PETROC · UNIVERSITY OF PLYMOUTH

ACADEMIC PARTNERSHIPS PROGRAMME QUALITY HANDBOOK 2021-22

FdSc Computing

Contents

Welcome and Introduction

Welcome to the Foundation Degree in Computing delivered at University Centre, North Devon Campus, at Petroc.

This course covers the underpinning theory of computing but also provides practical skills with immediate relevance in the workplace enabling graduates to gain challenging and engaging employment. It has been a successful stepping-stone for motivated mature students and gives all students the opportunity to progress to a final year of a BSc at Plymouth. The focus is on problem solving, skills for lifelong learning and integrating theory with practical experience.

Assessments reflect the range of communication skills required in today's workplace and include presentations and vivas, practical work, blogs, implementing applications, documentation, user reviews and written submissions.

Background to the Development of your Foundation Degree

The South West Regional Development Agency's Annual Review 2005-6 states;
'We have invested in extending broadband availability – a vital piece in the communications jigsaw – enabling rural and far-flung parts of the region to compete effectively'. Dane Stanley of the North Devon Enterprise Agency says that over 90% of the new businesses he supports are IT based.

The design of the programme was informed by the overarching guidelines of the Academic Infrastructure, provided by the Quality Assurance Agency, and in particular the Foundation Degree Qualification Benchmark. Continued liaison with the University of Plymouth, adherence to their regulations and the benefits of their staff development programme ensure that this programme is rigorous and up to date. The range of modules 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.

The programme was been redesigned in 2020-21 and updated in line with industry standards and South West Institute of Technology developments which brings investment to Petroc to provide a high-quality learning environment which opened in September 2021.

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 current edition of:

- Your University Student Institution Handbook which contains student support based information on issues such as finance and studying at HE available at:
  https://my.petroc.ac.uk/moodle/moodle_3/course/view.php?id=3059
- Your Module Guide available at:
  https://my.petroc.ac.uk/moodle/moodle_3/course/view.php?id=699
- Your University of Plymouth Student Handbook available at: https://www.plymouth.ac.uk/your-university/governance/student-handbook

Programme Specification

1. Foundation Degree in Computing

Final award title: FdSc Computing

Level 4 Intermediate award title(s): None

UCAS Code: G401

HECOS Code: I320

2. Awarding Institution: University of Plymouth

Teaching institution(s): Petroc

3. Accrediting body(ies): None

Summary of specific conditions/regulations: N/A

Date of re-accreditation: N/A

4. Distinctive Features of the Programme and the Student Experience

This Foundation Degree in Computing

- is aligned with the professional demands of technical computing roles to enable students to gain challenging and engaging employment in this field and contribute to the development of regional industries and thus the region's economy.
- has been a successful stepping stone for motivated mature students and school or college leavers alike, who aspire to enter or progress through a career in digital industries. With this in mind, successful completion of this programme enables progression to the final year of bachelor degree at the University of Plymouth[1].
- covers a broad range of professional practice, a clear understanding of fundamental principles, a variety of programming languages, knowledge of data management, security, networking and project planning. This meets regional requirements and also provides students with opportunities to specialise or integrate their knowledge in a professional environment
- will develop critical and transformative students with the ethos and skills for career-long professional development in a rapidly developing and far reaching area of expertise
- focuses on problem-solving, lifelong learning and integrating theory with practical experience

[1] Dependent on adherence to the University's regulations and the availability of these programmes at the time of application to this Foundation Degree.

5. Relevant QAA Subject Benchmark Group(s)

- As a Foundation Degree, this programme is informed by the bachelor level QAA Subject Benchmark for Computing, 2019
- QAA Framework for Higher Education Qualifications, 2014
- QAA Foundation Degree Characteristics Statements, 2015

6. Programme Structure

Year 1: FdSc Computing full-time			
Module Code	Module Title	Credits	AY/AU/SP
PETR1120	Academic and Professional Skills	20	AU
PETR1121	Fundamental Concepts in Computing	20	AU
PETR1122	Web Design & Development	20	AU
PETR1123	Software Development	20	SP
PETR1124	Operating Systems and Networking	20	SP
PETR1125	Security Fundamentals	20	SP

Year 2: FdSc Computing full-time			
Module Code	Module Title	Credits	AY/AU/SP
PETR1127	Group Project	20	AU
PETR1128	Mobile Applications and user experience	20	AU
PETR1129	Enterprise Networks & Cloud Services	20	AU
PETR1130	Object Oriented Programming	20	SP
PETR1131	Database Applications Development	20	SP
PETR1132	Emerging Technologies	20	SP

Year 1: FdSc Computing part-time			
Module Code	Module Title	Credits	AY/AU/SP
PETR1120	Academic and Professional Skills	20	AU
PETR1121	Fundamental Concepts in Computing	20	AU
PETR1123	Software Development	20	SP
PETR1125	Security Fundamentals	20	SP

Year 2: FdSc Computing part-time			
Module Code	Module Title	Credits	AY/AU/SP
PETR1122	Web Design & Development	20	AU
PETR1128	Mobile Applications and user experience	20	AU
PETR1124	Operating Systems and Networking	20	SP
PETR1131	Database Applications Development	20	SP

Year 3: FdSc Computing part-time			
Module Code	Module Title	Credits	AY/AU/SP
PETR1127	Group Project	20	AU
PETR1129	Enterprise Networks & Cloud Services	20	AU
PETR1130	Object Oriented Programming	20	SP
PETR1132	Emerging Technologies	20	SP

7. Programme Aims

This programme aims to provide opportunities for students to:

1. develop fundamental understanding of computing concepts and how these relate to rapidly evolving technological developments
2. gain appreciation and knowledge of the ethical, social and professional responsibilities of working in the computing industry
3. develop understanding of relevant technologies, and the analysis, synthesis and evaluation skills used to solve computing problems
4. apply skills and knowledge to plan, implement and test solutions
5. develop skills in lifelong learning supported by flexibility, resilience and creativity
6. develop a range of academic skills to support undergraduate development

8. Programme Intended Learning Outcomes

8.1. Knowledge and understanding

On successful completion graduates should have developed critical knowledge and understanding of:

1. fundamental computing concepts that influence system performance
2. essential facts, concepts, principles and theories within software, networking, security and data management
3. scientific approaches and methods for pragmatic problem-solving and academic investigation
4. an understanding of legal, regulatory, professional and ethical responsibilities relevant to IT professionals

8.2. Cognitive and intellectual

On successful completion graduates should have developed cognitive and intellectual skills to:

1. gather and apply appropriate theory and practices to specify, design, implement and finally deliver a solution to a computing problem
2. test and evaluate systems and reflect on system outcomes in a professional manner
3. apply appropriate methods to investigate problems that may be solved using the application of computing knowledge and skills
4. evaluate the impact and mitigating factors for a range of security issues

8.3. Key and transferable skills

On successful completion graduates should have developed the ability to:

1. communicate reasoned arguments to a range of audiences in various modes allowing them to discuss and defend a decision
2. work in a team and recognise their own and others' contribution to achieve the desired outcome
3. work independently, plan effectively, meet deadlines and recognise the importance of high quality solutions
4. recognise factors in environmental and societal contexts relating to continuing technological developments

8.4. Employment related skills

On successful completion graduates should have developed:

1. high professional standards and knowledge of recognised industry standards and processes
2. the ability to synthesise considerations of business, customer and user needs alongside the wider computing context
3. skills to focus and reflect upon relevant work-based learning so as to improve their continuing professional development within the working environment
4. knowledge of emerging technologies as they apply to the workplace

8.5. Practical skills

On successful completion graduates should have developed:

1. a range of programming skills to contribute effectively to the production of industry standard applications
2. skills to contribute effectively to the design, implementation and management of an organisational IT system
3. skills to contribute to the project management of a digital-based project
4. skills to work collaboratively with colleagues using a range of cloud-based applications

9. Admissions Criteria, including APCL, APEL and DAS arrangements.

All applicants must have GCSE (or equivalent) Maths and English at Grade C/Grade 4 or above. Mature students are welcome to apply. All applicants are interviewed before an offer is made.

Entry Requirements for FdSc Computing	
A-level/AS-level	Normal minimum entry requirements are 56 on new UCAS Tariff at A-level
BTEC National Diploma/QCF Extended Diploma	Equivalent of 56 UCAS points in a Computing Subject
Access to Higher Education at level 3	Pass an Access to HE Diploma in Science with an equivalent of 56 UCAS points
Welsh Baccalaureate	Normal minimum entry requirements are an equivalent of 56 on new UCAS Tariff to include Maths
Scottish Qualifications Authority	Normal minimum entry requirements are an equivalent of 56 on new UCAS Tariff to include Maths
Irish Leaving Certificate	Normal minimum entry requirements are an equivalent of 56 on new UCAS Tariff to include Maths
International Baccalaureate	Normal minimum entry requirements are an equivalent of 56 on new UCAS Tariff to include Maths
Progression from Extended Science	Normal minimum entry requirements are an equivalent of 56 on new UCAS Tariff to include Maths
Non-Standard Qualifications with experience	All non-standard applicants are interviewed by the tutor and screened centrally to ensure impartial oversight. APEL and APCL may take place at this time or by prior arrangement
Capability and disability	Both the context of, and therefore likelihood for future employment, and active study on this programme requires engagement with various technologies across engineering environments, including workshops, laboratories, and a wide variety of engineering industries. If the College is unable facilitate the adjustments or the applicant would be unable to comply an offer may be withdrawn.

8. Progression criteria for Final and Intermediate Awards

BSc (Hons) Computing and Software Development Level 6 at University of Plymouth
BSc (Hons) Integrated Technologies Engineering [Top up] at Petroc

9. Non Standard Regulations

None

10. Transitional Arrangements

None

Appendices

Programme Specification Mapping (UG) – core/elective modules

Module Records

UNIVERSITY OF PLYMOUTH MODULE RECORD

<u>SECTION A: DEFINITIVE MODULE RECORD</u>. *Proposed changes must be submitted via Faculty/AP QualityProcedures for approval and issue of new module code.*

MODULE CODE: PETR1120	**MODULE TITLE:** Academic and Professional Skills	
CREDITS: 20	**FHEQ LEVEL:** 4	**HECOS CODE:** I320
PRE-REQUISITES: N/A	**CO-REQUISITES:** N/A	**COMPENSATABLE:** Y

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
Technical expertise is important but good communication skills enable this to be effective in the workplace. Furthermore, the field of computing develops very quickly, so flexibility and good research skills are required. In addition, the effects of computing are wide-ranging, so there needs to be awareness of social and environmental issues.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions]* – *see <u>Definitions of Elements and Components of Assessment</u>*

E1 (Examination)	0%	**C1** (Coursework)	100%	**P1** (Practical**)**	0%
E2 (Clinical Examination)	0%	**A1** (Generic assessment)	0%		
T1 (Test)	0%				

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:
To develop the employability and academic skills needed to progress to final year studies and engage in graduate level employment.

ASSESSED LEARNING OUTCOMES: (additional guidance below; please refer to the ProgrammeSpecification for relevant award/ programme Learning Outcomes.

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

Assessed Module Learning Outcomes	**Award/ Programme Learning Outcomes contributedto**
1. Able to demonstrate evidence of a rangeof academic skills including referencing	C8.1.3 C8.3.1 GD8.1.3 GD8.3.1

2.	Demonstrate an understanding of the professional environment in which a computing professional works and the personal and technical skills required.	C8.1.4, C8.3.2 C8.3.4, C8.5.2 GD8.1.4, GD8.3.2GD8.3.4
3.	Demonstrate development of employability skills by reflecting upon work- related learning, problem solving and effective communication within a group.	C8.3.1, C8.4.3 C8.4.4, 8.5.3, 8.5.4GD8.3.1 GD8.4.3 GD8.4.4, GD8.5.3, GD8.5.4

DATE OF APPROVAL: 18/09/2020	**FACULTY/OFFICE:** Academic Partnerships
DATE OF IMPLEMENTATION: XX/XX/XXXX	**SCHOOL/PARTNER:** Petroc
DATE(S) OF APPROVED CHANGE: XX/XX/XXXX	**SEMESTER:** 1
Notes:	

Additional Guidance for Learning Outcomes:

To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards

- Framework for Higher Education Qualifications http://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf
- Subject benchmark statements https://www.qaa.ac.uk/quality-code/subject-benchmark-statements
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g.health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code https://www.qaa.ac.uk/quality-code

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 KIS 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: 2021/22	NATIONAL COST CENTRE: 121
MODULE LEADER: Jane Sansbury	OTHER MODULE STAFF:

Summary of Module Content
- Academic skills
- Self-evaluation and reflection
- Time-management
- Research skills
- Academic referencing
- Academic writing
- Attitudes to learning Professional skills
- Group work
- Project management in workplace - Agile
- Version control - for example using ng GitHub
- Legal, regulatory, professional and ethical responsibilities e.g. GDPR, Computer Misuse Act, British Computer Society Code of Conduct
- Challenge of continuing technological developments
- Approaches to problem solving Communication skills
- Practical skills - Word e.g. using styles, table of contents, Presentation Blogging software
- Presentation skills
- Different writing styles

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*		
Scheduled Activities	**Hours**	**Comments/Additional Information (briefly explain activities, including formative assessment opportunities)**
Lectures	15	Delivering skills and content
Supervised Workshops	35	Individual and group tasks to develop academic and practical skills Support with developing portfolio of skills

Self-directed Study	150	
Total	**200**	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)**

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	1. Portfolio of evidence including reflection on problem solving, presentation skills and academic writing 2. Online of legal, regulatory, professional and ethical frameworks developed in a group using version control with evidence of revision by all parties	70% 30% 100%

REFERRAL ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	1. Portfolio of evidence including reflection on problem solving, group work,presentation skills and academic writing 2. Online overview of legal, regulatory, professional and ethical frameworks developedas an individual, using version control with evidence of revision	70% 30% 100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Date: XX/XX/XXXX	**Approved by**: Date: XX/XX/XXXX

**UNIVERSITY OF PLYMOUTH MODULE
RECORD**

SECTION A: DEFINITIVE MODULE RECORD. *Proposed changes must be submitted via Faculty/AP QualityProcedures for approval and issue of new module code.*

MODULE CODE: PETR1121		MODULE TITLE: Fundamental Concepts in Computing		
CREDITS: 20		FHEQ LEVEL: 4		HECOS CODE: I320
PRE-REQUISITES: N/A		CO-REQUISITES: N/A		COMPENSATABLE: Y

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
This module covers the fundamental mathematical and computing concepts and principles, which inform the development of hardware and software. This brings a deeper understanding, which supports an appreciation of the complexity of the problem and the elegance of many of the solutions. This module complements the Software Development module where these skills are applied in practice.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions]* – see <u>Definitions of Elements and Components of Assessment</u>

E1 (Examination)	0%	C1 (Coursework)	50%	P1 (Practical)	0%
E2 (Clinical Examination)	0%	A1 (Generic assessment)			
T1 (Test)	50%				

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:
To develop an understanding of a range of principles which have a direct relevance to the development of hardware and software. Consideration will also be given to how these skills are used in the workplace.

ASSESSED LEARNING OUTCOMES: (additional guidance below; please refer to the ProgrammeSpecification for relevant award/ programme Learning Outcomes.

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

Assessed Module Learning Outcomes	Award/ Programme Learning Outcomes contributedto
1. Demonstrate the use of the fundamental concepts which underpin computing.	C8.1.1, C8.1.2 GD8.1.1, GD8.1.2
2. Compare the performance of a range of common algorithms and select appropriate	C8.1.3, C8.2.3 , C8.5.1

3. Common data structures.	GD8.1.3, GD8.2.3 GD8.5.1

4. Explore the use of mathematics within a selected computing area	C8.1.2 GD8.1. 2
DATE OF APPROVAL*: 18/09/2020	**FACULTY/OFFICE:** Academic Partnerships
DATE OF IMPLEMENTATION: XX/XX/XXXX	**SCHOOL/PARTNER:** Petroc
DATE(S) OF APPROVED CHANGE: XX/XX/XXXX	**SEMESTER:** 1
Notes:	

Additional Guidance for Learning Outcomes:

To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards

- Framework for Higher Education Qualifications http://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf
- Subject benchmark statements https://www.qaa.ac.uk/quality-code/subject-benchmark-statements
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code https://www.qaa.ac.uk/quality-code

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. <u>Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students.</u> Further details for current students should be provided in module guidance notes.

ACADEMIC YEAR: 2021/22	NATIONAL COST CENTRE: 121
MODULE LEADER: Jane Sansbury	OTHER MODULE STAFF:

Summary of Module Content
- Number representations Computing calculations Truth tables
- Introduction to machine architecture Logic gates and special purpose circuits Venn diagrams
- Algorithms for example
- Sorting
- Searching
- Network
- Complexity and Big O notation Data Structures for example
- Lists
- Hash tables
- B-trees
- Heaps Cryptography
- Mathematical skills in the workplace for example
- File sizes
- Network transfer speeds

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*		
Scheduled Activities	**Hours**	**Comments/Additional Information (briefly explain activities, including formative assessment opportunities)**
Lectures	15	Delivery of theoretical content
Supervised workshop	25	Practical exercises linked to practical application in software, networking and security
Self-directed Study	150	
Total	**200**	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)**

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Explorations into the use of mathematics in computing	100% 100%
Test	In class test	100% 100%

REFERRAL ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Explorations into the use of mathematics in computing	100% 100%

Coursework in lieu of original assessment	Coursework describing a range of fundamental principles	100% 100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Date: XX/XX/XXXX	**Approved by:** Date: XX/XX/XXXX

UNIVERSITY OF PLYMOUTH MODULE RECORD

SECTION A: DEFINITIVE MODULE RECORD. *Proposed changes must be submitted via Faculty/AP QualityProcedures for approval and issue of new module code.*

MODULE CODE: PETR1122		MODULE TITLE: Web Design and Development		
CREDITS: 20		FHEQ LEVEL: 4		HECOS CODE: I320
PRE-REQUISITES: N/A		CO-REQUISITES: N/A		COMPENSATABLE: Y

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
In this module students will develop professional front-end web development skills which take account of accessibility and responsiveness. The technologies and tools to deliver high quality user experience are changing rapidly and this module provides experience of core languages. Students will be encouraged to make use of online tutorials to learn new skills and reflect on the learning experience.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions]* – see <u>Definitions of Elements and Components of Assessment</u>

E1 (Examination)	0%	**C1** (Coursework)	80%	**P1** (Practical)	20%
E2 (Clinical Examination)	0%	**A1** (Generic assessment)	0%		
T1 (Test)	0%				

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:
To practice a range of coding skills involved in front-end web development. Gain experience of self-directed learning and reflect on the learning process. To provide an opportunity for students to plan, design, develop and evaluate a web application with regard to the responsibilities of an IT professional.

ASSESSED LEARNING OUTCOMES: (additional guidance below; please refer to the ProgrammeSpecification for relevant award/ programme Learning Outcomes.

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

Assessed Module Learning Outcomes	Award/ Programme Learning Outcomes contributedto
1. Select appropriate tools to present a design for an accessible, responsive web-based solution	C8.1.2 C8.4.1 GD8.1.2 GD8.4.1
2. Develop a web-based solution to a	C8.2.1

complex web based problem which meetscustomer requirements.	C8.2.2
	C8.4.4
	C8.5.1, C8.5.4
	GD8.2.1
	GD8.2.2,
	GD8.4.4
	GD8.5.1, GD8.5.4
3. Critically analyse the user experience and consider security issues	C8.1.4
	C8.3.4
	C8.4.2
	GD8.1.4
	GD8.3.4
	GD8.4.2
4. Reflect on the learning process	C8.3.3, C8.4.3
	GD8.3.3. GD8.4.3

DATE OF APPROVAL: 18/09/2020	**FACULTY/OFFICE:** Academic Partnerships
DATE OF IMPLEMENTATION: XX/XX/XXXX	**SCHOOL/PARTNER:** Petroc
DATE(S) OF APPROVED CHANGE: XX/XX/XXXX	**SEMESTER:** 1
Notes:	

Additional Guidance for Learning Outcomes:

To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards

- Framework for Higher Education Qualifications http://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf
- Subject benchmark statements https://www.qaa.ac.uk/quality-code/subject-benchmark-statements
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code https://www.qaa.ac.uk/quality-code

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

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ACADEMIC YEAR: 2021/22	NATIONAL COST CENTRE: 121
MODULE LEADER: Jane Sansbury	OTHER MODULE STAFF:

Summary of Module Content Use of online resources
- Gathering resources
- Version control
- User requirements
- Requi
- Legal responsibilities
- UI & UX designs
- Test plans
- presenting a design
- Wire frames, concept diagrams
- Site maps
- Interactivity designs
- W3C Web Accessibility Initiative
- Website Development
- HTML
- CSS
- JavaScript interactive elements
- CSS and JS frameworks
- Photoshop
- Website testing and evaluation
- Testing methodologies
- Security issues
- Requirements audit
- Reflection and evaluation remints gathering

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*

Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	role of each technology, interaction between technologies and evaluation and security issues
Supervised workshops	35	online tutorials will prepare students for practical web development challenges
Self-directed Study	150	
Total	**200**	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)**

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Design, implementation and evaluation of website Blog on learning process	75% 25% 100%
Practical	Viva - Professional discussionof website	100% %100%

REFERRAL ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Design, implementation and evaluation of website Blog on learning process	75% 25% 100%
Courseworkin lieu of original assessment	Presentation which gives an overview of the developmentof the website with speaker notes	100% 100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Date: XX/XX/XXXX	Approved by: Date: XX/XX/XXXX

**UNIVERSITY OF PLYMOUTH MODULE
RECORD**

SECTION A: DEFINITIVE MODULE RECORD. *Proposed changes must be submitted via Faculty/AP QualityProcedures for approval and issue of new module code.*

MODULE CODE: PETR1123		MODULE TITLE: Software Development			
CREDITS: 20		FHEQ LEVEL: 4		HECOS CODE: I320	
PRE-REQUISITES: N/A		CO-REQUISITES: N/A		COMPENSATABLE: Y	

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
Programming is an intellectual and a practical skill. This module will introduce programming concepts with no prior knowledge assumed, and progress towards more complex techniques. Professional development tools will be used throughout.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions]* – see <u>Definitions of Elements and Components of Assessment</u>

E1 (Examination)	0%	C1 (Coursework)	100%	P1 (Practical)	0%
E2 (Clinical Examination)	0%	A1 (Generic assessment)	0%		
T1 (Test)	0%				

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:
To understand the application of fundamental programming skills using an industry standard programming language and following standard industry practice. We will also investigate the use and efficiency of a variety of algorithms.

ASSESSED LEARNING OUTCOMES: (additional guidance below; please refer to the ProgrammeSpecification for relevant award/ programme Learning Outcomes.

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

Assessed Module Learning Outcomes	Award/ Programme Learning Outcomes contributed to
1. Demonstrate good programming practice and a structured, methodical approach to software development.	C8.1.2 C8.4.1 C8.5.3 C8.5.4 GD8.1.2 GD8.4.1 GD8.5.3 GD8.5.4

2. Design and implement programs of moderate size and complexity.	C8.1.1, C8.1.3
	C8.2.1
	C8.2.3
	C8.4.2, C8.4.4, C8.5.1
	GD8.1.3
	GD8.2.1
	GD8.2.3
	GD8.4.2, GD8.4.4, GD8.5.1
3. Plan and implement testing and verification of software.	C8.2.2, C8.2.4
	C8.3.3
	GD8.2.2, GD8.2.4
	GD8.3.3

DATE OF APPROVAL: 18/09/2020	**FACULTY/OFFICE:** Academic Partnerships
DATE OF IMPLEMENTATION: XX/XX/XXXX	**SCHOOL/PARTNER:** Petroc College
DATE(S) OF APPROVED CHANGE: XX/XX/XXXX	**SEMESTER:** 2
Notes:	

Additional Guidance for Learning Outcomes:

To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards

- Framework for Higher Education Qualifications
  http://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf
- Subject benchmark statements https://www.qaa.ac.uk/quality-code/subject-benchmark-statements
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
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ACADEMIC YEAR: 2021/22	NATIONAL COST CENTRE: 121
MODULE LEADER: Jane Sansbury	OTHER MODULE STAFF:

- Summary of Module Content
- Programming paradigms
- Choice of language and frameworks
- High and low level languages
- Computational thinking skills
- Use of IDE and selected programming language
- Programming principles and structures
- Problem-solving
- Debugging software
- Code walkthroughs and reading unfamiliar code
- Data structures
- Version control
- File input/output
- Good programming practice
- Specification and design
- Testing - formal and informal

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*		
Scheduled Activities	**Hours**	**Comments/Additional Information (briefly explain activities, including formative assessment opportunities)**
Lectures	5	Formal module content
Seminars	5	Discussion on principles of design, programming concepts, code walkthroughs
Practical workshops	40	Coding workshops covering essential skills. Examples of work to be presented as portfolio in final assessment.
Self-directed Study	150	
Total	**200**	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)**

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting

Element Category	Component Name	Component Weighting
Coursework	1. Portfolio of exemplar exercises 2. Design, implement and testan application	30% 70% 100%

REFERRAL ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	1. Portfolio of exemplar exercises 2. Design, implement and testan application	30% 70% 100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Date: XX/XX/XXXX	**Approved by:** Date: XX/XX/XXXX

**UNIVERSITY OF PLYMOUTH MODULE
RECORD**

SECTION A: DEFINITIVE MODULE RECORD. *Proposed changes must be submitted via Faculty/AP QualityProcedures for approval and issue of new module code.*

MODULE CODE: PETR1124	MODULE TITLE: Operating Systems and Networking		
CREDITS: 20	FHEQ LEVEL: 4	HECOS CODE: I320	
PRE-REQUISITES: N/A	CO-REQUISITES: N/A	COMPENSATABLE: Y	

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
Operating systems and networks provide the infrastructure on which computing services are built.This module covers the theoretical structures which underpin operating systems and network services and also gives practical experience of implementing the core features of a network.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions] – see Definitions of Elements and Components of Assessment*

E1 (Examination)	0%	C1 (Coursework)	50%	P1 (Practical)	0%
E2 (Clinical Examination)	0%	A1 (Generic assessment)	0%		
T1 (Test)	50%				

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:
To develop a theoretical and practical knowledge of operating system and networking structures and the interaction between them. To understand the common issues with traditional and contemporary operating system and networking models. To develop theoretical and practical skillsin configuring a simulated networking environment which will provide underpinning knowledge on wider networking technologies covered in future modules.

ASSESSED LEARNING OUTCOMES: (additional guidance below; please refer to the Programme Specification for relevant award/ programme Learning Outcomes.

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

Assessed Module Learning Outcomes	Award/ Programme Learning Outcomes contributed to
1. Demonstrate understanding of the purpose and structure of operating systems.	C8.1.1 GD8.1.1

2.	Understand and apply the principles of networking, protocols and associated technologies	C8.1.2 GD8.1.2
3.	Specify the architecture of a typical business IT system	C8.1.3 C8.2.1, C8.3.3, C8.4.1, C8.4.2 GD8.1.3 GD8.2.1, GD8.3.3 GD8.4.1
4.	Monitor system performance and recommend changes to manage load balance and avoid system failure	C8.2.2 C8.2.3, C8.2.4 C8.5.2 GD8.2.2 GD8.2.3 GD8.5.2

DATE OF APPROVAL: 18/09/2020	**FACULTY/OFFICE:** Academic Partnerships
DATE OF IMPLEMENTATION: XX/XX/XXXX	**SCHOOL/PARTNER:** Petroc
DATE(S) OF APPROVED CHANGE: XX/XX/XXXX	**SEMESTER:** Semester 2
Notes:	

Additional Guidance for Learning Outcomes:

To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards

- Framework for Higher Education Qualifications
http://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf
- Subject benchmark statements https://www.qaa.ac.uk/quality-code/subject-benchmark-statements
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code https://www.qaa.ac.uk/quality-code

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 KIS 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: 2021/22	NATIONAL COST CENTRE: 121
MODULE LEADER: Tim Barker	OTHER MODULE STAFF:

Summary of Module Content
- Overview of purpose of operating systems
- Different types of operating system
- Components of an operating system
- Introduction to Linux
- Structure of Linux virtual filesystem
- Structure of Linux kernel
- Basic network architectures, including wireless technologies
- Design simple network solutions
- Introduction to the OSI & TCP/IP Models
- Relate physical technologies to the theoretical models
- Complete simple fault analysis using the models
- Introduction to basic routing: RIP/static
- Route data packets between different networks.
- Introduction to IP Addressing
- Define what a subnet is
- Carry out sub netting calculations
- Create sub netted solutions to a given problem
- IPv4 vs IPv6
- Explain the differences between the two standards
- Wifi networking
- Identify the different standards
- Design a Wifi network
- Fundamentals for security

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*		
Scheduled Activities	**Hours**	**Comments/Additional Information (briefly explain activities, including formative assessment opportunities)**
Lectures	20	underpinning theory
Workshops	30	practical tasks
Self -directed Study	150	
Total	**200**	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)**

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Test	Underpinning Theory	100%
		100%
Coursework	Practical Applications	100%
		100%

REFERRAL ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework in lieu of original assessment	Suitable test questions takenas coursework	100%
		100%
Coursework	Practical Applications	100%
		100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Date: XX/XX/XXXX	**Approved by**: Date: XX/XX/XXXX

**UNIVERSITY OF PLYMOUTH MODULE
RECORD**

SECTION A: DEFINITIVE MODULE RECORD. *Proposed changes must be submitted via Faculty/AP QualityProcedures for approval and issue of new module code.*

MODULE CODE: PETR1125		MODULE TITLE: Security Fundamentals		
CREDITS: 20		FHEQ LEVEL: 4		HECOS CODE: I320
PRE-REQUISITES: N/A		CO-REQUISITES: N/A		COMPENSATABLE: Y

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
To gain an understanding of current security issues and how these must be considered within an organisation. Provide an introduction to the main principles of security for IT and networked systems. Key areas of security are introduced in order to gain an understanding of how organisations guard against security threats.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions]* – see *Definitions of Elements and Components of Assessment*

E1 (Examination)	0%	C1 (Coursework)	100%	P1 (Practical)	0%
E2 (Clinical Examination)	0%	A1 (Generic assessment)	0%		
T1 (Test)	0%				

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:
To familiarise students with the fundamentals of information security policies and procedures as they impact on organisations. To develop an understanding of security threats and vulnerabilities and disaster recovery. To introduce core security issues in relation to network environments and emerging technologies.

ASSESSED LEARNING OUTCOMES: (additional guidance below; please refer to the ProgrammeSpecification for relevant award/ programme Learning Outcomes.

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

Assessed Module Learning Outcomes	Award/ Programme Learning Outcomes contributedto
1. Describe the types of risk that may threaten an IT system and recommend suitable countermeasures.	C8.1.2 C8.1.4 C8.4.1 C8.5.2

2. Explain mechanisms that may be used for achieving confidentiality, authentication, access control and non-repudiation.	C8.3.1, C8.3.2 , C8.4.4
3. Identify and describe the need to consider security in system design and implementation activities	C8.2.4 C8.3.3, C8.3.4

DATE OF APPROVAL: 18/09/2020	FACULTY/OFFICE: Academic Partnerships
DATE OF IMPLEMENTATION: XX/XX/XXXX	SCHOOL/PARTNER: Petroc
DATE(S) OF APPROVED CHANGE: XX/XX/XXXX	SEMESTER: Semester 2
Notes:	

Additional Guidance for Learning Outcomes:

To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards

- Framework for Higher Education Qualifications http://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf
- Subject benchmark statements https://www.qaa.ac.uk/quality-code/subject-benchmark-statements
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code https://www.qaa.ac.uk/quality-code

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 KIS 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: 2021/20	NATIONAL COST CENTRE: 121
MODULE LEADER: Josh Symes	OTHER MODULE STAFF:

Summary of Module
- Content Underpinning Knowledge
- Basic security concepts
- Types of vulnerability
- Types of attack
- Methods of protection
- Overview of cryptographic methods
- Organisational procedures
- Internal policies and procedures to support security
- Vulnerability management
- Disaster recovery
- National and international organisations
- Practical
- Use of protected network
- Ethical hacking

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*		
Scheduled Activities	**Hours**	**Comments/Additional Information (briefly explain activities, including formative assessment opportunities)**
Lectures	20	to deliver formal content
Seminars	20	to form discussion groups and group activities
Practical workshop	10	link theory to practical
Self-directed Study	150	
Total	**200**	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)**

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	1. Security principles A report of threats and remedies following a practical investigation.	6040100%

REFERRAL ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	1. Risk assessment and recommendations to mitigate threat Security principles 2. Describe a range of responses to mitigate security threats found in a given scenario.	60% 40% 100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Megan Kavanagh Date: 07/09/2021	**Approved by:** Stacey Tanton Date: 07/09/2021

UNIVERSITY OF PLYMOUTH MODULE RECORD

SECTION A: DEFINITIVE MODULE RECORD. *Proposed changes must be submitted via Faculty/AP QualityProcedures for approval and issue of new module code.*

MODULE CODE: PETR2163		MODULE TITLE: Group Project			
CREDITS: 20		FHEQ LEVEL: 5		HECOS CODE: I320	
PRE-REQUISITES: N/A		CO-REQUISITES: N/A		COMPENSATABLE: Y	

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
A real-life project will be selected giving experience of following current approaches to managing the processes of design, implementation and testing. Students can work as individuals in a work setting or in a small group.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions] – see Definitions of Elements and Components of Assessment*

E1 (Examination)	0%	C1 (Coursework)	70%	P1 (Practical)	30%
E2 (Clinical Examination)	0%	A1 (Generic assessment)	0%		
T1 (Test)	0%				

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

To provide experience in analysing a real problem, preferably based in the workplace. Formulating a solution based on effective, current professional techniques.

ASSESSED LEARNING OUTCOMES: (additional guidance below; please refer to the Programme Specification for relevant award/ programme Learning Outcomes.

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

Assessed Module Learning Outcomes	Award/ Programme Learning Outcomes contributedto
1. Demonstrate effective involvement in planning group activities to provide a solutionwhich meets requirements	C8.1.3 C8.4.2 GD8.1.3 GD8.4.2
2. Analyse problems, design, implement and document a work-based solution.	C8.2.1 C8.2.2 C8.2.3 C8.4.3 C8.5.1, C8.5.3, C8.5.4
	GD8.2.1

	GD8.2.2
	GD8.2.3
	GD8.4.3
	GD8.5.1, GD8.5.3, GD8.5.4
3. Present an overview of their role in the project and reflect upon the project outcomes	C8.3.1
	C8.3.2
	C8.3.4, C8.4.1
	GD8.3.1
	GD8.3.2
	GD8.3.4, GD8.4.1

DATE OF APPROVAL: 18/09/2020	**FACULTY/OFFICE:** Academic Partnerships
DATE OF IMPLEMENTATION: XX/XX/XXXX	**SCHOOL/PARTNER:** Petroc
DATE(S) OF APPROVED CHANGE: XX/XX/XXXX	**SEMESTER:** Semester 1
Notes:	

Additional Guidance for Learning Outcomes:

To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards

- Framework for Higher Education Qualifications http://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf
- Subject benchmark statements https://www.qaa.ac.uk/quality-code/subject-benchmark-statements
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code https://www.qaa.ac.uk/quality-code

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

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ACADEMIC YEAR: 2021/22	NATIONAL COST CENTRE:121
MODULE LEADER: Josh Symes	OTHER MODULE STAFF:
Summary of Module Content • Introduction to Agile/Scrum theory • Finding a project • Eliciting user requirements • Working in teams e.g. Belbin, Tuckman • Documentation standards and version control • Practical experience, including working to live brief from industry to suit Work Based Learning	

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*		
Scheduled Activities	**Hours**	**Comments/Additional Information (briefly explain activities, including formative assessment opportunities)**
Lectures	10	Project management, documentation standards, version control, working in groups, professional standards
Supervised group work	40	Project support
Self-directed Study	150	
Total	**200**	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)**

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	C1 Project documentation	100% % 100%
Practical	P1 Group presentation and demonstration	100% %100%

REFERRAL ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Project documentation	100%
		100%
Courseworkin lieu of original assessment	Presentation with speaker's notes which gives an overviewof the development of the project and its behaviour	100%
		100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Megan Kavanagh Date: 07/09/2021	**Approved by**: Stacey Tanton Date: 07/09/2021

**UNIVERSITY OF PLYMOUTH MODULE
RECORD**

SECTION A: DEFINITIVE MODULE RECORD. ***Proposed changes must be submitted via Faculty/AP QualityProcedures for approval and issue of new module code.***

MODULE CODE: PETR2164		MODULE TITLE: Mobile Applications and User Experience		
CREDITS: 20		FHEQ LEVEL: 5		HECOS CODE: I320
PRE-REQUISITES: N/A		CO-REQUISITES: N/A		COMPENSATABLE: Y

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
Many services are delivered on a mobile platform and this module covers the principle tools and technologies used to implement mobile apps. In addition, guidelines for visual screen design and interactivity will be introduced and implemented within this module. Students will build on programmingand web development skills to produce a simple mobile application.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions] – see Definitions of Elements and Components of Assessment*

E1 (Examination)	0%	C1 (Coursework)	100%	P1 (Practical)	0%
E2 (Clinical Examination)	0%	A1 (Generic assessment)	0%		
T1 (Test)	0%				

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:
To introduce students to standard mobile app development environment, the skills required to produce a mobile application and the methods and techniques used in interaction design. To consider the responsibilities of an IT professional in mobile app development.

ASSESSED LEARNING OUTCOMES: (additional guidance below; please refer to the Programme Specification for relevant award/ programme Learning Outcomes.

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

Assessed Module Learning Outcomes	Award/ Programme Learning Outcomes contributedto
1. Critically evaluate an interactive mobileapp with reference to recognised criteria	C8.1.2 C8.1.4, C8.2.3, C8.3.4, C8.4.4GD8.1.2 GD8.1.4, GD8.2.3, GD8.3.4, GD8.4.4
2. Demonstrate a variety of User Interface elements used to construct the application interface on a mobile platform	C8.4.1, C8.4.2 GD8.4.2

3. Develop and test a mobile application	C8.2.1, C8.2.2
	C8.2.4
	C8.5.1
	GD8.2.1, GD8.2.2
	GD8.2.4
	GD8.5.1

DATE OF APPROVAL: 18/09/2020	**FACULTY/OFFICE:** Academic Partnerships
DATE OF IMPLEMENTATION: XX/XX/XXXX	**SCHOOL/PARTNER:** Petroc
DATE(S) OF APPROVED CHANGE: XX/XX/XXXX	**SEMESTER:** 1
Notes:	

Additional Guidance for Learning Outcomes:

To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards

- Framework for Higher Education Qualifications http://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf
- Subject benchmark statements https://www.qaa.ac.uk/quality-code/subject-benchmark-statements
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code https://www.qaa.ac.uk/quality-code

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

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ACADEMIC YEAR: 2021/22	NATIONAL COST CENTRE: 121
MODULE LEADER: Jane Sansbury	OTHER MODULE STAFF:

Summary of Module Content
- Interaction Design
- Good and poor design
- User experience
- Conceptual models
- Paradigms, vision, theories, models and frameworks
- Emotional interaction
- Guidelines for designing a robust user interface
- Accessibility
- Usability testing conducted in small groups
- Mobile applications development environment
- Designing a mobile app to meet requirements
- Device capabilities
- Input output
- Data validation
- Optimisation
- Security
- Event handling
- Responsibilities of IT professional in mobile app development

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*		
Scheduled Activities	**Hours**	**Comments/Additional Information (briefly explain activities, including formative assessment opportunities)**
Lectures	10	User interface design, usability, distinctive features of mobile apps
Supervised workshops	40	Introduction to mobile apps design and implementation
Self-directed study	150	
Total	**200**	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)**

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	1. Android mobile app project including usability testing evidence 2. Review of mobile app with reference to recognised framework of user experience	60% 40% 100%

REFERRAL ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	1. Android mobile app project including usability testing evidence 2. Review of mobile app with reference to recognised framework of user experience	60% 40% 100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Date: XX/XX/XXXX	**Approved by**: Date: XX/XX/XXXX

**UNIVERSITY OF PLYMOUTH MODULE
RECORD**

SECTION A: DEFINITIVE MODULE RECORD. *Proposed changes must be submitted via Faculty/AP QualityProcedures for approval and issue of new module code.*

MODULE CODE: PETR2165	MODULE TITLE: Enterprise Networks and Cloud Services		
CREDITS: 20	FHEQ LEVEL: 5	HECOS CODE: I320	
PRE-REQUISITES: N/A	CO-REQUISITES: N/A	COMPENSATABLE: Y	

SHORT MODULE DESCRIPTOR: *(max 425 characters)*

This module covers a broad range of networking terminology and concepts and explores wired and wireless network components in the context of a complex computer network. Theoretical and practical skills will be taught and elements of network security and cloud-based services will be introduced.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions]* – see <u>Definitions of Elements and Components of Assessment</u>

E1 (Examination)	0%	**C1** (Coursework)	50%	**P1** (Practical)	0%
E2 (Clinical Examination)	0%	**A1** (Generic assessment)	0%		
T1 (Test)	50%				

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

To present the architecture, components, and operations of routers and switches in a large and complex network. To discuss the WAN technologies, network and cloud services found in a network environment.

ASSESSED LEARNING OUTCOMES: (additional guidance below; please refer to the ProgrammeSpecification for relevant award/ programme Learning Outcomes.

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

Assessed Module Learning Outcomes	Award/ Programme Learning Outcomes contributedto
1. Demonstrate knowledge ofNetwork architecture and components throughthe configuration of a computer network in a simulated environment.	C8.1.1 C8.1.2 C8.2.1 C8.3.3
2. Demonstrate the ability to produce a secure network solution derived froma given brief, resolving hardware and software issues.	C8.1.3, C8.2.2, C8.2.3,C8.4.2, C8.5.2

3. Reflect on the choices madewhen responding to a computer networking issue including problems encountered and how solutions were derived.	C8.1.4, C8.2.1, C8.2.4, C8.3.1C8.4.1
DATE OF APPROVAL:18/09/2020	**FACULTY/OFFICE:** Academic Partnerships
DATE OF IMPLEMENTATION: XX/XX/XXXX	**SCHOOL**/**PARTNER:** Petroc
DATE(S) OF APPROVED CHANGE: XX/XX/XXXX	**SEMESTER:** Semester 1
Notes:	

Additional Guidance for Learning Outcomes:

To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards

- Framework for Higher Education Qualifications http://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf
- Subject benchmark statements https://www.qaa.ac.uk/quality-code/subject-benchmark-statements
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code https://www.qaa.ac.uk/quality-code

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 KIS 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: 2021/22	NATIONAL COST CENTRE: 121
MODULE LEADER: Tim Barker	OTHER MODULE STAFF:

Summary of Module Content

- **Cabling & Connectivity** (E.g. - Cables and connectors, Cat types, antenna types, **Wireless technologies** (Inc.wireless security), etc.)
- **Maintenance processes** (E.g. – SLA's, Responding to errors, Maintenance tools (E.g. – Software &Hardware), native tools to different OS's, etc.)
- **Network Architecture** (OS's, Applications, DB's, Servers, Security and services (E.g. – IaaS, PaaS and SaaS),etc.)
- **Virtualisation** (E.g. – Cloud services – virtualisation software, virtual machines, managing users))
- **Numerical Skills** (IPV4/6, Netmasks, gateways & DNS records, Bit sizes, Logic, Binary, hex, etc.)
- **Network Security** (E.g. – File types, IP configuration, DNS servers, Virtualising switches, VPN's, VLANS, SSL,Firewalls, securing ports, securing applications, usage agreements, Securing remote access (RDP, SSH), Domain controllers, Security policies, etc.)

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*		
Scheduled Activities	**Hours**	**Comments/Additional Information (briefly explain activities, including formative assessment opportunities)**
Lectures	15	Underpinning theory
Workshops	35	Workshops to explore practical implementation
Self-directed Study	150	
Total	**200**	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)**

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Test	WAN Concepts and principles	100% 100%

Coursework	Practical application of theory	100% 100%

REFERRAL ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework in lieu of original assessment	WAN Concepts and principles	100%
		100%
Coursework	Practical application of theory	100%
		100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Date: XX/XX/XXXX	**Approved by**: Date: XX/XX/XXXX

**UNIVERSITY OF PLYMOUTH MODULE
RECORD**

SECTION A: DEFINITIVE MODULE RECORD. *Proposed changes must be submitted via Faculty/AP
QualityProcedures for approval and issue of new module code.*

MODULE CODE: PETR2166		MODULE TITLE: Object Orientated Programming		
CREDITS: 20		FHEQ LEVEL: 5		HECOS CODE: I320
PRE-REQUISITES: N/A		CO-REQUISITES: N/A		COMPENSATABLE: Y

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
This module builds on the programming principles from the software development modules at stage 4.
Further techniques of object-oriented programming, design patterns and data structures are linked to
previous learning.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions] – see Definitions of Elements and Components
of Assessment*

E1 (Examination)	0%	**C1** (Coursework)	80%	**P1** (Practical)	20%
E2 (Clinical Examination)	0%	**A1** (Generic assessment)	0%		
T1 (Test)	0%				

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:
To provide experience of using advanced programming techniques to implement an object-oriented
application using professional programming tools.

ASSESSED LEARNING OUTCOMES: (additional guidance below; please refer to the
Programme Specification for relevant award/ programme Learning Outcomes.

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

Assessed Module Learning Outcomes	**Award/ Programme Learning Outcomes contributedto**
1. Design and implement an object-oriented application which demonstrates advanced programming techniques	C8.1.1, C8.1.2, C8.1.3, C8.2.3, C8.5.1 GD8.1.1, GD8.1.2, GD8.2.3, GD8.5.1
2. Demonstrate the use of design patterns	C8.2.1 C8.2.3, C8.3.4C8.4.4 GD8.2.1 GD8.2.3 GD8.4.4

3. Evidence effective use of version control and debugging during development.	C8.3.1
	C8.3.3
	C8.4.1, C8.5.1
	GD8.3.1
	GD8.3.3
	GD8.4.1, C8.5.1
4. Present evidence of rigorous testing	C8.3.1
	C8.2.2, C8.2.4
	GD8.3.1
	GD8.2.2, GD8.2.4

DATE OF APPROVAL: 18/09/2020	**FACULTY/OFFICE:** Academic Partnerships
DATE OF IMPLEMENTATION: XX/XX/XXXX	**SCHOOL/PARTNER:** Petroc
DATE(S) OF APPROVED CHANGE: XX/XX/XXXX	**SEMESTER:** Semester 1
Notes:	

Additional Guidance for Learning Outcomes:

To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards

- Framework for Higher Education Qualifications http://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf
- Subject benchmark statements https://www.qaa.ac.uk/quality-code/subject-benchmark-statements
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code https://www.qaa.ac.uk/quality-code

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 KIS 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: 2021/22	**NATIONAL COST CENTRE:** 121
MODULE LEADER: Jane Sansbury	**OTHER MODULE STAFF:**

Summary of Module Content

Object orientated techniques

- inheritance
- polymorphism
- association
- interfaces
- design principles
- design patterns Professional standards

A range of approaches to testing e.g. unit testing, test-driven development, user experience

- Use of IDE and debugging
- Security considerations
- Xml documentation
- Version control
- Overview of UML

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*		
Scheduled Activities	**Hours**	**Comments/Additional Information (briefly explain activities, including formative assessment opportunities)**
Lectures	10	
Supervised workshops	40	Practical labs where specific programming skills can be practised
Self-directed Study	150	
Total	**200**	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)**

SUMMATIVE ASSESSMENT

Element Category	**Component Name**	**Component Weighting**
Coursework	Design and implement anapplication	100% 100%
Practical	Presentation which explainsapproach to design, overall structure and key processes	100% 100%

REFERRAL ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Design and implement an application	100% 100%
Courseworkin lieu of original assessment	Presentation with speaker notes which accompanies codeand explains approach to design, overall structure and key processes	100% 100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Date: XX/XX/XXXX	**Approved by:** Date: XX/XX/XXXX

**UNIVERSITY OF PLYMOUTH MODULE
RECORD**

SECTION A: DEFINITIVE MODULE RECORD. ***Proposed changes must be submitted via Faculty/AP QualityProcedures for approval and issue of new module code.***

MODULE CODE: PETR2167		MODULE TITLE: Database Applications Development	
CREDITS: 20		FHEQ LEVEL: 5	HECOS CODE: I320
PRE-REQUISITES: N/A		CO-REQUISITES: N/A	COMPENSATABLE: Y

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
This module develops a sound understanding of how client server applications are developed and how an application interacts with stored data.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions]* – see *Definitions of Elements and Components of Assessment*

E1 (Examination)	0%	C1 (Coursework)	100%	P1 (Practical)	0%
E2 (Clinical Examination)	0%	A1 (Generic assessment)	0%		
T1 (Test)	0%				

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:
To introduce students to the concepts and issues concerning server-side applications interfacing multi-user, networked, relational databases and to provide a solid foundation in database programming.

ASSESSED LEARNING OUTCOMES: (additional guidance below; please refer to the Programme Specification for relevant award/ programme Learning Outcomes.

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

Assessed Module Learning Outcomes	Award/ Programme Learning Outcomes contributedto
1. Write effective statements to define, manipulate and control data.	C8.2.1 C8.4.1
2. Design a multi-user database application.	C8.1.2, C8.4.2C8.5.3

3. Implement secure web solutions using appropriate technologies to integrate with datastores.	C8.1.3, C8.1.4 C8.2.2, C8.2.4
4. Implement a distributed API.	C8.3.1, C8.3.3C8.5.1

DATE OF APPROVAL: 18/09/2020	**FACULTY/OFFICE:** Academic Partnerships
DATE OF IMPLEMENTATION: XX/XX/XXXX	**SCHOOL/PARTNER:** Petroc
DATE(S) OF APPROVED CHANGE: XX/XX/XXXX	**SEMESTER:** Semester 2
Notes:	

Additional Guidance for Learning Outcomes:

To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards

- Framework for Higher Education Qualifications
  http://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf
- Subject benchmark statements https://www.qaa.ac.uk/quality-code/subject-benchmark-statements
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code https://www.qaa.ac.uk/quality-code

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

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ACADEMIC YEAR: 2021/22	NATIONAL COST CENTRE: 121
MODULE LEADER: Tim Barker	OTHER MODULE STAFF:

Summary of Module Content
 	
• Introduction to database environments
• Relative merits
• New technologies e.g. no SQL
  Review of legal and social issues
• GDPR
• Security
  SQL
• Use a range SQL statements
• Design implications of multi-user environment
• Use appropriate design methodologies to meet the demands of a multi-user platform
• Server-side programming
• Use appropriate programming languages to create server-side products
• Use OO methods to solve problems
• Use of API
• Create a distributed user application
  using appropriate methods and tools	

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*		
Scheduled Activities	**Hours**	**Comments/Additional Information (briefly explain activities, including formative assessment opportunities)**
Lectures	20	Underpinning theory SQL, multi-user environment, client-server
Workshops	30	Practical workshops
Self-directed Study	150	
Total	**200**	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)**

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Design, implement and test a distributed user application	100% 100%

REFERRAL ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Design, implement and test a distributed user application	100%
		100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Date: XX/XX/XXXX	**Approved by:** Date: XX/XX/XXXX

**UNIVERSITY OF PLYMOUTH MODULE
RECORD**

SECTION A: DEFINITIVE MODULE RECORD. *Proposed changes must be submitted via Faculty/AP QualityProcedures for approval and issue of new module code.*

MODULE CODE: PETR2168	MODULE TITLE: Emerging Technologies		
CREDITS: 20	FHEQ LEVEL: 5		HECOS CODE: I320
PRE-REQUISITES: N/A	CO-REQUISITES: N/A		COMPENSATABLE: Y

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
This module will give an introduction to a range of emerging technologies and provide students with the opportunity to experiment with practical examples.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions] – see Definitions of Elements and Components of Assessment*

E1 (Examination)	0%	C1 (Coursework)	50%	P1 (Practical)	50%
E2 (Clinical Examination)	0%	A1 (Generic assessment)	0%		
T1 (Test)	0%				

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:
The module covers relevant theories and concepts to analyse the strategic value of emerging technologies such as artificial intelligence, robotics, the Internet of Things and blockchain. Students will have the opportunity to experience practical applications of these technologies.

ASSESSED LEARNING OUTCOMES: (additional guidance below; please refer to the Programme Specification for relevant award/ programme Learning Outcomes.

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

Assessed Module Learning Outcomes	Award/ Programme Learning Outcomes contributedto
1. Research the key underpinning theories and recent developments in a range of emerging technologies.	C8.2.4 C8.3.3 GD8.2.4 GD8.3.3
2. Evaluate the legal, social and ethical impact of emerging technologies with particular emphasis on the workplace	C8.1.4 C8.3.4, C8.4.2 GD8.1.4, GD8.3.4
3. Present a practical application of an emerging technology as a team	C8.3.1, C8.3.2, C8.4.3C8.4.4 GD8.3.1, GD8.3.2, GD8.4.3, GD8.4.4

DATE OF APPROVAL: 18/09/2020	FACULTY/OFFICE: Academic Partnerships
DATE OF IMPLEMENTATION: XX/XX/XXXX	SCHOOL/PARTNER: Petroc
DATE(S) OF APPROVED CHANGE: XX/XX/XXXX	SEMESTER: Semester 2
Notes:	

Additional Guidance for Learning Outcomes:

To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards

- Framework for Higher Education Qualifications
  http://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf
- Subject benchmark statements https://www.qaa.ac.uk/quality-code/subject-benchmark-statements
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
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SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

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ACADEMIC YEAR: 2021/22	NATIONAL COST CENTRE: 121
MODULE LEADER: Jane Sansbury	OTHER MODULE STAFF:

Summary of Module Content

Clearly it is only possible to give and overview of each of these areas. The intention is to focus on the impact each will have in the near future, with special consideration to legal, social and ethical issues Theory and historical perspective will be adopted to support evaluation. Students will be encouraged to present their own research in seminars.

- Artificial Intelligence
- Robotics
- Internet of Things
- Edge Technologies
- Blockchain
- Machine learning

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*		
Scheduled Activities	**Hours**	**Comments/Additional Information (briefly explain activities, including formative assessment opportunities)**
Lectures	12	Introduction to theory for each topic, guest lecturers
Seminars	13	Research and discussion of impact of emerging technologies
Supervised workshops	25	Practical implementation of small-scale project in one of the identified areas.
Self-directed Study	150	
Total	**200**	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)**

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Literature review of chosen emerging technology	100% 100%

Practical	Presentation / viva on practical example	100% 100%

REFERRAL ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Literature review of chosen emerging technology	100% 100%
Coursework in lieu of original assessment	Presentation with speaker notes and photographic/video evidence	100% 100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Date: XX/XX/XXXX	**Approved by:** Date: XX/XX/XXXX