Faculty of Engineering and Environment Department of Computer Science and Digital Technologies

BSc (Hons) Computer and Network Technology

Programme Handbook 2015 - 2016

Contents

Introduction

This document is provided as a supplement to the Faculty of Engineering and Environment handbook and gives programme specific information relevant to the BSC (Hons) Computer and Network Technology programme.

The Computer & Network Technology degree programme consists of topical themes that represent the areas, we feel, will most benefit you as the student seeking employment once you have obtained your degree award. The themes include Networking, Personal Computer Technology, Software Programming and professional development.

The programme duration is 3-years full-time with an optional placement year that follows the second year of study.

The modules on the programme contain a large practical "hands on" element using specialist laboratory facilities, and we are particularly proud of the range and quality of the lab equipment used on the programme, and hope you enjoy working with it.

The Computer and Network Technology programme of study is administered by the Department of Computer Science and Digital technologies which also includes degrees (both undergraduate and postgraduate) in areas such as computer games, robotics, mobile applications, animation and digital visual effects, computer forensics, ethical hacking, website design and development. Our students, staff and researchers develop and refine cutting edge technologies that impact on the way we all live our lives. They work cross-discipline, exploring the way that technology can impact on health, travel, security intelligence, artificial intelligence and many other sectors.

Definitions

Semester:	Divides the teaching year in half with each semester consisting of 15 weeks.
Module:	The smallest sub-division of a programme. A module represents a timetabled subject area and is a coherent learning experience with it's own curriculum and assessment methodology. A module taught over 1 semester equates to 10 credit points, and a module taught over 2 semesters equates to 20 credit points. E.g. EN0157 PC Technology
Programme:	A programme of study is made up of a group of core modules with a coherent structure that forms a specific award. E.g. BSc (Hons) Computer and Network Programming
Programme Leader:	The academic appointed to oversee and manage the Programme.
Year Tutor:	The academic responsible for the day-to-day operation of a particular year of a programme.
Module Tutor:	The academic responsible for the delivery and assessment of a module.

Learning Outcomes of Programme

Knowledge and Understanding

- Appropriate mathematics for the modelling of computer networks, communications channels, PC systems and electronics.
- The principles of computing to enable the generation of working programs on a number of platforms.
- The fundamentals of electronics and communications principles associated system level PC operation and with embedded systems networks.
- Documentation of IT specifically reports generation for network analysis, design and modelling for computer-based systems.
- The principles of designing LAN, WAN, and other networks as required.
- The principles of product design, and the product lifecycle from, hardware, software and aesthetic viewpoints.
- The regulatory framework and codes of practice that would apply to technology industries and e-business.

Intellectual Skills

- Deduce the most appropriate mathematical techniques for modelling technology concepts.
- Determine solutions to problems using appropriate programming skills in problem solving.
- The application of IT modelling tools for technology issues in both analysis and diagnosis of systems.
- Formulate designs of a system or product being creative.
- Design an embedded computer-based system, computer system, or network to a given specification using hardware or software.

Practical Skills

- Use the appropriate mathematical technique to model technology issues.
- Use a variety of practical test bench equipment for both test and documentation of systems.
- Apply computer aided design tools (such as RouterSim), in the design and modelling of networks.
- Use programming languages to create applications for the Internet, Windows, Linux, and Embedded systems.
- Design and test real time signal processing algorithms.
- Design, build and evaluate a prototype product or service.
- Manage a significant project within technical, economic and time constraints to completion.

Transferable/Key Skills

- Communicate effectively in both oral and a written manner furthermore, present data in a variety of forms.
- Know how to design computer programs and how to apply programming techniques to solve a variety of problems.
- Can use a wide variety of IT tools effectively.
- Work creatively to produce solutions to a range of technology based problems.
- Will understand the need for life long learning which requires continuous professional development.
- Can manage time and resources efficiently.
- Can work effectively both individually and as a member of a team.

Specialist Facilities

The Computer Networks lab is located on the 2nd floor of Pandon building and will be the base for the majority of the specialist modules studied on the programme. All network specific laboratory sessions will take place in this lab and an introduction to these facilities will take place during induction week.

Teaching and Learning Methods

To ensure the practical nature of the course, it is heavily weighted toward seminars and practical workshops with lecture content at a minimum. Throughout the programme your ownership of your own learning increases, culminating in identifying a specialist area to study for your final year project, on which you will receive one-to-one supervision. This will develop your practical and academic skills and significantly enhance your employment prospects.

Assessments are carefully designed to ensure all students have gained a thorough understanding of their areas of study. The course is aligned with the Cisco Certified Network Associate industrial qualification and the Networks modules make use of Cisco certified practical examinations. Other subjects are assessed in a variety of ways and, where possible, are based around a practical activity and include coursework and project reports. Where practical-based assessment is not possible we make use of both multiple choice question tests and standard examinations.

Administration

Student Support Team
The Student Support Team is available to assist all students requiring information and/or advice. The team is located in room EB B201 in Ellison Building.
Opening times: Monday – Thursday 8.30 – 17.00 hours Friday 8.30 – 16.30 hours
Email: ee.studentsupport@northumbria.ac.uk
Telephone: 0191 227 3638

The Faculty Office G 007, Pandon Building is open from 8.30 –5.00 Monday to Thursday,
8.30 – 4.30 pm Friday. The Programme Coordinator Andrew Cox is located in this office. a.cox@northumbria.ac.uk

The Student Support Office (Ellison EB 201) is generally the first point of call for queries; staff can then direct students to the appropriate person or department. Students will hand course work into this office and will also be able to request and collect standard information, including; standard letters, council tax exemption forms, programme information, assessment regulations and student handbooks.

The Faculty Office also holds all personal details and is responsible for issuing results to students and for processing personal extenuating circumstance forms.

There is a notice board outside the Faculty Offices which is regularly updated and includes information regarding results publication, examination timetables and deadlines for personal extenuating circumstance claims.

The following page shows the areas that are considered as student responsibility, please read this page carefully.

Programme Structure

Year 1 (Level 4)

Sem 1	**EN0407** Web Technologies (20 credits)	**EN0402** Programming Fundamentals with Robots (20 credits)	**EN0156** Network Technology 1 (20 credits)	**EN0157** PC Technology (20 credits)	**EN0406** Operating System Fundamentals (20 credits)	**EN0151** Communication Skills And Experimental Studies (20 credits)
Sem 2						

Year 2 (Level 5)

Sem 1	**CM0513** Dynamic Internet Technologies (20 credits)	**EN0273** Programming in C (20 credits)	**EN0256** Network Technology 2 (20 credits)	**EN0578** Advanced Operating Systems (20 credits)	**CM0547** Project Management and Professional Issues (20 credits)
Sem 2					**EN0568** Sensor Networks and Home Technology (20 credits)

Placement

Sem 1	**CM0567**
Sem 2	CEIS Professional Placement

Final Year (Level 6)

Sem 1	**EN0636** Wireless Networks (20 credits)	**EN0308** Network Technology 3 (20 credits)	**EN0365** Ethical Hacking (YL) (20 credits)	**EN0638** Advanced Operating Systems II (YL) (20 credits)	**CM0645** Individual Project Or **CM0674** Computing Research Project(YL) (40 Credits)
Sem 2					

Student Responsibility

The Faculty regards certain areas as ultimately being the responsibility of the student and you are therefore requested to carefully consider the following advice:

Availability During Examination Periods

Details of examination periods are made clearly available to all students via the notice board outside the Faculty Offices they are also shown on the general timetable at the front of the Programme Guide. It is your responsibility to ensure that you are available during these periods. It is also important that you read and interpret the published examination timetable correctly, including information concerning room splits and off-campus venues. It is your responsibility to ensure that you attend your examinations.

Submission of Personal Extenuating Circumstance Claims

The deadlines for submission of personal extenuating circumstances are published on the notice board outside the Faculty Office EB B201; they are normally set as the first Friday after the last examination. The Faculty reserves the right not to accept claims submitted after the published date. To be considered by the PEC Board, claims must be substantiated with third party evidence. In cases where this evidence is not yet available, forms should be completed and submitted with a note indicating that evidence will be provided when available (the diagram on the following page explains when a Personal Extenuating Circumstances form should be used and the process that will be followed).

Confirmation of withdrawal and/or programme transfers

If you decide to withdraw from a programme or you decide to transfer programme, this should be discussed with your Programme Leader and logged via the MyNorthumbria page. . A change to option/module selection which is not formally notified will result in submission of incorrect data to the Examination Board, which in turn may cause problems with your progression on the programme. Please note:- Any periods of absence from the programme should be reported to the Faculty Office; students with unsatisfactory attendance may be withdrawn from the programme. In the case of an unconfirmed withdrawal, the Faculty will inform your LEA/SLC/Sponsor.

Confirmation of Personal Data

The Faculty Office EB B201 must be informed of any changes to your personal data, such as change of address, sponsor, name etc. Claims that you have not received information will not be considered unless you formally notify the Faculty Office.

Examination Results

The Faculty Office notice boards will display the dates when examination results will be issued. If you have not received your results within two weeks of this date please contact the Faculty Office. Please note it is the student responsibility to ensure receipt of notification of results and to ensure that any referral work is completed by deadlines given. Claims that you have not received information will not be considered as an acceptable ground for submitting Personal Extenuating Circumstances and will not be accepted by the Personal Extenuating Circumstances Board.
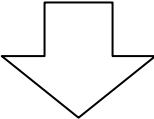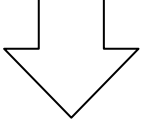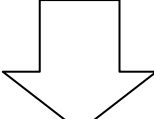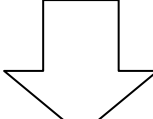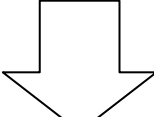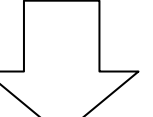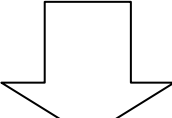
Submission of Coursework

Students must adhere to published deadlines given by individual tutors for submission of coursework and it is important that you receive and retain receipts for work submitted. All course work must be submitted to the Faculty Office (EB B201) at the following times; Monday – Thursday, 8.30 – 5.00, Friday 8.30 – 4.30 pm. (the diagram on the following page explains when a late submission form should be used and the process that will be followed).

SUMMARY OF LATE SUBMISSION OF WORK

PERSONAL EXTENUATING CIRCUMSTANCES REGULATIONS DEADLINES?
HAVE YOU MISSED ONE OR ARE YOU GOING TO DO SO?

If this is due to a short term problem	If this is due to a long term problem
Pick up a late submission form from the Faculty Office, G007 Pandon Building 0r EB B201 Ellison Building	Pick up a Personal Extenuating Circumstances form (PEC) from the Faculty Offices in Pandon or Ellison
Complete form (N.B. forms needs to be approved/signed by both module tutor and year tutor.) You will also need to provide documentary evidence.	Complete the form (with help from Guidance or Year Tutor). Obtain documentary evidence and return form to Faculty Office EB B201
Once signed you must return one copy of the form to EB B201 immediately. The other copies are handed in with the actual work on the new submission date.	Programme Leader/Year Tutor will discuss with Guidance Tutor and Module Tutor(s)
Outcomes	
New submission date Alternative work Rejection Student informed of outcome and Late Submission form either signed or rejected.	In case of serious problems or missed examinations, referred to Extenuating Circumstances Committee, then to Progressions and Awards Board (PAB) Student informed of outcome with results.

NB: Computer problems are not accepted by the University as an excuse for failing to meet a deadline. If students cannot meet an assignment deadline due to a computer/printer fault, they should submit what they have on a CD for the deadline and they will not be given an extension.

Programme Staff

BSc (Hons) Computer & Network Technology	
Role	Staff Details
Programme Leader & Final Year Tutor:	Martin Wonders Email: martin.wonders@northumbria.ac.uk Room: Pandon Building 247
First Year Tutor	Dr Michael Brockway michael.brockway@northumbria.ac.uk
Second Year Tutor	Mark Hurrell mark.hurrell@northumbria.ac.uk

External Examiner

The External Examiner for the programme is Joao Ponciano who is from Manchester Metropolitan University

Placement Opportunities

You will have the opportunity to undertake a year-long, paid placement during the third year of the programme. A dedicated placement team based in the Pandon Building Office will support you during all stages of the placements process. Both the placement office and the University Careers Service can help with CV preparation and checking as well as interview techniques.

Programme and Assessment Schedule

Course Dates 2015/2016

Semester One		
Enrolment	Thursday 10 September to Friday 2 October 2015	3 weeks and 2 days
Welcome/Induction Week	Monday 14th September to Friday 18th September 2015	1 week
Teaching Weeks	Monday 21st September to Friday 11th December 2015	12 weeks
Winter Break (student self-directed time)	Monday 14th December 2014 to Friday 1st January 2016	3 weeks
Assessment Weeks	Monday 4th January to Friday 15th January 2016	2 weeks
Semester Two		
Teaching Weeks	Monday 18th January to Friday 18th March 2016	9 weeks
Spring Break (student self-directed time)	Monday 21st March to Friday 8th April 2016	3 weeks
Teaching Weeks	Monday 11th April to Friday 29th April 2016	3 weeks
Assessment	Tuesday 3rd May to Friday 20th May 2016	3 weeks
Final year results published	Friday 24th June 2016	1 day
Summer Award Congregations (*provisional*)	Thursday 7th July to Wednesday 13th July 2016	1 week
Reassessment Period	Monday 22nd August to Friday 26th August 2016	1 week

Assessment Schedule

The assessment schedule for each module will be included in the Module Guide and this is available electronically via Blackboard. This should include when assessments will be given out and submission dates. To help your study during the academic year it is **essential** that you make a note of **all** assessment submissions dates to help you plan your workload.

Absence Monitoring

Registers of attendance are taken in scheduled teaching sessions (e.g. in workshops). These are used to monitor attendance and if students are found not to be attending they will be contacted to determine the reason. If there is a problem causing poor attendance it may be that the University can help. Experience shows that good attendance helps students to pass and do well.
Please note that continued non-attendance can result in the student being asked to leave their programme of study.

Other Course Specific Information

Course Information: BSc(Hons) Computer and Network Technology :
https://www.northumbria.ac.uk/study-at-northumbria/courses/computer-and-network-technology-ft-uuscnt1/

Northumbria Students' Union (NSU) is here to make sure you have the best experience possible. NSU is one of the largest and most exciting Unions in the country and that's all because of YOU. We represent you, the student, on all levels, on the issues students are concerned about; receiving a great academic experience, being very employable when you graduate, being safe on campus and in the city and having a fantastic time while a student.

NSU is run by students for students. You can have your say in what NSU does and how it is run, by contacting your Sabbatical Officers or by coming along to Student Council

MEMBERSHIP: As a student of Northumbria University you are automatically a member of the Students' Union. We also sell NUS Extra Card from the Students' Union at both Coach Lane and City Campus giving you discounts in shops and online, but you don't need one to use any of our services.

DIVERSE: Your Students' Union is a place which brings together students from all walks of life, all parts of the country and the world and many different cultures. NSU provides lots of opportunities for you to Get Involved, make lasting friendships, increase employability and have FUN!

INDEPENDENT: NSU is independent of the University, with its own staff, services and decision-making structure. Run by students for students, providing the best services and opportunities for students we push for change from the University to deliver for students. Find our more at our You Said, SU Did page. If you need advice about academic appeals or other issues, we can help. Check out the Advice Page.

VALUE: Your NSU offers the best value for money, and everything you spend goes straight back into the Students' Union to fund all the activities that we run for you.

If you would like more information check out the website www.mynsu.co.uk or come and see us at our offices in City, Coach Lane and London.

***

The libraries at City Campus and Coach Lane provide access to a wide range of print and electronic resources including over half a million print books, over 700,000 eBooks and more than 50,000 electronic journals. More details can be found on the University Library website: http://library.northumbria.ac.uk/home

 City Campus Library (number 14 on City Campus map) is housed near the Student Union building (number 30 on City Campus map).
Coach Lane Library is situated on the East Side of the Campus, in F Block (number 16 on Coach Lane Campus map).

City Campus library is open 24/7 during term time and from 9am to midnight during vacation times. Coach Lane library is open 7am until midnight (Monday to Friday), 9am until midnight (Saturday and Sunday). Opening hours are prominently displayed in the foyers of the library buildings, any changes are advertised on the Library website and on social media. Opening hours vary during bank holidays and are subject to change, so please check before you travel.

You will need to keep your smartcard with you to gain access to and leave the libraries. Your Smartcard is a universal card which not only gives access to the Libraries and other University buildings, but it also allows you to print, copy, scan, borrow books and make cashless payments.

The Library Catalogue can be accessed on and off-campus through the University Library website and the dedicated catalogue computers on each floor of both Libraries. The catalogue can be used to search for books and eBooks located in the University Library. It is quick and easy to use and will give you the information you need to locate the material on the shelves or read online. eBooks can be read on and off-campus, anytime, anywhere. NORA can be used to search for, and retrieve, up-to-date scholarly materials including articles, reports and statistics that are relevant to your studies. You can browse through all the online resources relating to your subject in one place including databases, journals and websites.

Students are entitled to borrow up to 15 items at any one time. Items can be issued using the self-issue machines on the ground floor of City and Coach Lane Libraries. You can renew your library books online through the MyLibrary section of MyNorthumbria or via the Library Catalogue.

Northumbria students can use other libraries such as the Robinson Library at Newcastle University and Newcastle City Library using the SCONUL access scheme. For more information see the Library SCONUL information page: http://library.northumbria.ac.uk/sconul-holiday

The Northumbria Skills Programme is a comprehensive skills programme designed to develop the key skills you need to succeed at university and beyond provided by the Library. It runs throughout the year and provides classroom style skills sessions on many topics including academic writing skills, giving accomplished presentations, and referencing your work correctly, as well as regular drop in surgeries. Some sessions are bookable; simply consult the timetable on the Northumbria Skills Programme website: http://library.northumbria.ac.uk/skillsdev-nsp

Skills Plus is the Library's collection of online learning materials, with a focus on digital literacy and study skills that can

be accessed on and off-campus. Using these resources is an excellent way to develop your skills through a range of online tutorials with quizzes, video demonstrations and printable help guides.
http://nuweb2.northumbria.ac.uk/library/skillsplus/topics.html?l3-0

If you need help or advice, on or off campus, you can contact Ask4Help. The Ask4Help service provides you with help and support to access a range of University services including Library, Disability Support, Student Finance and Careers. The quickest way to find answers to some of the most popular questions asked by students is to look at Ask4help online. You can also contact us by phone and speak to a member of our dedicated enquiry team or email us your questions.

www.northumbria.ac.uk/ask4help
ask4help@northumbria.ac.uk
0191 227 4646