologies. Future graduates will need to be versatile, adaptable, technically literate, and well equipped to perform a variety of roles within the computing industry. Potential areas of application include DevOps, network and systems management, IT management, infrastructure cloud facilities and systems development. The course also provides a foundation for further study at postgraduate or PhD level for a career in a research, innovation and enterprise roles in the industry. The course utilises both proprietary and open-source technologies that are being deployed in the data centre space and are a critical component of cloud computing. Leading industry vendor technologies are embedded into modules, from major names such as Microsoft, Cisco, Google, Ubuntu Linux and AWS. The CIT course delivers a well-defined blend of computing and transferable skills and develops the following major themes in-depth: • Software solution development – developing skills as a problem solver to build systems that meet the needs of industry using code and low code/no-code solutions. • Cloud, infrastructure and DevOps – designing, building and troubleshooting the systems that deliver software and services to customers worldwide using the latest tools, practices and technologies. • Business and entrepreneurship skills – the skills needed to understand the role of computing in an organisation and to innovate and progress the business using technology. These themes will be supported by additional concepts: • Computer networking – learn how to make systems talk to each other and the skills to design and develop the networks of tomorrow. • Digital transformation - learn how through the synergy of people and technology, businesses can grow and thrive.

	Professional Placement Year Every student has the option of a professional placement year, taken in the third year of study or fourth year of foundation route, making the course four years in total or five years on the foundation year route. This gives you the opportunity to gain important industry experience in preparation for your final year and significantly increases your chances of direct employment after you graduate.

12	**Course Learning Outcomes**
Knowledge & Understanding	
1	K1 Draw on a range of existing and emergent technologies and approaches in the development and justification of innovative computing and information technology solutions.
2	K2 Explore theory and practice modern computing systems and their applications in business.
3	K3 Evaluate management, planning and business techniques and their application in the Computing industry.
4	K4 Select and apply appropriate computational, mathematical, and analytical techniques to solve complex problems, recognising the limitations of the techniques employed.
5	K5 Apply an integrated or systems approach to the solution of complex problems
6	K6 Explore different viewpoints and perspectives on commercial, economic, legal, ethical, and social issues relevant to the computing industry.
7	K7 Evaluate the environmental and societal impact of solutions to complex problems and minimise adverse impacts.
Skills and other attributes	
8	S1 Critically apply tools and techniques for the design, implementation, testing, troubleshooting and maintenance of computer software and hardware solutions.
9	S2 Demonstrate competence in management of research and projects, taking account of industrial and commercial constraints.
10	S3 Manage workload and professional development utilising techniques such as reflection, prioritisation, team-working and time management.
11	S4 Communicate effectively in a variety of media to specialist and non-specialist audiences.
12	S5 Adopt an inclusive approach to technology practice and recognise the responsibilities, benefits and importance of supporting equality, diversity and inclusion.

13	**Course Learning, Teaching and Assessment Strategy**
	The course adopts a student-centric approach. The learning and teaching style aims to build students' confidence and empowers them to become self-learners while being considerate and receptive to their learning styles. Each module utilises a wide range of learning and teaching practices and approaches, which include: • Mini lectures • Workshops • Practical sessions • Debates/discussions • Flipped learning • Self-directed study • Directed reading • Project-based learning The primary teaching approach is through workshops and practical labs. These will be supplemented with mini lecturers to re-enforce the learning with theoretical concepts. Typically, the workshop will start with a briefing about the problem to be solved. Students will then work individually or in teams to solve the challenges. Students will also engage in a range of practical tasks in labs. Students will be encouraged to lead the plenary talks to build confidence and engage in discussions about contributions and ideas. The self-directed study will be supported by activities such as: • VLE learning, academic resources and website links • Online (VLE) discussion forums • Videos • Quizzes, labs, projects etc. **Assessment:** Formative and summative assessments are used within all modules. Formative feedback will also help students understand the assessment and grading process, the relation of their work to the learning outcomes and the development of their work to a successful conclusion. Assessment methods have been designed to work symbiotically with the course design. For example, an agile assessment approach is adopted to simulate a work environment requiring multiple deliverables within a specific timeframe. Hence, the course integrates multiple modules as part of the agile assessment approach, highlighting how the expertise and skills from the different modules can be applied to address organisational challenges.

4	**Course Requirements**

14a

Level 4:

In order to complete this course a student must successfully complete all the following CORE modules (totalling 120 credits):

Module Code	Module Name	Credit Value
CMP4265	Applied Operating Systems	20
CMP4267	Computer Systems	20
CMP4269	Network Fundamentals	20
CMP4285	Innovation Project	20
CMP4295	Computational Thinking & Professional Development	20
CMP4266	Computer Programming	20

Level 5:

In order to complete this course a student must successfully complete all the following CORE modules (totalling 120 credits):

Module Code	Module Name	Credit Value
CMP5320	Networking Technologies	20
CMP5403	AI in Enterprise	20
CMP5329	Cyber Security	20
CMP5386	Cloud Systems Management	20
CMP5364	Database Systems Development	20
CMP5368	Applied Programming	20

Professional Placement Year (optional) In order to qualify for the award of Bachelor of Science with Honours Computing and Information Technology with Professional Placement Year, a student must successfully complete all of the modules listed as well as the following Level 5 module

Module Code	Module Name	Credit Value
PPY5004	Professional Placement	120

Level 6:

In order to complete this course a student must successfully complete all the following CORE modules (totalling 120 credits):

Module Code	Module Name	Credit Value
CMP6172	Consultancy and IT Management	20
CMP6173	Business Systems Solutions	20
CMP6235	Application Solutions Development	20
CMP6237	DevOps and Enterprise Automation	20
CMP6200	Individual Honours Project	40

14b	Structure Diagram

Level 4

SEMESTER ONE	SEMESTER TWO
CMP4267 Computer Systems (20 credits) CMP4295 Computational Thinking and Professional Development (20 credits) CMP4266 Computer Programming (20 credits)	CMP4265 Applied Operating Systems (20 credits) CMP4269 Network Fundamentals (20 credits) CMP4285 Innovation Project (20 credits)

Level 5

CMP5364 Database Systems Development (20 credits) CMP5386 Cloud Systems Management (20 credits) CMP5320 Networking Technologies (20 credits)	CMP5403 AI in Enterprise (20 credits) CMP5329 Cyber Security (20 credits) CMP5368 Applied Programming (20 credits)

PPY5004 Professional Placement - Year 3 (optional) (120 Credits)

Level 6

CMP6173 Business Systems Solutions (20 credits) CMP6237 DevOps and Enterprise Automation (20 credits)	CMP6172 Consultancy and IT Management (20 credits) CMP6235 Applications Solutions Development (20 credits)
CMP6200 Individual Honours Project (40 credits)	

15	Overall Student Workload and Balance of Assessment

Overall student *workload* consists of class contact hours, independent learning and assessment activity, with eachcredit taken equating to a total study time of around 10 hours. While actual contact hours may depend on the optional modules selected, the following information gives an indication of how much time students will need to allocate to different activities at each level of the course.

- *Scheduled Learning* includes lectures, practical classes and workshops, contact time specified in timetable
- *Directed Learning* includes placements, work-based learning, external visits, on-line activity, Graduate+,peer learning
- *Private Study* includes preparation for exams

The *balance of assessment* by mode of assessment (e.g. coursework, exam and in-person) depends to someextent on the optional modules chosen by students. The approximate percentage of the course assessed by coursework, exam and in-person is shown below.

Level 4

Workload

25% time spent in timetabled teaching and learning activity

Activity	Number of Hours
Scheduled Learning	294
Directed Learning	568
Private Study	338
Total Hours	1200

Balance of Assessment

Assessment Mode	Percentage
Coursework	67%
Exam	0%
In-Person	33%

Level 5

Workload

24% time spent in timetabled teaching and learning activity

Activity	Number of Hours
Scheduled Learning	288
Directed Learning	362
Private Study	550
Total Hours	1200

Balance of Assessment

Assessment Mode	Percentage
Coursework	50%
Exam	8%
In-Person	42%

Level 6

Workload

17% time spent in timetabled teaching and learning activity

Activity	Number of Hours
Scheduled Learning	202
Directed Learning	316
Private Study	682
Total Hours	1200

Balance of Assessment

Assessment Mode	Percentage
Coursework	75%
Exam	0%
In-Person	25%