UNIVERSITY CENTRE TRURO & PENWITH

University of Plymouth
Academic Partnerships

Truro and Penwith College

Programme Quality Handbook

BSc (Hons) Applied Computing Technologies

2024-25

TRURO COLLEGE PENWITH COLLEGE UNIVERSITY OF PLYMOUTH

Contents

WELCOME AND INTRODUCTION

Welcome and Introduction to BSc (Hons) Applied Computing Technologies

Welcome to Truro and Penwith College and the BSc (Hons) Applied Computing Technologies. This innovative programme provides the opportunity to study Applied Computing Technologies to Honours level. Focusing on a broad range of key computing areas, students on this programme develop academic and employability skills in tandem, maximising their career prospects. Specifically, the course provides students with an advanced knowledge in a broad range of computing subjects including networking, security, cloud computing and professional practice. The focus is on practical research and project-related skills, as well as the analysis of new and emerging technologies and applications in computing. In order to provide necessary and relevant professional development all students will be engaged in enterprising and study skills activities that offer the opportunity to learn through live briefs and real employer focused tasks.

Drawing on the fields of advanced networking, cloud computing, security and professional practice in IT, this BSc (Hons) considers the application of these disciplines in the workplace. It allows students to focus on specific job roles in order to ensure that they can apply the theories they learn in the classroom to the reality they face in the workplace. Furthermore, students will have the opportunity to work with local employers throughout their Honours project. To this end, existing collaborations with local employers will provide students with the opportunity to undertake live projects for real clients.

Distinctive Features

There are many aspects of the BSc (Hons) Applied Computing Technologies that make it distinctive, including:

Teaching and Learning:

✓ A dynamic team of computer scientists and network engineers.
✓ Module leaders with a broad range of vocational experience, thus enhancing the student experience.
✓ The ability to focus assignments on areas of interest, or to explore a number of areas, thus maximising employability. The College has strong links with a plethora of local IT employers in Cornwall to provide students with a unique opportunity to work with live briefs.

Location:
✓ Dedicated custom-built facilities specifically for HE students in a modern campus.
✓ Set in Cornwall's capital Truro and surrounded by spectacular coastline scenery and beautiful countryside.

Facilities:
✓ Excellent facilities, resources and support, both physically and remotely.

This programme has been designed to equip you with the skills and knowledge base required to work in your chosen specialism or other graduate opportunities. It is also a platform from which you can undertake additional vocational and academic qualifications.

This Programme Quality Handbook contains important information including:

- The approved programme specification
- Module records

Note: the information in this handbook should be read in conjunction with: the University Centre Student Handbook (on SharePoint) which contains information on issues such as finance, student support, careers, learning resources and studying at University Centre Truro and Penwith; the University of Plymouth Student Handbook https://www.plymouth.ac.uk/your-university/governance/student-handbook; and your Teaching, Learning and Assessment Handbook available on SharePoint.

Programme Specification

1. Award

Final Award Title: BSc (Hons) Applied Computing Technologies

UCAS Code:13T8

HECoS Code: 100358 Applied Computing

2. Awarding Institution: University of Plymouth

a. Teaching Institution: Truro and Penwith College

3. Accrediting Body(ies)

N/A

4. Distinctive Features of the Programme and the Student Experience

- Expert staff including experienced industry professionals.
- Valuable networking opportunities within Cornwall and the UK, including through organisations such as Software Cornwall
- Curriculum designed in collaboration with industry aligning to industry skills gaps and employable skills.
- Module alignment to industry/vendor qualifications
- Access to specialist resources in Valency SWIOT building at Truro Campus and Ottery STEM centre at Bodmin (Due to open in September 2023).
- Flexibility across the timetable, the programme will be timetabled to reflect the need and demand of its students and as such has responded by offering a condensed timetable to support its learners.
- The college has recently embarked on implementing its new University Centre Wide structure of student rep governance. This new structure is a highly visible and transparent mechanism, which supports student voice experience and where students are very much part of the higher education setting across multiple aspects. The students on this award will be a part of this activity.
- The college is embarking on the creation of a student social group which will add to the sense of belonging for the students. This will include activities, visits, societies and events.
- Group activities during workshop led sessions, which will enable students to partake in cooperative working practices.

- Opportunities across the course for students to apply and combine practical and research skills learnt in the production of their own outcomes which could be interdisciplinary in nature.
- Tailored careers advice and support for up to five years after graduation will remain for Alumni to offer ongoing assistance.

5. Relevant QAA Subject Benchmark Group(s)

the programme development was informed by the following:-

Framework for Higher Education (FHEQ) programmes at level 6 (2014)

Subject Benchmark Statement: Computing (qaa.ac.uk) (2022)

SEEC-Credit-Level-Descriptors-2021.pdf

6. Programme Structure

a. Full-time Route

YEAR 1 (LEVEL 6)				
Module Code	**Module Title**	**Credits**	**Core / Optional**	**Term / Semester**
TRUR3120	Professional Project	40	Core	All Year
TRUR3121	Emerging Technologies	20	Core	All Year
TRUR3122	Cloud Computing	20	Core	All Year
TRUR3123	Advanced Networking and Simulation	20	Core	All Year
TRUR3124	Advanced Cyber-Security	20	Optional	All Year
TRUR3125	Applied Programming	20	Optional	All Year

Total Credits at Level 6 = 120

b. Part-time Indicative Route

YEAR 1 (LEVEL 6)				
Module Code	**Module Title**	**Credits**	**Core / Optional**	**Term / Semester**
TRUR3121	Emerging Technologies	20	Core	All Year
TRUR3122	Cloud Computing	20	Core	All Year
TRUR3123	Advanced Networking and Simulation	20	Core	All Year

YEAR 2 (LEVEL 6)				
Module Code	**Module Title**	**Credits**	**Core / Optional**	**Term / Semester**
TRUR3120	Professional Project	40	Core	All Year
TRUR3124	Advanced Cyber-Security	20	Optional	All Year
TRUR3125	Applied Programming	20	Optional	All Year

7. Programme Aims

A1. To develop the specialist knowledge, understanding and skills required to work in the computing industry.

A2. To provide students with selected specialised areas of study so that they can experience the frontiers of practice and research in computing.

A3. To provide training, through a range of specialised educational activities, to develop a range of organisational, teamwork and transferable skills applicable to graduate employment.

A4. To prepare students for further work and postgraduate study/research in the field of Computing.

A5. To give students the knowledge and cognitive skills needed to be able to provide computing solutions to real world problems.

8. Programme Intended Learning Outcomes

8.1. Knowledge and understanding

On successful completion graduates should have developed:

8.1.1. The ability to identify, explain and evaluate current and evolving trend and technologies within the computing industry.

8.1.2. The skills required to critically appraise and evaluate theories, principles and concepts relating to the wider computing industry.

8.1.3. An understanding of the impact of ethical, moral, and legal issues relevant to the wider computing industry.

8.2. Cognitive and intellectual skills

On successful completion graduates should have developed:

8.2.1. The ability to appraise, evaluate and synthesise, data/evidence from appropriate sources to draw appropriate conclusions and make recommendations.

8.2.2. The ability to define complex computing problems and recommend appropriate solutions using relevant knowledge, tools, methods, and processes.

8.2.3. Intellectual flexibility and openness to innovation within the field of computing.

8.3. Key and transferable skills

On successful completion graduates should have developed the ability to:

8.3.1. Face evolving challenges and adapt to emerging technology.

8.3.2. Critically evaluate information from a range of sources.

8.3.3. Identify, locate, and access information, developing the skills and abilities for independent learning,

8.4. Employment related skills

On successful completion graduates should have developed:

8.4.1. The ability to act with integrity with respect to ethical, legal and regulatory requirements, ensuring the protection of personal data, safety and security

8.4.2. The ability to communicate technical concepts clearly and articulately to both technical and non-technical audiences.

8.4.3. Learner autonomy, and the ability to manage time and prioritise effectively to meet objectives with limited supervision.

8.5. Practical skills

On successful completion graduates should have developed:

8.5.1. The ability to work independently and to be accountable and maintain motivation and commitment when facing challenges.

8.5.2. Understanding of, and ability to apply a range of appropriate specialist skills and practice to effectively solve problems.

8.5.3. The ability to follow industry best practice, and apply appropriate frameworks and methodologies.

9. Admissions Criteria, including APCL, APEL and Disability Service arrangements

All applicants must have GCSE (or equivalent will be considered) Maths and English at Grade 4/C or above plus a relevant level 3 qualification. Applicants will be interviewed to assess the experience/capabilities for successful entry and completion of the course.

Entry Requirements for BSc (Hons) Applied Computing Technologies	
HND/Foundation degree or equivalent level 5 qualification in a relevant subject'	Pass or above at level 5 Other relevant level 5 qualifications may require APCL (UOP Regulations apply).
Work Experience	Considered on an individual basis through an interview process.
Other HE qualifications / non-standard awards or experiences	Considered on an individual basis through an interview process.
APEL / APCL possibilities	APEL/APCL will be considered as per University of Plymouth Regulations
Interview / Portfolio requirements	All students will be interviewed
Independent Safeguarding Agency (ISA) / Disclosure and Barring Service (DBS) clearance required	Students are expected to purchase a current DBS, if required for placement.

Apply online at www.ucas.com. For further information on the admissions process contact heEnquiry@truro-penwith.ac.uk or 01872 305746.

10. Progression criteria for Final and Intermediate Awards

Students who successfully complete the BSc (Hons) Applied Computing Technologies may apply for the following degree programmes:

- MSc Cyber Security (University of Plymouth)
- MSc Artificial Intelligence (University of Plymouth)
- MSc Data Science and Business Analytics (University of Plymouth)

Other institutions may also offer appropriate progression choices and students are encouraged to discuss other options with their Personal Tutor. Applications for progression will be subject to availability and must be submitted by the given deadline.

Upon completion of the BSc (Hons) Applied Computing Technologies students may be suited to work in a variety of settings and these opportunities include, but are not limited to working in the following sectors:

- Software Developer
- Software Tester
- Network Engineer
- Cloud Computing Engineer

11. Non-Standard Regulations

N/A

12. Transitional Arrangements

Students who are interrupted or completing units from previous versions of the programme will normally be expected to complete the modules previously assessed; for interrupted student's consideration of prior knowledge will be taken to ensure that all programme learning outcomes are met.

Appendices

Appendix A: Programme Specification Mapping

Module contribution to the meeting of Programme Learning Outcomes

CORE MODULES: tick those Programme Learning Outcomes the module contributes to through its assessed learning outcomes.

Core Modules		Programme Learning Outcomes contributed to (for more information see Section 8)															Compensation Y/N	Assessment Element(s) and weightings E1- exam T1- in-class test C1- coursework P1 - practical
		8.1 Knowledge & understanding			8.2 Cognitive & intellectual skills			8.3 Key & transferable skills			8.4 Employment related skills			8.5 Practical skills				
		8.1.1	8.1.2	8.1.3	8.2.1	8.2.2	8.2.3	8.3.1	8.3.2	8.3.3	8.4.1	8.4.2	8.4.3	8.5.1	8.5.2	8.5.3		
Level 6	TRUR3120 Professional Project		x	x	x	x	x	x		x	x	x	x	x	x	x	Y	C1 – 70 P1 – 30
	TRUR3121 Emerging Technologies	x	x	x	x		x	x	x								Y	C1 - 50 P1 - 50
	TRUR3122 Cloud Computing		x						x	x						x	Y	C1 – 80 P1 - 20
	TRUR3123 Advanced Networking and Simulation		x			x								x	x	x	Y	C1 -50 P1- 50
Level 6 LOs		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
Confirmed Programme LOs		**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**		

OPTIONAL MODULES: tick those Programme Learning Outcomes the module contributes to through its assessed learning outcomes.

Optional Modules		Programme Learning Outcomes contributed to (for more information see Section 8)															Compensation Y/N	Assessment Element(s) and weightings E1- exam T1- in-class test C1- coursework P1 - practical
		8.1 Knowledge & understanding			8.2 Cognitive & intellectual skills			8.3 Key & transferable skills			8.4 Employment related skills			8.5 Practical skills				
		8.1.1	8.1.2	8.1.3	8.2.1	8.2.2	8.2.3	8.3.1	8.3.4	8.3.3	8.4.1	8.4.2	8.4.3	8.5.1	8.5.2	8.5.3		
Level 6	TRUR3124 Advanced Cyber-Security	x	x								x			x	x	x	Y	C1 -100
	TRUR3125 Applied Programming	x	x			x						x		x	x	x	Y	C1 – 50 P1 - 50
Level 6 LOs		x	x			x					x	x		x	x	x		
Confirmed Programme LOs		**x**	**x**			**x**					**x**	**x**		**x**	**x**	**x**		

UNIVERSITY OF PLYMOUTH MODULE RECORD

SECTION A: DEFINITIVE MODULE RECORD

MODULE CODE: TRUR3120 **MODULE TITLE: Professional Project**

CREDITS: 40 **FHEQ LEVEL:** 6 **HECoS CODE:** 100812 Project Management, 100358 Applied Computing

PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** No

SHORT MODULE DESCRIPTOR: *(max 425 characters)*

The professional project gives an opportunity for learner to undertake a major computing related project in an area relevant to the programme of study. This module supports learners to manage their own research or development activities, plan a project from realisation of an idea, through to design, implementation, testing and review, and develop specialist expertise within the project subject area.

ELEMENTS OF ASSESSMENT – *see Definitions of Elements and Components of Assessment*					
C1 (Coursework)	70%	**E1** (Examination)		**P1** (Practical)	30%
T1 (In-Class Test)		**O1** (online open book assessment)			

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

- Demonstrate creative application of skills, knowledge and experience developed through studies.
- Manage a project to deliver an end product to meet objectives or requirements.
- Develop competencies in research and analysis of literature.
- Demonstrate the skills necessary to plan, design and implement a substantial independent project.

ASSESSED LEARNING OUTCOMES: *(refer to Programme Specification for relevant Programme Intended Learning Outcomes)*

At the end of the module the learner will be expected to be able to:

Assessed Module Learning Outcomes:	**Programme Intended Learning Outcomes (PILOs) contributed to:**
1. Demonstrate an investigative component to a project, showing consolidation and development of knowledge and understanding relevant to the programme of study.	8.1.2, 8.1.3, 8.2.3, 8.3.3, 8.5.2
2. Identify a significant computing related problem that requires the application of methods and techniques that demonstrates the application of knowledge and understanding	8.2.2, 8.2.3, 8.5.3
3. Manage a complex project that demonstrates personal initiative, autonomy, and effective decision making.	8.3.1, 8.4.1, 8.4.3, 8.5.1
4. Communicate effectively and critically evaluate all aspects of the project deliverables including the theoretical and methodological framework	8.2.1, 8.4.2

DATE OF APPROVAL: May-23	**FACULTY/OFFICE:** Partnerships
DATE OF IMPLEMENTATION: Sep-23	**SCHOOL/PARTNER:** Truro and Penwith College
DATE(S) OF APPROVED CHANGE:	**SEMESTER:** 1 & 2
MODE OF DELIVERY: Campus Taught	

Notes:

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the UNISTATS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

ACADEMIC YEAR: 2024-25	**NATIONAL COST CENTRE:** 121
MODULE LEADER: Naomi Johns-Dyer	**OTHER MODULE STAFF:** Dave Cook, Richard Morris
SUMMARY OF MODULE CONTENT: Student-centred practical project incorporating the application of project management theory; including planning, time management, problem solving and management of learning.	

SUMMARY OF TEACHING AND LEARNING *(Refer to HESA KIS definitions)*		
Scheduled Activities	**Hours**	**Comments/Additional Information** (briefly explain activities, including formative assessment opportunities)
Lecture	15	
Practical classes and workshops	30	
Guided Independent Study	340	
Supervisor Meetings	15	One-to-one meetings between supervisor and student to provide individual formative feedback
Total	**400**	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT		
Element Category	**Component Name**	**Component Weighting**
Coursework	C1 – Professional Project – ALO 1, 2, 3	100%
Practical	P1 – Project Presentation - ALO 4	100%

REFERRAL ASSESSMENT		
Element Category	**Component Name**	**Component Weighting**
Coursework	C1 – Professional Project – ALO 1, 2, 3 (New piece)	100%
Practical	P1 – Project Presentation – ALO 4 (New piece)	100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Naomi Johns-Dyer Date: 20/08/24	**Approved by:**

UNIVERSITY OF PLYMOUTH MODULE RECORD

SECTION A: DEFINITIVE MODULE RECORD

MODULE CODE: TRUR3121 **MODULE TITLE: Emerging Technologies**

CREDITS: 20 **FHEQ LEVEL:** 6 **HECoS CODE:** 100367 Computing and Information Technology

PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes

SHORT MODULE DESCRIPTOR: *(max 425 characters)*

This module allows students to identify, evaluate and discuss current and future technical trends and moral, legal and social issues relating to the use or development of technology.

ELEMENTS OF ASSESSMENT – *see Definitions of Elements and Components of Assessment*					
C1 (Coursework)	50%	**E1** (Examination)		**P1** (Practical)	50%
T1 (In-Class Test)		**O1** (online open book assessment)			

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

- Identify, critically evaluate and discuss current and future trends in technology.
- Consider the economical, ethical and legal impact of trends in technology.
- Develop an awareness of the digital landscape.
- Understand the societal impact of emerging technology.

ASSESSED LEARNING OUTCOMES: *(refer to Programme Specification for relevant Programme Intended Learning Outcomes)*

At the end of the module the learner will be expected to be able to:

Assessed Module Learning Outcomes:	**Programme Intended Learning Outcomes (PILOs) contributed to:**
1. Identify and analyse current and future trends in technology.	8.1.1, 8.1.2, 8.2.3, 8.3.1, 8.3.2
2. Critically analyse the impact of emerging technology on society.	8.1.3, 8.2.3, 8.3.2
3. Make justified predictions on the future landscape of technology.	8.1.2, 8.2.1, 8.2.3, 8.3.2

DATE OF APPROVAL: May-23	**FACULTY/OFFICE:** Partnerships
DATE OF IMPLEMENTATION: Sep-23	**SCHOOL/PARTNER:** Truro and Penwith College
DATE(S) OF APPROVED CHANGE:	**SEMESTER:** 1 & 2
MODE OF DELIVERY: Campus Taught	

Notes:

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the UNISTATS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

ACADEMIC YEAR: 2024-25	**NATIONAL COST CENTRE:** 121
MODULE LEADER: Dave Cook	**OTHER MODULE STAFF:** Naomi Johns-Dyer
SUMMARY OF MODULE CONTENT: Social impact of emerging tech, Gartner hype cycle, STEEPLED Model, political, legal, environmental, and economic impact of emerging tech, technology adoption, AI, ML, Data. Ethics, morals and health and safety.	

SUMMARY OF TEACHING AND LEARNING *(Refer to HESA KIS definitions)*		
Scheduled Activities	**Hours**	**Comments/Additional Information** (briefly explain activities, including formative assessment opportunities)
Lecture	45	
Guided Independent Study	155	
Total	**200**	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT		
Element Category	**Component Name**	**Component Weighting**
Coursework	C1 – Emerging Trends – ALO 1, 3	100%
Practical	P1 – Emerging Technology and Society Presentation– ALO 2	100%

REFERRAL ASSESSMENT		
Element Category	**Component Name**	**Component Weighting**
Coursework	C1 – Emerging Trends – ALO 1, 3 (New Piece)	100%
Practical	P1 – Emerging Technology and Society Presentation– ALO 2 (New Piece)	100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Naomi Johns-Dyer Date: 20/08/24	**Approved by:**

UNIVERSITY OF PLYMOUTH MODULE RECORD

SECTION A: DEFINITIVE MODULE RECORD

MODULE CODE: TRUR3122 **MODULE TITLE: Cloud Computing**

CREDITS: 20 **FHEQ LEVEL:** 6 **HECoS CODE:** 100358 Applied Computing, 100367 Computing and Information Technology

PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes

SHORT MODULE DESCRIPTOR: *(max 425 characters)*

This module introduces and examines cloud computing, describing the software components from which cloud infrastructure and platforms are constructed. Methods for building scalable cloud applications are described and explained together with the concepts of virtualisation and the practical implementation of cloud computing infrastructures.

ELEMENTS OF ASSESSMENT – *see Definitions of Elements and Components of Assessment*					
C1 (Coursework)	80%	**E1** (Examination)		**P1** (Practical)	20%
T1 (In-Class Test)		**O1** (online open book assessment)			

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

- To explain and demonstrate the practical issues of securing IT applications together with appropriate use of security theories.
- To develop an understanding of a range of methods that can be applied to protect common software applications and data repositories.
- To explain the underlying principles of security management and develop an awareness of security threats and vulnerabilities within an organisational context.
- To develop an understanding of the principles of risk analysis and security policies in an organisational context.
- To provide an understanding of the range of problems relating to computer crime and abuse and the corresponding impact on organisations and individuals.
- To explain and demonstrate various methods of investigating computer abuse incidents and impart an understanding of contingency planning and risk analysis.

ASSESSED LEARNING OUTCOMES: *(refer to Programme Specification for relevant Programme Intended Learning Outcomes)*

At the end of the module the learner will be expected to be able to:

Assessed Module Learning Outcomes:	**Programme Intended Learning Outcomes (PILOs) contributed to:**
1. Understand, explain and critically evaluate different cloud architectures and the design of virtual environments and virtual machine management.	8.1.2, 8.3.2, 8.3.3
2. Demonstrate a deep and systematic understanding of the software components used to construct cloud infrastructures and platforms.	8.3.2, 8.3.3

3.	Design, construct and critically evaluate cloud systems, including scalability, storage and processing, drawing from appropriate theory to provide specific solutions for specific needs	8.1.2, 8.3.2, 8.5.3
4.	Use appropriate deployment and management techniques and tools to manage and troubleshoot cloud computing infrastructures.	8.5.3

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MODE OF DELIVERY: Campus Taught	

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ACADEMIC YEAR: 2024-25	**NATIONAL COST CENTRE:** 121
MODULE LEADER: Dave Cook	**OTHER MODULE STAFF:** Naomi Johns-Dyer

SUMMARY OF MODULE CONTENT:

Introduction to cloud computing and cloud infrastructures; software components; platforms and storage; cloud applications; cloud security; cloud deployment and management; virtualisation and virtual machines.

SUMMARY OF TEACHING AND LEARNING *(Refer to HESA KIS definitions)*		
Scheduled Activities	**Hours**	**Comments/Additional Information** (briefly explain activities, including formative assessment opportunities)
Lecture	30	
Practical classes and workshops	15	
Guided Independent Study	155	
Total	**200**	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT		
Element Category	**Component Name**	**Component Weighting**
Coursework	C1 – Cloud Computing Platforms – ALO 1, 2	100%
Practical	P1 – Cloud Solutions Presentation – ALO 3, 4	100%

REFERRAL ASSESSMENT		
Element Category	**Component Name**	**Component Weighting**
Coursework	C1 – Cloud Computing Platforms – ALO 1, 2 (New Piece)	100%
Practical	P1 – Cloud Solutions Presentation – ALO 3, 4 (New Piece)	100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Naomi Johns-Dyer Date: 20/08/24	**Approved by:**

UNIVERSITY OF PLYMOUTH MODULE RECORD

SECTION A: DEFINITIVE MODULE RECORD

MODULE CODE: TRUR3123 **MODULE TITLE: Advanced Networking and Simulation**

CREDITS: 20 **FHEQ LEVEL:** 6 **HECoS CODE:** 100365 Computer Networks , 100358 Applied Computing

PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes

SHORT MODULE DESCRIPTOR: *(max 425 characters)*

This module covers issues relating to network monitoring and management together with simulation technologies and the fundamentals of simulation design. Common monitoring techniques and methods of network supervision are covered as well as advancing knowledge of networking principles and network design

ELEMENTS OF ASSESSMENT – *see Definitions of Elements and Components of Assessment*					
C1 (Coursework)	50%	**E1** (Examination)		**P1** (Practical)	50%
T1 (In-Class Test)		**O1** (online open book assessment)			

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

- To explain the techniques and methods available for monitoring and managing networks
- To illustrate the different levels of monitoring and managing a computer network; ranging from host and service availability to application and network performance.
- To develop an understanding of the principles and concepts of network simulation and modelling of computer networks.

ASSESSED LEARNING OUTCOMES: *(refer to Programme Specification for relevant Programme Intended Learning Outcomes)*

At the end of the module the learner will be expected to be able to:

Assessed Module Learning Outcomes:	**Programme Intended Learning Outcomes (PILOs) contributed to:**
1. Critically evaluate techniques available for monitoring techniques to solve computer network problems	8.1.2, 8.5.2
2. Apply network monitoring techniques to solve computer network problems	8.2.2, 8.5.1, 8.5.2, 8.5.3
3. Critically evaluate networked systems through simulation	8.1.2,
4. Creatively design and configure network design solutions based on simulated results	8.1.2, 8.2.2, 8.5.3

DATE OF APPROVAL: May-23	**FACULTY/OFFICE:** Partnerships
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MODE OF DELIVERY: Campus Taught	

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SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the UNISTATS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

ACADEMIC YEAR: 2024-25	**NATIONAL COST CENTRE:** 121
MODULE LEADER: Dave Cook	**OTHER MODULE STAFF:** Naomi Johns-Dyer
SUMMARY OF MODULE CONTENT: Introduction to network monitoring and network simulation techniques using specialist tools and software such as packet tracer; traffic monitoring methods, network/host monitoring methods; topology monitoring; application performance monitoring; simulation strategies; simulation experiment design; analysis of simulation results.	

SUMMARY OF TEACHING AND LEARNING *(Refer to HESA KIS definitions)*		
Scheduled Activities	**Hours**	**Comments/Additional Information** (briefly explain activities, including formative assessment opportunities)
Lecture	90	
Guided Independent Study	110	
Total	**200**	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT		
Element Category	**Component Name**	**Component Weighting**
Coursework	Network Design – ALO 1, 4	100% 100%
Practical	Network Simulation Presentation– ALO 2, 3	100%

REFERRAL ASSESSMENT		
Element Category	**Component Name**	**Component Weighting**
Coursework	Network Design – ALO 1, 4 (New Piece)	100%
Practical	Network Simulation Presentation – ALO 2, 3 (New Piece)	100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Naomi Johns-Dyer Date: 20/08/24	**Approved by:**

UNIVERSITY OF PLYMOUTH MODULE RECORD

SECTION A: DEFINITIVE MODULE RECORD

MODULE CODE: TRUR3124 **MODULE TITLE: Advanced Cyber-Security**

CREDITS: 20 **FHEQ LEVEL:** 6 **HECoS CODE:** 100358 Applied Computing, 100376 Computer and Information Security, 101040 Risk Management

PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes

SHORT MODULE DESCRIPTOR: *(max 425 characters)*

This module covers issues surrounding the management of information security and the security of applications, media and information within an organisational context. Consideration is given to common threats facing IT systems and the practical measures that may be used to reduce such risks. Issues related to security policies, risk analysis and techniques for the investigation of cybercrime incidents are also explored.

ELEMENTS OF ASSESSMENT – *see Definitions of Elements and Components of Assessment*					
C1 (Coursework)	100%	**E1** (Examination)		**P1** (Practical)	
T1 (In-Class Test)		**O1** (online open book assessment)			

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

- To explain and demonstrate the practical issues of securing IT applications together with appropriate use of security theories.
- To develop an understanding of a range of methods that can be applied to protect common software applications and data repositories.
- To explain the underlying principles of security management and develop an awareness of security threats and vulnerabilities within an organisational context.
- To develop an understanding of the principles of risk analysis and security policies in an organisational context.
- To provide an understanding of the range of problems relating to computer crime and abuse and the corresponding impact on organisations and individuals.
- To explain and demonstrate various methods of investigating computer abuse incidents and impart an understanding of contingency planning and risk analysis.

ASSESSED LEARNING OUTCOMES: *(refer to Programme Specification for relevant Programme Intended Learning Outcomes)*

At the end of the module the learner will be expected to be able to:

Assessed Module Learning Outcomes:	**Programme Intended Learning Outcomes (PILOs) contributed to:**
1. Systematically explain and reflect on the security needs of various applications, associated data and organisations.	8.4.1, 8.5.2, 8.5.3
2. Identify and solve application security issues using appropriate specific techniques and reflect critically on the method chosen.	8.1.2, 8.4.1, 8.5.3

3.	Examine the types of risk that could threaten an organisational IT infrastructure using Risk Analysis techniques.	8.1.1, 8.4.1
4.	Systematically investigate and explain the different forms of computer crime and abuse. Recommend appropriate safeguards in line with the principles of cybercrime investigation.	8.1.2, 8.4.1, 8.5.1, 8.5.2, 8.5.3

DATE OF APPROVAL: May-23	**FACULTY/OFFICE:** Partnerships
DATE OF IMPLEMENTATION: Sep-23	**SCHOOL/PARTNER:** Truro and Penwith College
DATE(S) OF APPROVED CHANGE:	**SEMESTER:** 1 & 2
MODE OF DELIVERY: Campus Taught	

Notes:

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the UNISTATS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

ACADEMIC YEAR: 2025-25	**NATIONAL COST CENTRE:** 121
MODULE LEADER: Dave Cook	**OTHER MODULE STAFF:**

SUMMARY OF MODULE CONTENT: Principles of information system security; threats to information systems; security policies; baseline protection; risk analysis and business impact analysis; contingency planning; asset management; security culture and awareness; identification, classification and evaluation of security risks in applications (including email, web browsers, e-commerce, mobility and digital rights protection); users and Human Computer Interaction issues; ethical issues relating to privacy and corporate responsibility; categories of computer crime and abuse; attack motivations, methods and defences; malicious software; impacts of cybercrime; cybercrime investigation methods and techniques.

SUMMARY OF TEACHING AND LEARNING *(Refer to HESA KIS definitions)*

Scheduled Activities	**Hours**	**Comments/Additional Information** (briefly explain activities, including formative assessment opportunities)
Lecture	30	
Practical classes and workshops	15	
Guided Independent Study	155	
Total	**200**	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	**Component Name**	**Component Weighting**
Coursework	C1 – Security Analysis – ALO 1, 3	50%
	C2 – Cyber Investigation – ALO 2, 4	50%
		100%

REFERRAL ASSESSMENT

Element Category	**Component Name**	**Component Weighting**
Coursework	C1 – Cyber and Information Security – ALO 1, 2, 3, 4 (New Piece)	100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Naomi Johns-Dyer Date: 20/08/24	**Approved by:**

UNIVERSITY OF PLYMOUTH MODULE RECORD

SECTION A: DEFINITIVE MODULE RECORD

MODULE CODE: TRUR3125 **MODULE TITLE: Applied Programming**

CREDITS: 20 **FHEQ LEVEL:** 6 **HECoS CODE:** 100956 Programming, 100960 Object-Oriented Programming

PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes

SHORT MODULE DESCRIPTOR: *(max 425 characters)*

This module introduces the concept of applying software patterns to existing code to begin to improve code and provide efficient solutions to repeated problems. Learners will use design patterns to refactor code to improve quality and efficiency of code. Learners will understand how design patterns are used in agile projects.

ELEMENTS OF ASSESSMENT – *see Definitions of Elements and Components of Assessment*					
C1 (Coursework)	50%	**E1** (Examination)		**P1** (Practical)	50%
T1 (In-Class Test)		**O1** (online open book assessment)			

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

- Apply design patterns to existing code.
- Understand the fundamentals of design patterns.
- Critically appraise the use of design patterns to software projects.

ASSESSED LEARNING OUTCOMES: *(refer to Programme Specification for relevant Programme Intended Learning Outcomes)*

At the end of the module the learner will be expected to be able to:

Assessed Module Learning Outcomes:	**Programme Intended Learning Outcomes (PILOs) contributed to:**
1. Understand the fundamentals of design patterns.	8.2.2, 8.5.1,
2. Apply design patterns to existing projects.	8.2.2, 8.5.1, 8.5.2, 8.5.3
3. Critically evaluate the use of design patterns.	8.1.1, 8.1.2, 8.4.2, 8.5.1

DATE OF APPROVAL: May-23	**FACULTY/OFFICE:** Partnerships
DATE OF IMPLEMENTATION: Sep-23	**SCHOOL/PARTNER:** Truro and Penwith College
DATE(S) OF APPROVED CHANGE:	**SEMESTER:** 1 & 2
MODE OF DELIVERY: Campus Taught	

Notes:

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the UNISTATS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

ACADEMIC YEAR: 2024-25	**NATIONAL COST CENTRE:** 121
MODULE LEADER: Naomi Johns-Dyer	**OTHER MODULE STAFF:** John Glazebrook, Richard Morris
SUMMARY OF MODULE CONTENT: Take an existing project and refactor by using software patterns. Understand a range of software patterns and appropriate applications. Compare and contrast original verses refactored code. Use of design patterns in agile projects.	

SUMMARY OF TEACHING AND LEARNING *(Refer to HESA KIS definitions)*		
Scheduled Activities	**Hours**	**Comments/Additional Information** (briefly explain activities, including formative assessment opportunities)
Lecture	45	
Guided Independent Study	155	
Total	**200**	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT		
Element Category	**Component Name**	**Component Weighting**
Coursework	C1 – Applying Design Patterns (ALO1, 2)	100%
Practical	P1 – Critical review of application of design patterns Practical skills assessment (ALO 3)	100%

REFERRAL ASSESSMENT		
Element Category	**Component Name**	**Component Weighting**
Coursework	C1 – Applying Design Patterns -ALO 1, 2 (New piece)	100%
Practical	P1 – Critical review of application of design patterns Practical skills assessment– ALO 3 (New Piece)	100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Naomi Johns-Dyer Date: 20/08/24	**Approved by:**