Course Specification

Course Summary Information				
1	**Course Title**		BSc (Hons) Computer Networks and Security with Foundation Year	
2	**BCU Course Code**	**UCAS Code**	US0671F	I12A
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)			

6	**Course Description**
	Fascinated by cyber security in today's society? It's a key concern for modern organisations in our digital world. BSc Computer Networks and Security with a Foundation Year focuses on the practical needs of businesses that require high quality computer and network security, ensuring you're equipped for a career in this increasingly important industry. Birmingham City University is also home to Cisco Systems and the Microsoft Academy Centre. The Foundation Year course option enables you to study for our BSc (Hons) degree over an extended full-time duration of four years by including a Foundation Certificate (year one of four). The Foundation Certificate provides a broad study course that underpins the follow-on degree. In order to progress to the next year of your degree, it is necessary to achieve a pass in all of the modules of the Foundation Certificate. **What's covered in the course?** This four-year degree takes a practice-led approach, making use of equipment and tools found in the industry to give you the best preparation for a successful career. Our approach prioritises the practical skills sought by industry, backing this up with a thorough understanding of theory. The course delivers the latest in computing, network and security technologies, with the opportunity to gain additional accreditation from Cisco, Juniper, Huawei and the Linux Professional Institute. The course delivers a well-rounded curriculum in computer network engineering, programming, server systems, security theory and practice, as well as management-level skills such as project and change management, maximizing your career potential. Upon graduation you could progress into a career as a network security engineer, network administrator, and network security analyst or network security architect.

7	Course Awards		
7a	**Name of Final Award**	**Level**	**Credits Awarded**
	Bachelor of Science with Honours Computer Networks and Security	6	480
	Bachelor of Science with Honours Computer Networks and Security with Professional Placement Year	6	600
7b	**Exit Awards and Credits Awarded**		
	Foundation Certificate Computing	3	120
	Certificate of Higher Education Computer Networks and Security	4	240
	Diploma of Higher Education Computer Networks and Security	5	360
	Bachelor of Science Computer Networks and Security	6	420

8	Variations from the University Academic Regulations
	This course has approved variations to the University's Academic Regulations. These can be accessed via the student contract page: https://www.bcu.ac.uk/student-info/student-contract

9	Delivery Patterns		
Mode(s) of Study	**Location**	**Duration of Study**	**Code**
Full Time	City Centre	4 years	US0671F
With Professional Placement Year	City Centre	5 years	US1086

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 Learning Outcomes**
	Knowledge & Understanding
1	Demonstrate knowledge and understanding of network design and systems management, analysis of business requirements and documentation procedures for Network Design and systems management.
2	Demonstrate knowledge of principles and underlying technologies of computer and data communications, device operating systems, and their underpinning protocols and data structures.
3	Demonstrate knowledge and understanding of appropriate tools, techniques and standards used in designing, managing and securing data communication systems and computer networked systems.
4	Describe the open standards for data communication systems and principal requirements for network and information security.
	Cognitive & Intellectual Skills
5	Make proficient use of information and materials from a variety of sources for independent enquiry and learning.
6	Demonstrate a creative and innovative ability in the synthesis of solutions and in formulating designs in secure digital and computer networked systems.
7	Draw independent conclusions based on a rigorous, analytical and critical assessment of arguments and opinions.
8	Critically analyse and evaluate the requirements for network security within a range of network and business requirements.
	Practical & Professional Skills
9	Plan, design and employ techniques and technologies used by network security engineers and managers for computer and information management.
10	Demonstrate practical skills acquired through work carried out in laboratories and workshops in individual and/or group project work in accordance with ethical standards, professional codes of conduct and set guidelines.
11	Implement applications using appropriate methodologies, tools and techniques.
12	Work independently or within a group, with limited need for supervision, in a professional and/or industrial context.
	Key Transferable Skills
13	Monitor, record, analyse and interpret data to effectively communicate to diverse audiences.
14	Manage time, prioritise activities and work to time-scales.
15	Demonstrate effective information retrieval skills from a rage of sources and be able to cite and reference such sources.
16	Reflect on progress and plan for personal and career development.

12	Course Requirements

12a Level 3:

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
CMP3010	Fundamental Mathematics	20
CMP3014	Fundamentals of Digital Technology	20
CMP3019	Cyber Security in Society	20
CMP3016	Emerging Technologies	20
CMP3015	Independent Practice	20
CMP3009	Foundations of Programming	20

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
CMP4285	Innovation Project	20
CMP4267	Computer Systems	20
CMP4265	Applied Operating Systems	20
CMP4266	Computer Programming	20
CMP4268	Mathematics for Computing	20
CMP4269	Network Fundamentals	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
CMP5403	AI in Enterprise	20
CMP5357	Cyber Security Operations	20
CMP5386	Cloud Systems Management	20
CMP5397	Network Automation	20
CMP5320	Networking Technologies	20
CMP5337	Enterprise Network Systems	20

Professional Placement Year (optional)

In order to qualify for the award of Bachelor of Science with Honours Computer Networks and Security with Foundation Year and 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
CMP6200	Individual Honours Project	40
CMP6176	Ethical Hacking	20
CMP6178	Wireless Networking Technologies	20
CMP6220	Advanced Firewall Systems	20
CMP6183	Network Security	20

12b Structure Diagram

<table>
<tr><th colspan="4">Year 5 - Level 6</th></tr>
<tr><td>Semester 2</td><td rowspan="2">Individual Honours Project
[40 credits]</td><td>Network Security
[20 credits]</td><td>Ethical Hacking
[20 credits]</td></tr>
<tr><td>Semester 1</td><td>Advanced Firewall Systems
[20 credits]</td><td>Wireless Networking Technologies
[20 credits]</td></tr>
<tr><td colspan="4">Professional Placement Year 4 (optional, 120 credits)</td></tr>
<tr><th colspan="4">Year 3 - Level 5</th></tr>
<tr><td>Semester 2</td><td>AI in Enterprise
[20 credits]</td><td>Cyber Security Operations
[20 credits]</td><td>Enterprise Network Systems
[20 credits]</td></tr>
<tr><td>Semester 1</td><td>Cloud Systems Management
[20 credits]</td><td>Programming for Network Engineers
[20 credits]</td><td>Networking Technologies
[20 credits]</td></tr>
<tr><th colspan="4">Year 2 - Level 4</th></tr>
<tr><td>Semester 2</td><td>Innovation Project
[20 credits]</td><td>Applied Operating Systems
[20 credits]</td><td>Network Fundamentals
[20 credits]</td></tr>
<tr><td>Semester 1</td><td>Computer Programming
[20 credits]</td><td>Maths for Computing
[20 credits]</td><td>Computer Systems
[20 credits]</td></tr>
<tr><td></td><th colspan="3">Year 1- Level 3</th></tr>
<tr><td>Semester 2</td><td>Emerging Technologies
[20 credits]</td><td>Cyber Security in Society
[20 credits]</td><td>Foundations of Programming
[20 credits]</td></tr>
<tr><td>Semester 1</td><td>Fundamental Mathematics
[20 credits]</td><td>Fundamentals of Digital Technology
[20 credits]</td><td>Independent Practice
[20 credits]</td></tr>
</table>

13 Overall Student Workload and Balance of Assessment

Overall student *workload* consists of class contact hours, independent learning and assessment activity, with each credit 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 some extent on the optional modules chosen by students. The approximate percentage of the course assessed by coursework, exam and in-person is shown below.

Level 3

Workload

37% time spent in timetabled teaching and learning activity

Activity	Number of Hours
Scheduled Learning	456
Directed Learning	400
Private Study	344
Total Hours	1200

Balance of Assessment

Assessment Mode	Percentage
Coursework	78%
Exam	0
In-Person	22%

Level 4

Workload

25% time spent in timetabled teaching and learning activity

Activity	Number of Hours
Scheduled Learning	304
Directed Learning	443
Private Study	453
Total Hours	1200

Balance of Assessment

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

Level 5

Workload

24% time spent in timetabled teaching and learning activity

Activity	Number of Hours
Scheduled Learning	288
Directed Learning	438
Private Study	474
Total Hours	1200

Balance of Assessment

Assessment Mode	Percentage
Coursework	65%
Exam	18%
In-Person	17%

Level 6

Workload

17% time spent in timetabled teaching and learning activity

Activity	Number of Hours
Scheduled Learning	202
Directed Learning	374
Private Study	624
Total Hours	1200

Balance of Assessment

Assessment Mode	Percentage
Coursework	58%
Exam	32%
In-Person	10%