

Programme Specification

1. Awarding body	Pearson
2. Teaching institution	University Centre Farnborough, Farnborough College of Technology
3. Final award	Pearson BTEC Level 5 Higher National Diploma in Computing RQF 603/0471/6
4. Programme title	Higher National Diploma in Computing Higher National Diploma in Computing (Network Engineering) Higher National Diploma in Computing (Software Engineering)
5. Subsidiary award and title	Pearson BTEC Level 4 Higher National Certificate in Computing RQF 603/0472/8
6. FHEQ Level	Level 5
7. Credits	240
8. Date of accreditation and review	2017, review Aug 2022
9. Mode of study	Full-time over 2 years
10. Language of study	English
11. UCAS Codes	II00, II10
12. QAA Subject benchmark statement (if applicable)	QAA Subject Benchmark Statement: Computing (Feb 2016)
13. Faculty and Department/School	Enterprise and Creative Arts
14. Programme Director	Nik Turner
15. Date of production	May 2017

16. Educational aims of the programme

- To equip learners with knowledge, understanding and skills for success in employment in the computing industry
- to enable progression to an undergraduate degree or further professional qualification in computing or a related area
- to provide opportunities for specialist study relevant to individual vocations and contexts
- To support individuals employed or entering employment in the computing industry
- To develop the learner's ability in the computing industry through effective use and combination of the knowledge and skills gained in different parts of the programme
- To develop a range of skills and techniques, personal qualities and attributes essential for successful performance in working life and thereby enabling learners to make an immediate contribution to employment
- To provide flexibility, knowledge, skills and motivation as a basis for future studies and career development in computing and systems development.

Higher-level skills and abilities

Learners will be expected to develop the following skills during the programme of study:

- analysing, synthesising and summarising information critically the ability to read

- and use appropriate literature with a full and critical understanding
- the ability to think independently and solve problems
- the ability to take responsibility for their own learning and recognise their own learning style
- obtaining and integrating several lines of subject-specific evidence to formulate and test hypotheses
- applying subject knowledge and understanding to address familiar and unfamiliar problems recognising the moral and ethical issues surrounding computing and IT
- the ability to understand the need for ethical standards and professional codes of conduct when designing, planning, conducting and reporting an investigations
- the ability to undertake investigations of computer systems in a responsible, safe and ethical manner
- an appreciation of the interdisciplinary nature of computing the capacity to give a clear and accurate account of a subject, marshal arguments in a mature way and engage in debate and dialogue both with specialists and non-specialists.

17. Programme learning outcomes – the programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills, qualities and other attributes in the following areas:

Knowledge and understanding

- KU1 Knowledge and understanding of the fundamental principles and practices of the contemporary global computing environment.
- KU2 Understanding and insight into different organisations, their diverse nature, purposes, structures and operations and their influence upon the external environment.
- KU3 A critical understanding of the evolving concepts, theories and models within the study of computing across a range of practical and hypothetical scenarios.
- KU4 An ability to evaluate and analyse a range of concepts, theories and models to make appropriate decisions.
- KU5 An appreciation of the concepts and principles of CPD, staff development, leadership and reflective practice as methods and strategies for personal and people development.
- KU6 Knowledge and understanding of vital concepts, principles and theories relating to computing and computer applications, software development, networking and

Teaching and learning strategies

lecture based and individual presentations
laboratory practicals
individual and group exercise instruction
individual and group project work
use of MOODLE and internet resources

Assessment

formal examination
assessed practical work
assessed coursework / assignments
assessed oral presentations
live case study
e-assessments on MOODLE

<p>media systems.</p> <ul style="list-style-type: none"> • KU7 Critical understanding of how computer-based technologies interrelate and communicate with one another, support processes and lead to a computerised solution to a problem. • KU8 Understanding of the application of appropriate mathematical techniques in the design and development of software and computer systems. • KU9 Critical understanding of the use of industry standard technical documentation and practices. • KU10 Develop a range of multi-disciplined programming and coding skills. • KU11 Deploy appropriate tools, theories, principles and methodologies to analyse, specify, construct, test and evaluate a computer based system in an appropriate context • KU12 An ability to apply industry-standard methods in human-computer interaction to inform the development of usable interfaces. • KU13 An understanding of the appropriate techniques and methodologies used to resolve real-life problems in the workplace. 	
<p>Skills and other attributes - <i>Intellectual / cognitive skills</i></p> <ul style="list-style-type: none"> • CS1 Deploy appropriate theory, practices and tools in order to analyse, specify, design and implement computing systems and software applications. • CS2 Recognise and critically evaluate the professional, economic, social, environmental, moral and ethical issues that influence the sustainable exploitation of computer-based technologies. • CS3 Critique a range of systems and operations and their application to maximise and successfully meet strategic 	<p><u>Teaching and learning strategies</u> promoted through lectures, practical work, report writing and directed reading Intellectual skills are developed through the teaching and learning programme outlined above. Analysis and problem solving skills are further developed through the use of examples sheets and case study exercises with learners working either individually or in groups. For the blended learning modules support will be given through the timetabled workshops and via email and text.</p> <p><u>Assessment</u> formal examination assessed practical work assessed coursework / assignments</p>

<p>objectives.</p> <ul style="list-style-type: none"> • CS4 Interpret, analyse and evaluate a range of data, sources and information to inform evidence-based decision making. • CS5 Synthesise knowledge and critically evaluate strategies and plans to understand the relationship between theory and real-world scenarios. • CS6 Evaluate the changing needs of the business environment and have confidence to self-evaluate and undertake additional CPD as necessary. 	<p>assessed oral presentations live case study e-assessments on MOODLE</p>
<p>Skills and other attributes - Professional practical skills</p> <ul style="list-style-type: none"> • AS1 Evidence the ability to show client relationship management and develop appropriate policies and strategies to meet stakeholder expectations. • AS2 Apply innovative ideas to develop and create new systems or services that respond to the changing nature of organisations. • AS3 Integrate theory and practice through the investigation and examination of practices in the workplace. • AS4 Develop outcomes for clients using appropriate practices and data to make justified recommendations. • AS5 Apply IT concepts and principles to critically evaluate and analyse complex practical problems and provide IT based solutions. • AS6 Effectively apply appropriate computer based technologies to analyse, develop and maintain reliable software. • AS7 Employ a range of analytical techniques and design tools in the development of secure software. • AS8 Locate, receive and respond to a variety of information sources (e.g. textual, numerical, graphical and computer-based) in defined contexts. 	<p><u>Teaching and learning strategies</u> Subject practical skills are developed in a co-ordinated and progressive manner throughout the programme.</p> <p><u>Assessment</u> formal examination assessed practical work assessed coursework / assignments assessed oral presentations live case study e-assessments on MOODLE</p>

Skills and other attributes - Key / transferable skills

- TS1 Develop a skill set to enable the evaluation of appropriate actions taken for solving problems in a specific organisational context.
- TS2 Self-reflection, including self-awareness; the ability to become an effective self-student and appreciate the value of the self-reflection process.
- TS3 Undertake independent learning to expand on own skills and delivered content.
- TS4 Competently use digital literacy to access a broad range of research sources, data and information.
- TS5 Communicate confidently and effectively, both orally and in writing, both internally and externally with organisations and other stakeholders.
- TS6 Communicate ideas and arguments in an innovative manner using a range of digital media.
- TS7 Communicate effectively, verbally and in writing and articulate well-defined issues, for a variety of purposes, taking into account the audience viewpoint
- TS8 Demonstrate strong interpersonal skills, including effective listening and oral communication skills, as well as the associated ability to persuade, present, pitch and negotiate.
- TS9 Identify personal and professional goals for continuing professional development in order to enhance competence to practise within a chosen computing field.
- TS10 Take advantage of available pathways for continuing professional development through higher education, Professional Body Qualifications and Vendor Accredited Certifications.
- TS11 Develop a range of skills to ensure effective team working, independent initiatives,

Teaching and Learning strategies

development of transferable skills permeates the programme at all levels
oral seminar presentations
laboratory, tutorial and practical activities
promoting interaction at peer and tutor level
practical group work

Assessment

included as part of the overall assessment for appropriate modules

organisational competence and problem-solving strategies.

- TS12 Show an ability to work as a member of a development team, recognising the different roles within a team and the different ways of organising teams
- TS13 Reflect adaptability and flexibility in approach to work; showing resilience under pressure and meeting challenging targets within given deadlines.
- TS14 Use quantitative skills to manipulate data, evaluate and verify existing theory.
- TS15 Show awareness of current developments within the computing industry and their impact on employability and CPD.
- TS16 Manage small to medium scale projects using appropriate planning and time management techniques.
- TS17 Display emotional intelligence and sensitivity to diversity in relation to people and cultures.

18. Programme structure

Year 1

Unit Number	Unit	Core (C) or Option (O)	Unit Level	Unit Credit
1	Programming	C	4	15
2	Networking	C	4	15
3	Professional Practice	C	4	15
4	Database Design and Analysis	C	4	15
5	Security	C	4	15
6	Managing a successful Computing Project	C	4	15
8	Computer Systems Architecture	O	4	15
10	Website Design and Development	O	4	15

Year 2

Unit Number	Unit	Core (C) or Option (O)	Unit Level	Unit Credit
13	Computing and Research Project	C	5	30
14	Business Intelligence	C	5	15
15	Transport Network Design	C	5	15
16	Cloud Computing	C	5	15
17	Network Security	O	5	15
18	Discrete Maths	O	5	15
19	Data Structures and Algorithms	O	5	15
20	Advanced Programming	O	5	15
21	Data Mining	O	5	15
28	Prototyping	O	5	15
31	Games Engine & Scripting	O	5	15
32	Game Design Theory	O	5	15
35	Network Management	O	5	15
36	Client/Server Computing Systems	O	5	15
38	Database Management Systems	O	5	15
39	E-Commerce & Strategy	O	5	15
43	Internet of Things	O	5	15
49	Operating Systems	O	5	15

19. Criteria for admission

As specified by Pearson, applicants will be expected to provide satisfactory evidence of ability to reach the required standards. The applicant's prior qualifications and/ or experience will be reviewed to assess their potential to achieve the qualification.

- (a) Applicants who will not have attained 21 years of age on entry will normally be expected to have: UCAS minimum tariff of 120
- (b) Successful completion of an approved course, i.e. BTEC Extended Diploma in IT or Creative media Production or relevant A levels e.g. Computer Science, Media Studies.
- (c) Mature applicants without formal qualifications as in a) or b), may provide alternative satisfactory evidence of their ability to pursue successfully the Higher National Diploma in Computing. Each case will be judged on individual merits. This

will usually involve an interview and may involve written tests.

(d) Pass in an Access Diploma in Science or other relevant subject.

(e) Work-related experience. Non-standard entry applications from mature applicants will be welcomed and will be judged on individual merits. This will usually involve preparation of a portfolio, an interview and may involve written tests.

Learners' previous achievements and experiences in and outside the workplace, as well as in the classroom will be considered in line with Pearson's policy documentation, *Recognition of Prior Learning Policy and Process*.

20. Support for students and their learning

Personal Tutors: in accordance with College policy, each student is allocated a personal tutor at the commencement of the programme. The role of the tutor is to provide individual support and an element of pastoral care. Personal Tutors are selected from the teaching staff that delivers the modules on the programme.

Tutorials: a programme of tutorials is scheduled throughout the programme. This includes group activities as well as individual tutorials to discuss academic progress and issues of individual concern. In addition to scheduled meetings, students in the School are encouraged, through an 'open door' policy, to seek guidance from their personal tutors. Tutors' e-mail addresses are provided in the Course Handbook to facilitate contact. Details about additional (College) support services including the counselling service and the Skills Development Centre (housed in the College Learning Resource Centre) are included in the College Handbook for Higher Education, which is provided electronically to each student, together with a Personal Development Plan.

A variety of resources are also available to all students, via the web. These include:

College Intranet: a source of information, with access to the learning resource centre (LRC) on-line and the College Handbook for Higher Education.

MOODLE: the College's virtual learning environment (VLE). MOODLE offers learners the facility to continue their learning outside of the college campus by providing a gateway through which learners can complete all manner of tasks including downloading of lecture notes and case studies, taking part in interactive "Test your Learning" and revision exercises, submitting assignments and keeping a blog so that both they and their lecturer can track their progress on design projects and industrial placements.

21. Quality management – indications of quality and the methods for evaluating and improving quality

The College operates appropriate quality processes approved by the Pearson. A quality framework sets out the operation of the processes.

Mechanisms for review of teaching and learning standards, curriculum content and assessment

- Student programme review

- Board of Study, a staff /student board to review, evaluate and recommend action for course of study
- Classroom observation by School management team
- External examiner's report
- Annual Quality Improvement Plan (QIP), School and Course Self-Assessment reports (SAR)

Committees with responsibility for monitoring and evaluating quality and standards

- Board of Study
- Programme Examination Board
- College Examination Board
- College Curriculum and Student Experience Committee
- College Quality and Standards Committee
- College Academic Board

Mechanisms for gaining student feedback on the quality of teaching and learning experience

- Student representatives elected for each year of the course
- Student programme review
- Board of Study
- Student questionnaires; induction and entry, programme review, destination survey

Staff Development priorities

- All staff must attain a recognised teaching qualification
- College staff development courses
- Courses, seminars and conferences to update specific knowledge on related issues
- All staff must be DBS checked

22. Role of the Awarding Body

Pearson's will ensure that centres have effective quality assurance processes to review programme delivery. It will also ensure that the outcomes of assessment are to national standards.

This comprises three key components:

1) Approval Process

The College will be required to demonstrate that they:

- Have the human and physical resources required for effective delivery and assessment
- Understand the implications for independent assessment and agree to abide by these
- Have a robust internal assessment system supported by 'fit for purpose' assessment documentation
- Have a system to internally verify assessment decisions, to ensure standardised assessment decisions are made across all assessors and sites

2) Monitoring of internal centre systems

The College will be required to demonstrate ongoing fulfilment of the centre

approval criteria over time. The process that assures this is external examination, which is undertaken by Pearson's appointed External Examiners. The College will be given the opportunity to present evidence of the ongoing suitability and deployment of systems to carry out the required functions.

Pearson will affirm, or not, the ongoing effectiveness of such systems. Where system failures are identified, sanctions (appropriate to the nature of the problem) will be applied in order to assist the centre in correcting the problem.

3) Independent assessment review

The internal assessment outcomes reached are subject to an independent assessment review by a Pearson- appointed External Examiner.

The outcomes of this process will be to:

- confirm that internal assessment is to national standards and allow certification

or

- make recommendations to improve the quality of assessment outcomes before certification is released

or

- make recommendations about the centre's ability to continue to be approved for the qualifications in question

Pearson reserves the right to withdraw either qualification or centre approval when it deems there is an irreversible breakdown in the centre's ability either to quality assure its programme delivery or its assessment standards.

23. Further information

Further information can be found on UCF WebPages at <http://intranet.farn-ct.ac.uk/HE> (for example the Key Information Set), and on the Awarding Body website at [BTEC HND in Computing](#)

24. Specialist resources to deliver the programme

See Appendix 1

APPENDIX 1

PHYSICAL RESOURCES OF THE HAMPSHIRE BUSINESS SCHOOL WHICH SUPPORT HND AND BSc COURSES

Specialist Computing (U Block)

T1 C	U4	U5
24 * Intel i5 3GHz PCs (790)	24* Intel i3 3.4 GHz PCs (7010)	24* Intel i3 3.4 GHz PCs (7010)
Smart Board	Smart Board	Smart Board/LCD
19" monitor	19" monitor	19" monitor
U14	U15	S block
20* Intel i3 3.4 GHz PCs (7010)	24* Intel i3 3.4 GHz PCs (7010)	5 Intel i5 3.0 GHz 3 Apple Macs 2014 model
Smart Board/LCD	LCD	
19" monitor	19" monitor	19" monitors

PCs are connected to the college network. All PCs have access to MFD Samsung Printer, Scanner and Copier.

Capital bid approved for 24 new i7 processor-based PCs which will replace current i5 in T1C.

Software including Specialist Computer Room: T-Block

Applications

Some of the applications installed for general use on the network are given below.

Applications	Vendor	Version
Adobe Acrobat Reader DC	Adobe Systems Incorporated	15.016.20039
Adobe Acrobat X Pro - English, Français, Deutsch	Adobe Systems	10.1.16
Adobe AIR	Adobe Systems Incorporated	14.0.0.178
Adobe Creative Suite 6 Master Collection	Adobe Systems Incorporated	6
Adobe Flash Player 21 ActiveX	Adobe Systems Incorporated	21.0.0.242
Adobe Flash Player 21 NPAPI	Adobe Systems Incorporated	21.0.0.242
Adobe Help Manager	Adobe Systems Incorporated	4.0.244
Adobe Shockwave Player 12.0	Adobe Systems, Inc.	12.0.7.148
Adobe Widget Browser	Adobe Systems Incorporated.	2.0 Build 348
Adobe® Content Viewer	Adobe Systems, Incorporated	3.4.3

Apple Application Support (32-bit)	Apple Inc.	3.1.3
Apple Mobile Device Support	Apple Inc.	8.1.1.3
Apple Software Update	Apple Inc.	2.1.3.127
Audacity 2.0.5	Audacity Team	2.0.5
Autograph 3.20	Eastmond Publishing Ltd.	3.20.0000
BlueJ	BlueJ Team	3.1.0
BlueStacks App Player	BlueStack Systems, Inc.	2.2.19.6015
Bonjour	Apple Inc.	3.0.0.10
Celtx (2.9.1)	Greyfirst	2.9.1 (en-US)
Cisco Packet Tracer 6.1 Student	Cisco Systems, Inc.	
Cisco WebEx Meetings	Cisco WebEx LLC	
Entity Framework Designer for Visual Studio 2012 - enu	Microsoft Corporation	11.1.20702.00
Entity Framework Tools for Visual Studio 2013	Microsoft Corporation	12.0.20912.0
Google Chrome	Google Inc.	50.0.2661.102
IBM SPSS Statistics 21	IBM Corp	21.0.0.0
IIS 8.0 Express	Microsoft Corporation	8.0.1557
IIS Express Application Compatibility Database for x86		
Intel(R) Management Engine Components	Intel Corporation	9.0.0.1310
Intel(R) Network Connections Drivers	Intel	18.1
Intel(R) Processor Graphics	Intel Corporation	9.17.10.3517
Intel(R) Processor Identification Utility	Intel Corporation	1.0.0.0
Intel(R) SDK for OpenCL - CPU Only Runtime Package	Intel Corporation	2.0.0.37149
Intel(R) USB 3.0 eXtensible Host Controller Driver	Intel Corporation	1.0.6.245
iTunes	Apple Inc.	12.1.2.27
Java 8 Update 73	Oracle Corporation	8.0.730.2
Java SE Development Kit 7 Update 51	Oracle	1.7.0.510
McAfee Agent	McAfee, Inc.	5.0.2.132
McAfee Product Improvement Program	McAfee, Inc.	1.6.0.623
McAfee VirusScan Enterprise	McAfee, Inc.	8.8.06000
Microsoft .NET Framework 4.5 Multi-Targeting Pack	Microsoft Corporation	4.5.50710
Microsoft .NET Framework 4.5 SDK	Microsoft Corporation	4.5.50710
Microsoft .NET Framework 4.5.1 Multi-Targeting Pack	Microsoft Corporation	4.5.50932
Microsoft .NET Framework 4.5.1 Multi-Targeting Pack (ENU)	Microsoft Corporation	4.5.50932
Microsoft .NET Framework 4.5.1 SDK	Microsoft Corporation	4.5.51641

Microsoft .NET Framework 4.6.1	Microsoft Corporation	4.6.01055
Microsoft ASP.NET and Web Tools 2013.1 - Visual Studio Express 2015 for Web	Microsoft Corporation	2.1.41009.0
Microsoft ASP.NET MVC 3	Microsoft Corporation	3.0.20105.0
Microsoft ASP.NET Web Pages	Microsoft Corporation	1.0.20105.0
Microsoft Help Viewer 2.0	Microsoft Corporation	2.0.50727
Microsoft Help Viewer 2.1	Microsoft Corporation	2.1.21005
Microsoft Office Enterprise 2007	Microsoft Corporation	12.0.6612.1000
Microsoft Office File Validation Add-In	Microsoft Corporation	14.0.5130.5003
Microsoft Office Project Professional 2007	Microsoft Corporation	12.0.6612.1000
Microsoft Office Visio Professional 2007	Microsoft Corporation	12.0.6612.1000
Microsoft Silverlight	Microsoft Corporation	5.1.20913.0
Microsoft Silverlight 4 SDK	Microsoft Corporation	4.0.60310.0
Microsoft Silverlight 5 SDK	Microsoft Corporation	5.0.61118.0
Microsoft SQL Server 2005 Compact Edition [ENU]	Microsoft Corporation	3.1.0000
Microsoft SQL Server 2012 Command Line Utilities	Microsoft Corporation	11.1.3000.0
Microsoft SQL Server 2012 Data-Tier App Framework	Microsoft Corporation	11.1.2902.0
Microsoft SQL Server 2015 Express LocalDB	Microsoft Corporation	11.1.3000.0
Microsoft SQL Server 2015 Management Objects	Microsoft Corporation	11.1.3000.0
Microsoft SQL Server 2015 Native Client	Microsoft Corporation	11.1.3000.0
Microsoft SQL Server 2015 T-SQL Language Service	Microsoft Corporation	11.1.3000.0
Microsoft SQL Server 2015 Transact-SQL Compiler Service	Microsoft Corporation	11.0.2100.60
Microsoft SQL Server 2015 Transact-SQL ScriptDom	Microsoft Corporation	11.1.3000.0
Microsoft SQL Server Compact 4.0 SP1 ENU	Microsoft Corporation	4.0.8876.1
Microsoft SQL Server Data Tools - enu (11.1.20627.00)	Microsoft Corporation	11.1.20627.00
Microsoft SQL Server Data Tools - enu (12.0.30919.1)	Microsoft Corporation	12.0.30919.1
Microsoft SQL Server Data Tools Build Utilities - enu (11.1.20627.00)	Microsoft Corporation	11.1.20627.00
Microsoft SQL Server Data Tools Build Utilities - enu (12.0.30919.1)	Microsoft Corporation	12.0.30919.1
Microsoft SQL Server System CLR Types	Microsoft Corporation	10.50.1600.1
Microsoft System CLR Types	Microsoft Corporation	11.1.3366.16

for SQL Server 2012		
Microsoft Virtual PC 2007	Microsoft Corporation	6.0.156.0
Microsoft Visual C++ 2005 Redistributable	Microsoft Corporation	8.0.59193
Microsoft Visual C++ 2008 Redistributable - x86 9.0.30729.17	Microsoft Corporation	9.0.30729
Microsoft Visual C++ 2008 Redistributable - x86 9.0.30729.4148	Microsoft Corporation	9.0.30729.4148
Microsoft Visual C++ 2008 Redistributable - x86 9.0.30729.6161	Microsoft Corporation	9.0.30729.6161
Microsoft Visual C++ 2010 x86 Redistributable - 10.0.40219	Microsoft Corporation	10.0.40219
Microsoft Visual C++ 2012 Redistributable (x86) - 11.0.60610	Microsoft Corporation	11.0.60610.1
Microsoft Visual C++ 2013 Redistributable (x86) - 12.0.21005	Microsoft Corporation	12.0.21005.1
Microsoft Visual Studio 2015 Tools for Office Runtime (x86)	Microsoft Corporation	10.0.40303
Microsoft Visual Studio Express 2015 for Web - ENU	Microsoft Corporation	12.0.21005.13
Microsoft Visual Studio Professional 2015	Microsoft Corporation	11.0.50727.26
Microsoft Web Deploy 3.5	Microsoft Corporation	3.1237.1762
Microsoft Web Deploy dbSqlPackage Provider - enu	Microsoft Corporation	10.3.20225.0
Microsoft Web Platform Installer 4.6	Microsoft Corporation	4.0.40719.0
Microsoft WebMatrix 3	Microsoft Corporation	2.0.1932
Microsoft WSE 3.0 Runtime	Microsoft Corp.	3.0.5305.0
MindGenuis Enterprise Education	Gael	1.510.1
Mozilla Firefox 43.0.1 (x86 en-US)	Mozilla	43.0.1
Mozilla Maintenance Service	Mozilla	43.0.1.5828
Notepad++	Notepad++ Team	6.8.8
PaperCut MF Client 13.4	PaperCut Software International Pty Ltd	
PkUpdate	PROMAX ELECTRONICA, S.A.	1.66
Prerequisites for SSDT	Microsoft Corporation	11.1.3000.0
QuickTime 7	Apple Inc.	7.76.80.95
Read And Write 11	Texthelp Ltd.	11.0.0
Sage 50 Accounts 2012	Sage (UK) Ltd	18.0.10.208
Sage 50 Payroll	Sage (UK) Ltd.	19.01
SATHUNTER+	PROMAX ELECTRONICA, S. L.	4.04.001
Strawberry Prolog 3.0 Beta		

light		
UltraISO Premium V9.61		
Unreal Development Kit: 2014-08	Epic Games, Inc.	
VLC media player 2.1.2	VideoLAN	2.1.2
VMware vCenter Converter Standalone	VMware, Inc.	5.1.0.1087880
VMware Workstation	VMware, Inc	10.0.1
WCF RIA Services V1.0 SP2	Microsoft Corporation	4.1.61829.0
Windows Azure Authoring Tools - v2.2	Microsoft Corporation	2.2.6492.2
Windows Azure Emulator - v2.2	Microsoft Corporation	2.2.6492.2
Windows Azure Libraries for .NET - v2.2	Microsoft Corporation	2.2.0924.200
Windows Azure Storage Tools - v2.2	Microsoft Corporation	2.2.0.0
Windows Azure Tools for Microsoft Visual Studio 2013 - v2.2	Microsoft Corporation	2.2.11003.1601
Windows Live Essentials	Microsoft Corporation	14.0.8117.0416
Windows Live Sign-in Assistant	Microsoft Corporation	5.000.818.5
Windows Live Sync	Microsoft Corporation	14.0.8117.416
Windows Live Upload Tool	Microsoft Corporation	14.0.8014.1029
WinRAR 5.01 (32-bit)	win.rar GmbH	5.01.0

Network Shares

The following network shares are accessible via shortcuts located on the desktop.

M Drive

The students all now have their 'My Documents' folder re-directed to the server 'M Drive' which means users can log onto any of the machines access their files. They have 1GB storage space on the server.

Public Web Space

For students of staff wishing to test web pages they have developed, this shortcut provides access to a directory of the network web server, described elsewhere in this document. Navigating an Internet browser to <http://172.16.8.23/WebSpace/> or "http://172.16.8.11/~WebSpace" will allow the viewing of a file copied or moved into this directory.

Network Printer

Students are given £5.00 of print credit when they enrol. This allows students to be able to access any of the 26 centralized printers within the college. The printers have the facility to Scan to email, Photocopy as well as print in both colour and mono.

Remote Control Software

Software to allow administrators remote viewing and control of machines has been installed throughout the network. Using Impero Console will allow connection to a specified machine, allow or restrict the internet. For details of this software and how to use it to its full potential, refer to the full network documentation.

Cisco

At current, the following Cisco program and curriculum content are installed locally on the systems and there are plans to add the exams to the server in the future. All Cisco related content is found in the start menu under "Start Menu\Programs\Cisco".

- Cisco Config Maker
- Cisco Packet Tracer 6.2 or above
- CCNA Curriculum 1-4,
- IT Essentials Curriculum 1
- NDG Linux

Users also have access to numerous 8 Routers, 15 Switches, VOIP equipment, PIX firewalls and wireless networks.

Oracle 10 G

The latest version of Oracle 10 G has been deployed on all the T Block machines. There is a database located locally on each system, as well as one on the network server, in order to access them the oracle services need to be started using the appropriate shortcuts in the start menu. For full information on how these were set up and configured and also how to access them, refer to the full network documentation.

MySQL

The MySQL database application has been installed on the network server to allow the creation and testing of web pages and scripts that require connection to a database. Presently there are two users configured to use the application, "root", the administration account, and "student", a read only account with the password 'student'. For full information on how this was configured and its use, refer to the full network documentation and the MySQL manual, which has a shortcut located in the start menu.

Databases

Currently, there is a single database set up called "webtest", it contains one table named "id" which has the following columns and data types, "surname" (VARCHAR), "forename" (VARCHAR), "address" (VARCHAR), "birth" (DATE) and "sex" (CHAR).

Web Server

The network server is configured to run as a Microsoft IIS web server, the root directory of which can be viewed with an Internet browser by navigating to: <http://cove.farn-ct.ac.uk>. Students on web design modules are have their

websites uploaded onto the server making their work public. The server supports to following:

ASP

Active Server Pages use embedded Java script (JScript) or Visual Basic script (VBScript) to enhance the functionality of a web page in a large variety of ways.

SSI

Server Side Includes can be used to add small quantities of dynamic content to web pages, without the need to generate entire pages each time they are requested.

PHP

PHP Hypertext Pre-processor is a widely used scripting language with a vast array of functionality for both web pages and applications.

Programming

Java

The System PATH environment variables have been set to allow java utilities to be used with the command prompt from any directory. The following java related applications and utilities are installed on the systems.

- JSE Development Kit 8u91
- JSE Runtime Environment 8u91
- Java Platform, Enterprise Edition 8
- Blue J
- Eclipse IDE for Java Developers: Eclipse Luna

C/C++

The following C and C++ related tools are available on the systems.

- Microsoft DirectX
- Microsoft Visual Studio 2015

Web Design

For creating web pages without the need to use raw code the following utilities are available.

- Dreamweaver CS6
- Microsoft Web Publishing Wizard

Others

For programming languages other than java and C/C++, the following applications are also available.

- ATP (Assembler Training Program)
- HHD Software Hex Editor
- Multimedia Logic
- ObjectAda V7.2.2 Special Edition
- Strawberry Prolog 2.5 light
- Win Prolog 4200
- Moscow ML v2.01
- CarrotSoft Interface for Moscow ML

Virtual Machines

VMware Player has been installed on all of the T1C machines as well as Microsoft Virtual PC. This allows many different operating systems to be run virtually within the normal windows environment. Operating systems include Solaris, Fedora, Cent OS and others.

Networking Tools

Networking tools such as WireShark, nMap and Ethereal have been installed on the machines in T1C allowing students to monitor, manage and manipulate the network traffic on an advanced level.