

UNIVERSITY OF PLYMOUTH MODULE RECORD

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

MODULE CODE: CITY1101 **MODULE TITLE:** Object Oriented Programming
CREDITS: 20 **FHEQ LEVEL:** 4 **JACS CODE:** I322
PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes
SHORT MODULE DESCRIPTOR: (max 425 characters)

The object oriented programming paradigm requires a programmer to *design* and *develop* code by considering what *objects* may exist in some system, how these are related to each other and how these may interact with each other. It is a proven method for developing reliable modular programs and encourages reuse which shortens development time. This module provides an introduction to the object-oriented programming paradigm.

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

E1 (Examination) **C1** (Coursework) 60% **P1** (Practical) 40%
E2 (Clinical Examination) **A1** (Generic assessment)
T1 (Test)

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

The module aims to provide learners with the fundamentals of object-oriented programming. It introduces concepts such as classes and objects, inheritance, aggregation, abstract classes, interfaces/pure virtual functions and polymorphism in order that the learner may apply these correctly to object oriented programs. It will introduce the benefits of using an object oriented approach to software development, such as shorter development cycles, adaptable code, and ability to interact with differing systems using common platforms.

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
LO1 Demonstrate an understanding of the principles of object oriented programming	8.1.1, 8.2.2, 8.3.2, 8.3.3, 8.4.1, 8.4.2, 8.4.3, 8.5.1, 8.5.2
LO2 Apply good programming practice by producing an object oriented structured design as a programming solution	
LO3 Implement object oriented programming solution of moderate size and complexity	
LO4 Test, verify and document the resulting object oriented software	

DATE OF APPROVAL: 09/03/2018

DATE OF IMPLEMENTATION: September 2018

DATE(S) OF APPROVED CHANGE: XX/XX/XXXX

FACULTY/OFFICE: Academic Partnerships

SCHOOL/PARTNER: City College Plymouth

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

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: 2018/19**NATIONAL COST CENTRE: 121****MODULE LEADER:****OTHER MODULE STAFF:****Summary of Module Content**

- Classes, Abstract Classes, Interfaces/Pure Virtual Functions
- Constructors/destructors
- Encapsulation and public, private and protected scope
- Inheritance
- Association
- Composition
- Aggregation
- Polymorphism, Method Overloading, Method Overriding
- Libraries
- Design principles
 - coherence and (de-)coupling between the classes
 - identification of dependencies, aggregation, inheritances, data and file structures
 - class diagrams, sequence diagrams
- IDE - source code editor, compiler, interpreter, build automation tools, debugger
- Error and exception handling
- Testing, Verifying, Validating, Documentation

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Report on aspects and theory of OOP	LO1, LO2 60%
Practical	Demonstration of Implementation and testing of OOP application	LO3, LO4 40%

REFERRAL ASSESSMENT (Same)

Element Category	Component Name	Component Weighting
Coursework	Report on aspects and theory of OOP (New/different)	LO1, LO2 60%

Practical (As coursework)	Report demonstrating implementation and testing of OOP application (New/different)	LO3, LO4 40%
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To be completed when presented for Minor Change approval and/or annually updated

Updated by [REDACTED] 25/05/2018	Approved by: [REDACTED] 19/01/2018
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UNIVERSITY OF PLYMOUTH MODULE RECORD

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

MODULE CODE: CITY1102 **MODULE TITLE:** Computer Systems
CREDITS: 20 **FHEQ LEVEL:**4 **JACS CODE:** I230
PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes
SHORT MODULE DESCRIPTOR: (max 425 characters)

This module will help learners to understand the fundamental components that are used to form a computer. It will provide an overview of different types of computer and identify various operating systems that are used.

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

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

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing
Professional body minimum pass mark requirement: N/A

MODULE AIMS:

The module aims to provide learners with the fundamentals of the key components of a personal computer, including understanding how computers represent numbering systems and an introduction to low level languages. The module will also identify the various types of computer and different operating systems as well as investigating technological advances leading to the modern computer.

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
LO1. Demonstrate knowledge of the main components of a personal computer.	8.1.1, 8.1.2, 8.2.2, 8.3.3, 8.4.1, 8.5.1
LO2. Demonstrate an understanding of representing numbering systems used by computers	
LO3. Demonstrate knowledge of different types of computers and operating systems used today.	
LO4. Demonstrate the analysis of emerging technologies of computing which have led to the modern personal computer.	

DATE OF APPROVAL: 09/03/2018

DATE OF IMPLEMENTATION: September 2018

DATE(S) OF APPROVED CHANGE: XX/XX/XXXX

Notes:

FACULTY/OFFICE: Academic Partnerships

SCHOOL/PARTNER: City College Plymouth

SEMESTER: Semester 1

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- 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: 2018/19**NATIONAL COST CENTRE: 121****MODULE LEADER:****OTHER MODULE STAFF:****Summary of Module Content**

This module will initially cover the history of computers and the major components that are used within them. Cover various types of computers and operating systems available to them.

Include a practical element where students will use and program various computer platforms for different applications.

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Written exam	Exam covering representation of number systems	LO2 100%
Coursework	Report covering principles and components.	LO1, LO3, LO4 100%

REFERRAL ASSESSMENT (Same)

Element Category	Component Name	Component Weighting
Written exam (as coursework)	Exam covering representation of number systems (New/different)	LO2 100%
Coursework	Report covering principles and components. (New/different)	LO1, LO3, LO4 100%

To be completed when presented for Minor Change approval and/or annually updated

Updated by: Date: 19/01/2018	Approved by: Date: 19/01/2018
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UNIVERSITY OF PLYMOUTH MODULE RECORD

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

MODULE CODE: CITY1103 **MODULE TITLE:** Mathematics for Computing
CREDITS: 20 **FHEQ LEVEL:** 4 **JACS CODE:** G170
PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes
SHORT MODULE DESCRIPTOR: (max 425 characters)

This module will develop the student's mathematical ability and provide a foundation for computer based algebra, transformations, numerical concepts and relational algebra. Computing packages and calculators will be used throughout the programme.

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

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

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

This module aims to provide students with an understanding of the mathematical principles in particular computer based algebra, transformations, numerical concepts and relational algebra and implementation of logic and algorithms, giving students the opportunity to develop a computer programs.

The mathematics unit brings together theory from across the range of other units including networks, software development and databases directly support applications such as sub-netting, set theory, and relational algebra. Students will also have the opportunity to apply their mathematical knowledge to the development of computer programs, thus seeing the relationship between mathematics and programming algorithms.

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
LO1. Solve a range of mathematical problems.	8.1.1, 8.2.2, 8.3.3, 8.4.1, 8.4.3
LO2. Model a range of mathematical problems within a computing context	
LO3. Analyse the applications of mathematical skills within a range of theoretical frameworks	
LO4. Apply probability and statistics to a range of problems.	

DATE OF APPROVAL: 09/03/2018

DATE OF IMPLEMENTATION: September 2018

DATE(S) OF APPROVED CHANGE: XX/XX/XXXX

Notes:

FACULTY/OFFICE: Academic Partnerships

SCHOOL/PARTNER: City College Plymouth

SEMESTER: Semester 1

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
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ACADEMIC YEAR: 2018/19**NATIONAL COST CENTRE: 121****MODULE LEADER:****OTHER MODULE STAFF:****Summary of Module Content**

Solve a range of mathematical problems

- Matrix
- Matrix and Network Routing Theories
- Path Theories and Analysis
- Cascade & Levelling Theories
- Sets & Venn Diagrams
- Logics and Boolean Algebra
- Number Systems

Model a range of mathematical problems within a computing context

- Matrix and Network Routing Theories
- Path Theories and Analysis
- Cascade & Levelling Theories
- Sets & Venn Diagrams
- Logics and Boolean Algebra
- Number Systems

Analyse the applications of mathematical skills within a range of theoretical frameworks

- Path Theories and Analysis
- Cascade & Levelling Theories
- Logics and Boolean Algebra
- Number Systems
- Complex Numbers and Fractals and Mandelbrot Set
- Solving Equations by Determinants & Gaussian Elimination

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Exam	Modelling and solving mathematical problems	LO1, LO2 50%
Coursework	Analysing practical applications and design and report on probability and statistical problems, for client and server side scripting	LO3, LO4 50%

REFERRAL ASSESSMENT(Same)

Element Category	Component Name	Component Weighting
Exam (as coursework)	Modelling and solving mathematical problems (New/different)	LO1, LO2 50%
Coursework	Analysing practical applications and design and report on probability and statistical problems, for client and server side scripting (New/different)	LO3, LO4 50%

To be completed when presented for Minor Change approval and/or annually updated

Updated by: Date: 19/01/2018	Approved by: Date: 19/01/2018
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UNIVERSITY OF PLYMOUTH MODULE RECORD

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

MODULE CODE: CITY1104 **MODULE TITLE:** Computer Networks
CREDITS: 20 **FHEQ LEVEL:** 4 **JACS CODE:** I120
PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes
SHORT MODULE DESCRIPTOR: (max 425 characters)

Networking is at the heart of modern life, providing the infrastructure for all types of communication. This module introduces the students to the fundamental technology of networks and the underlying concepts and protocols. The module has a balanced mix of theory and practice, with the theoretical concepts discussed in the lectures matched by scenarios to design, implement, configure and troubleshoot in the lab sessions.

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

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

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

This module aims to provide students with an introduction to the computer networks and design, implementation and troubleshooting giving students the opportunity to develop a computer networks for a small to medium businesses.

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
LO1. Understand computer network components and types of network systems and protocols.	8.1.1, 8.1.2, 8.1.3, 8.2.2, 8.3.2, 8.3.3, 8.4.1, 8.5.2, 8.5.3
LO2. Design a computer network for a given business requirement.	
LO3. Implement a computer network from a design using a variety of software and hardware.	
LO4. Troubleshoot a computer networks.	

DATE OF APPROVAL: 09/03/2018

DATE OF IMPLEMENTATION: September 2018

DATE(S) OF APPROVED CHANGE: XX/XX/XXXX

Notes:

FACULTY/OFFICE: Academic Partnerships

SCHOOL/PARTNER: City College Plymouth

SEMESTER: Semester 2

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

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ACADEMIC YEAR: 2018/19

NATIONAL COST CENTRE: 121

MODULE LEADER: [REDACTED]

OTHER MODULE STAFF:

Summary of Module Content

Computer network components:

- Network devices - servers, server services, workstations, firewalls, printers, etc.
- Interconnection devices - routers, bridges, switches, access points, etc.
- Cabling - leased vs. dedicated line, Category 5 and 6, fibre optic, etc.
- Operating Systems - UNIX Like and MS Windows
- Software - firewall, Iptables, ACL, etc.

Types of network systems and protocols.

- Types of network - LAN, WAN, PAN, frame relay, MPLS, ATM
- Network topologies - star, bus, ring, mesh, tree.
- Network access methods - CSMA, Token passing.
- Network models - OSI and TCP/IP.
- Network protocols - Application protocols, intro to routing protocols, TCP, UDP, IP, 802.2, 802.3, FDDI, 802.5, 802.11, range and speed of wireless technologies.

Design a computer network:

- Understand a client needs.
- Understand network and interconnection devices specification.
- Producing a network topology/diagram.
- Designing IP addresses - Classless Inter-Domain Routing (CIDR)
- Network security - firewall, iptables, ACLs, etc.
- Backup system.

Implement a computer network:

- Build a computer network from a design.
- Cabling.
- Set up Cisco routers and switches.
- Set up server services and backup system.
- Build a firewall.

Troubleshoot a computer networks:

- Aspects of troubleshooting - the process, identifying the symptoms, isolate the cause, take corrective action and evaluate the solution(s)
- The bottom-up approach.
- The up-bottom approach.
- The divide-and-conquer approach.
- The follow-the-paths approach.

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Report on principles and design	LO1, LO2, 50%
Practical Test	Demonstration of Practical Work	LO3, LO4 50%

REFERRAL ASSESSMENT (Same)

Element Category	Component Name	Component Weighting
Coursework	Report on principles and design (New/different)	LO1, LO2, 50%
Practical (as coursework)	Report demonstrating practical Work (New/different)	LO3, LO4 50%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: [REDACTED] Date: 19/01/2018	Approved by: [REDACTED] Date: 19/01/2018

UNIVERSITY OF PLYMOUTH MODULE RECORD

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

MODULE CODE: CITY1105 **MODULE TITLE:** Web Development
CREDITS: 20 **FHEQ LEVEL:** 4 **JACS CODE:** I160
PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes
SHORT MODULE DESCRIPTOR: (max 425 characters)

This module gives the student an introduction to developing web applications. It establishes the fundamental components required to develop software for the web. It provides an introductory understanding and use of programming and scripting languages needed. Security and legal aspects of web applications are introduced.

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

E1 (Examination) **C1** (Coursework) 60% **P1** (Practical) 40%
E2 (Clinical Examination) **A1** (Generic assessment)
T1 (Test)

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

The aims of this module are to develop an understanding of the distinct and diverse components required for web development; the programming languages and scripting techniques necessary for development; and some legal and security issues that must be considered. It also introduces user centred web development design processes, theories, methods and 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 contributed to
LO1 Apply a variety of programming and scripting languages in an appropriate and effective manner to produce a simple web based application	8.1.1, 8.2.2, 8.3.2, 8.3.3, 8.4.1, 8.4.2, 8.4.3, 8.5.1, 8.5.2
LO2 Demonstrate an understanding of the necessary diverse and distinct component architecture of web based development	
LO3 Design, implement, test and evaluate a simple web-based application	
LO4 be able to follow a user centred website design approach and understand how application content is represented and	

communicated across the web and how this affects the user experience	
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DATE OF APPROVAL: 09/03/2018

DATE OF IMPLEMENTATION: September 2018

DATE(S) OF APPROVED CHANGE: XX/XX/XXXX

Notes:

FACULTY/OFFICE: Academic Partnerships

SCHOOL/PARTNER: City College Plymouth

SEMESTER: Semester 2

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
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- 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: 2018/19**NATIONAL COST CENTRE: 121****MODULE LEADER:** [REDACTED]**OTHER MODULE STAFF:****Summary of Module Content**

- Web components and data
- Designing web applications for users
- Scripting, client-side languages and Standards such as
 - HTML5/Bootstrap
 - Javascript
 - DOM/XML
 - AngularJS
- IDE's for web applications
 - Development, Templates, Debugging
- Testing web apps
- Security and Legal Issues

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Requirements and Design Report	LO2, LO4 60%
Practical	Demonstration of Development and Implementation	LO1, LO3 40%

REFERRAL ASSESSMENT (Same)

Element Category	Component Name	Component Weighting
Coursework	Requirements and Design Report (New/different)	LO2, LO4 60%
Practical (as coursework)	Report demonstrating the development and implementation (New/different)	LO1, LO3 40%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: Date: 19/01/2018	Approved by: Date: 19/01/2018

UNIVERSITY OF PLYMOUTH MODULE RECORD

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

MODULE CODE: CITY1106 **MODULE TITLE:** Database Development
CREDITS: 20 **FHEQ LEVEL:** 4 **JACS CODE:** I240
PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes
SHORT MODULE DESCRIPTOR: (max 425 characters)

Databases underlie many modern business applications, and most software developer will find themselves involved with the development of maintenance of them at some point in their career. It is important to understand the principles of relational database design to underpin and developments in other database models, and this unit will focus on the relational model, but provide some pointers to alternatives.

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

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

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

This module aims to provide students with an understanding of the principles of relational database design and implementation. It will give them the opportunity to develop a database using a range of available 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 contributed to
LO1. Design a relational database for a given business requirement	8.1.1, 8.1.2, 8.2.2, 8.3.2, 8.3.3, 8.4.1, 8.4.2, 8.4.3, 8.5.1, 8.5.2
LO2. Implement a database from a design using a variety of software tools	
LO3. Evaluate a database against the requirements	

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DATE OF IMPLEMENTATION: September 2018

DATE(S) OF APPROVED CHANGE: XX/XX/XXXX

Notes:

FACULTY/OFFICE: Academic Partnerships

SCHOOL/PARTNER: City College Plymouth

SEMESTER: Semester 2

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
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- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

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ACADEMIC YEAR: 2018/19**NATIONAL COST CENTRE: 121****MODULE LEADER:** [REDACTED]**OTHER MODULE STAFF:****Summary of Module Content**

Relational databases and their application

- Relational Databases
- Keys/Tables/Relationships
- Advantages/Drawbacks
- Other database models and the relationship with the relational model

Fundamentals of relational database design

- Modelling Concepts
- Logical Design
- Entity Relationship Diagrams
- Data Anomalies
- Normalisation
- Physical Design
- Constraints
- Queries
- Validation

Implementation

- RDBMS features
- SQL
- Security features
- Database applications

Forms and Reports

- Understanding the HCI requirements for creating user friendly information systems
- Standard Reporting vs Ad Hoc Reports

Testing and Evaluation

- Testing tables/and relationships
- Testing queries
- Testing I/O forms

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
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 Evaluation	LO1, LO3 70%
Practical	Demonstration of Database solution	LO2 30%

REFERRAL ASSESSMENT (Same)

Element Category	Component Name	Component Weighting
Coursework	Design and Evaluation (New/different)	LO1, LO3 70%
Practical (as coursework)	Report demonstrating Database solution (New/different)	LO2 30%

To be completed when presented for Minor Change approval and/or annually updated

Updated by: [REDACTED]	Approved by: [REDACTED]
Date: 19/01/2018	Date: 19/01/2018

UNIVERSITY OF PLYMOUTH MODULE RECORD

SECTION A: DEFINITIVE MODULE RECORD. *Proposed changes must be submitted via Faculty/AP Quality Procedures for approval and issue of new module code.***MODULE CODE:** CITY2105**MODULE TITLE:** Computing Team Project**CREDITS:** 20**FHEQ LEVEL:**5**JACS CODE:** I220**PRE-REQUISITES:** None**CO-REQUISITES:** None**COMPENSATABLE:** Yes**SHORT MODULE DESCRIPTOR:** *(max 425 characters)*

This practical take on systems engineering introduces this as a means of facilitating and assuring the development of a complex computer related technical product. Focusing predominantly on introducing tools and techniques that can be applied at different stages of the product development cycle. It will cover relevant system analysis processes that support project management and will focus on the Agile development model. Students will be given a group project specified by an industrial collaborator which will have well defined targets and timescales for completion.

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

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

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

1. To introduce students to specifying and solving computing problems as part of a team
2. To give students the opportunity to implement a project using an Agile approach to project management
3. To develop students ability to experiment with project management tools and techniques
4. To allow students to learn how to demonstrate their ability to work as part of a team to find a solution to a problem.
5. To allow students to reflect and evaluate the skills required within a work based project.

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
LO1 Select an appropriate project, preparing an appropriately detailed project proposal LO2 Demonstrate the application of Agile project management to a group project LO3 Demonstrate the ability to work in a team project LO4 Evaluate and present the findings of a project to the client/sponsor	8.1.1, 8.2.1, 8.2.2, 8.3.1, 8.3.2, 8.3.3, 8.4.1, 8.4.2, 8.4.3, 8.5.1, 8.5.2

DATE OF APPROVAL: 09/03/2018

DATE OF IMPLEMENTATION: September 2018

DATE(S) OF APPROVED CHANGE: XX/XX/XXXX

FACULTY/OFFICE: Academic Partnerships

SCHOOL/PARTNER: City College Plymouth

SEMESTER: All Year

Notes:

The assessment is a group project with a minimum of 3 students in each group. Each group will receive a group mark which contributes 50% of the student's marks and 50% of the mark based on their individual contribution to the project.

The group will present their final projects to their peers, client/Sponsor and assessor.

The students will be taught project management principles and systems lifecycle models but will be required to use the agile development model.

Each student must chair at least one group meeting and also minute at least one meeting.

Students will be required to liaise with employers/clients to produce solutions to real world problems.

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

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ACADEMIC YEAR: 2018/19**NATIONAL COST CENTRE: 121****MODULE LEADER:** [REDACTED]**OTHER MODULE STAFF:****Summary of Module Content**

This module will initially cover the theory behind project management and different systems analysis lifecycles. The students will then undertake a group computing software project documenting all stages of development. Students will use the Agile model for software development.

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions/meetings with industry project leader
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader. This will also be time allocated to the project implementation
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Project Proposal, Documentation and Reflection on skills developed for WBL	LO1, LO2, LO3 100%
Practical	Presentation of findings and evaluation to peers, assessor and client/sponsor	LO4 100%

REFERRAL ASSESSMENT (Different)

Element Category	Component Name	Component Weighting
Coursework	Project proposal and documentation, slideshow with notes and supporting material to present findings and evaluation.	LO1 LO2 LO3 LO4 100%

To be completed when presented for Minor Change approval and/or annually updated

Updated by: [REDACTED] Date: 30/07/2018	Approved by: [REDACTED] Date: 19/01/2018
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UNIVERSITY OF PLYMOUTH MODULE RECORD

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

MODULE CODE: CITY2106 **MODULE TITLE:** Web And Mobile Application Development
CREDITS: 20 **FHEQ LEVEL:** 5 **JACS CODE:** I160
PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes
SHORT MODULE DESCRIPTOR: (max 425 characters)

This module gives the student both conceptual and practical experience of developing web and mobile applications. It provides the student with fundamental understanding regarding: web architecture and its associated components; how to design web applications; and how to apply the appropriate programming paradigms and languages to build applications. It also provides the student with fundamental understanding regarding: application architecture and its associated components; how to design for mobile devices; and how to apply the appropriate programming paradigms, frameworks and languages to build applications. Security ethical and legal aspects of web and mobile applications are introduced.

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

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

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

The aims of this module are to develop an understanding of the architecture and components required for web and mobile applications; the programming paradigms, languages and advanced scripting techniques necessary for the development of such applications; and the issues involved in representing, communicating and interacting with distributed, live and multi-user web and mobile content. The module also looks at on-board hardware that is unique to mobile devices.

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
LO1 Understand the principles of object oriented and event-based languages and scripting to the development of web and mobile applications.	8.1.1, 8.1.2, 8.2.1, 8.2.2, 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
LO2 Demonstrate an understanding of the underlying web architecture; communications; and content; User Interface Design	
LO3 Demonstrate an understanding of the underlying mobile architecture and how application content can harness this to deliver a uniquely mobile user experience.	

LO4 Design, implement and evaluate/test dynamic web-based and mobile applications with consideration to their user interfaces	
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DATE OF APPROVAL: 09/03/2018

FACULTY/OFFICE: Academic Partnerships

DATE OF IMPLEMENTATION: September 2018

SCHOOL/PARTNER: City College Plymouth

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

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ACADEMIC YEAR: 2018/19**NATIONAL COST CENTRE: 121****MODULE LEADER:** [REDACTED]**OTHER MODULE STAFF:****Summary of Module Content**

- Client/Server architecture, comms. and data
- Programming paradigms and their relation to web apps:
 - Object oriented
 - Event-driven
- Synchronous vs Asynchronous
- Server-side languages such as
 - NodeJS
 - PHP
 - MySQL
- Scripting, client-side languages and Standards such as
 - HTML5/Bootstrap
 - Javascript
 - DOM/XML
- Mobile scripting languages
- Design of Mobile and Web Application User Interfaces
 - Perception - Gestalt, Human Vision
 - Accessibility
- IDE's for web and mobile applications
 - Development, Templates, Debugging
- Combination of hardware architecture and components on mobile devices
- Programming paradigms and their relation to mobile applications:
 - Object oriented
 - Event-driven
 - Model View Controller architecture
- Mobile app development languages and SDK's
- Testing event driven web and mobile apps
- Security and Legal Issues

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
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Coursework	Report on Web and Mobile Architectures	LO1, LO2, LO3 100%
Practical	Development and Implementation	LO4 100%

REFERRAL ASSESSMENT (Same)

Element Category	Component Name	Component Weighting
Coursework	Report on Web and Mobile Architectures (New/different)	LO2, LO2, LO3 100%
Practical	Development and Implementation (New/different)	LO4 100%

To be completed when presented for Minor Change approval and/or annually updated

Updated by: ██████████ Date: 19/01/2018	Approved by: ██████████ Date: 19/01/2018
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UNIVERSITY OF PLYMOUTH MODULE RECORD

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

MODULE CODE: CITY2108 **MODULE TITLE:** Software Development
CREDITS: 20 **FHEQ LEVEL:** 5 **JACS CODE:** I300
PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes
SHORT MODULE DESCRIPTOR: (max 425 characters)

This module explores the principles and techniques of software development. The learners will acquire an understanding of analysis, design, software construction and testing both in independent and collaborative development. Various design patterns and software architectures and frameworks are explored and professional skills such as UML and Agile are developed.

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

E1 (Examination) **C1** (Coursework) 60% **P1** (Practical) 40%
E2 (Clinical Examination) **A1** (Generic assessment)
T1 (Test)

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

The aims of this module are to develop an understanding of the analysis, design, software construction and testing processes and consolidate the learners' initial experiences of programming and the resulting development of software. The focus is the development of skills such as design patterns and UML and introducing development methodologies such as Agile and the Unified Development Process. In addition it aims to extend their understanding of more complex ideas in software development such as collaborative design and integration.

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
LO1 Understand the differences, advantages and disadvantages of software development methodologies	8.1.2, 8.1.3, 8.2.1, 8.2.2, 8.3.1, 8.3.2, 8.3.3, 8.4.1, 8.4.3, 8.5.1, 8.5.2, 8.5.3
LO2 Demonstrate the ability to capture and validate software requirements,	
LO3 applying relevant design diagrams to validated software requirements	
LO4 Implement and test architecture and designs in software.	

DATE OF APPROVAL: 09/03/2018

DATE OF IMPLEMENTATION: September 2018

DATE(S) OF APPROVED CHANGE: XX/XX/XXXX

Notes:

FACULTY/OFFICE: Academic Partnerships

SCHOOL/PARTNER: City College Plymouth

SEMESTER: Semester 1

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

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ACADEMIC YEAR: 2018/19**NATIONAL COST CENTRE: 121****MODULE LEADER:** [REDACTED]**OTHER MODULE STAFF:****Summary of Module Content**

- Modeling Language and the Unified Development Process
 - Domain Models
 - Use Cases
 - Design Patterns
 - Class Diagrams
 - Interaction Diagrams
 - Sequence Diagrams
 - State Diagrams
 - Package, deployment and component diagrams
- Software Development Methodologies
 - Values and principles
 - Iteration, increments and evolution
 - Communication and quality
 - Adaptive, predictive, iterative vs waterfall, code vs documentation
 - Development practices
 - Pitfalls
- Implementation in Object Oriented Programming Language
- Collaborative design and Integration testing
- Creating test cases, analysis of test cases

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Report on methodologies, requirements and design documentation	LO1, LO2, LO3 100%
Practical	Demonstration of Practical work	LO4 100%

REFERRAL ASSESSMENT (Same)

Element Category	Component Name	Component Weighting
Coursework	Report on methodologies, requirements and design documentation (New/different)	LO1, LO2, LO3 100%
Practical	Demonstration of Practical work (New/different)	LO4 100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: [REDACTED] Date: 19/01/2018	Approved by: [REDACTED] Date: 19/01/2018

UNIVERSITY OF PLYMOUTH MODULE RECORD

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

MODULE CODE: CITY2109 **MODULE TITLE:** Human Computer Interaction
CREDITS: 20 **FHEQ LEVEL:** 5 **JACS CODE:** I140
PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes
SHORT MODULE DESCRIPTOR: (max 425 characters)

Advances in HCI significantly impact our daily lives and interaction with computers is frequent and necessary. Hence it is essential this interaction is natural, efficient and effective. This module aims to give learners: theories, practices and tools required to design and construct interfaces that meet these needs; a critical appreciation of interfaces currently available; and the experience of prototype development.

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

E1 (Examination) **C1** (Coursework) 60% **P1** (Practical) 40%
E2 (Clinical Examination) **A1** (Generic assessment)
T1 (Test)

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

The aims of this module are to enable the student to thoroughly investigate and research HCI related developments and applications, including issues and challenges related to some chosen HCI examples. It focuses on showing students how to design and develop appropriate and useful HCI prototypes. In addition it aims for students to be able to critically evaluate HCI prototypes.

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
LO1 Understand the way in which humans receive and process information through senses	8.1.1, 8.1.2, 8.1.3, 8.2.1, 8.2.2, 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
LO2 Understand the history and concepts of HCI and issues that can impact HCI design in computer applications	
LO3 Create and evaluate HCI environments for given scenarios	

DATE OF APPROVAL: 09/03/2018

DATE OF IMPLEMENTATION: September 2018

DATE(S) OF APPROVED CHANGE: XX/XX/XXXX

FACULTY/OFFICE: Academic Partnerships

SCHOOL/PARTNER: City College Plymouth

SEMESTER: All Year

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

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ACADEMIC YEAR: 2018/19**NATIONAL COST CENTRE: 121****MODULE LEADER:** [REDACTED]**OTHER MODULE STAFF:****Summary of Module Content**

- Human Memory - Sensory, Short Term, Long Term
- Perception - Gestalt, Human Vision
- Mental Models - Structural, Functional, Ethnographic Interviews
- Cognitive Models - Human Information Processor, GOMS, Fitts Law
- Attention Control Theory
- Ethics - Professional, Cultural, HCI vs Medical, Consent
- Affective Computing
- Emotion Recognition
- Posture/Gait/Gestures/Speech/Recognition
- Virtual Reality
- Augmented Reality
- Brain Computer Interfaces - EEG Interfaces, Non Invasive, Invasive
- Predictive/Adaptive User Interfaces
- History, Adverse Conditions, Ergonomics, Standards
- Accessibility
- Evaluation - Pluralistic Walkthroughs, Cognitive Walkthroughs, Formative, Summative, Survey design, Field Tests, Nielsen's Heuristics, User Testing
- Shneiderman's 8 Golden Rules, Flat Design and Gestalt
- Metaphors, Icons
- Designing useful "Help", Context Sensitive Help

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Report on HCI principles and chosen development	LO1, LO2 100%
Practical	Demonstration of practical work	LO3 100%

REFERRAL ASSESSMENT (Same)

Element Category	Component Name	Component Weighting
Coursework	Report on HCI principles and chosen development (New/different)	LO1, LO2 100%
Practical	Demonstration of practical work (New/different)	LO3 100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: ██████████ Date: 19/01/2018	Approved by: ██████████ Date: 19/01/2018

UNIVERSITY OF PLYMOUTH MODULE RECORD

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

MODULE CODE: CITY2110 **MODULE TITLE:** Digital Forensics
CREDITS: 20 **FHEQ LEVEL:** 5 **JACS CODE:** L435
PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes
SHORT MODULE DESCRIPTOR: (max 425 characters)

With valuable personal information in modern society, and the relative anonymity of the internet, criminals are increasingly making use of technology for crime, developing new ways to store/hide/gain access to information. Digital forensics is about the use of systems in order to find information that links to a crime, preserving the validity of that evidence, and communicating it effectively for use in legal processes.

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

E1 (Examination) **C1** (Coursework) 100% **P1** (Practical)

E2 (Clinical Examination) **A1** (Generic assessment)

T1 (Test)

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

The aim of this module is to provide learners with an understanding of the fundamental principles of digital forensics, and the tools that can be applied to a forensic investigation.

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
LO1. Understand the need for digital forensics and its relationship with social and commercial contexts	8.1.1, 8.1.2, 8.1.3, 8.2.1, 8.2.2, 8.3.3, 8.4.1, 8.4.2, 8.4.3, 8.5.2, 8.5.3
LO2. Apply principles, tools and techniques of evidence gathering	
LO3. Analyse and evaluate the result of forensic investigations	

DATE OF APPROVAL: 09/03/2018

DATE OF IMPLEMENTATION: September 2018

DATE(S) OF APPROVED CHANGE: XX/XX/XXXX

Notes:

FACULTY/OFFICE: Academic Partnerships

SCHOOL/PARTNER: City College Plymouth

SEMESTER: Semester 2

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>

- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

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ACADEMIC YEAR: 2018/19**NATIONAL COST CENTRE: 121****MODULE LEADER:** [REDACTED]**OTHER MODULE STAFF:****Summary of Module Content**

- Purposes of digital forensics
- Forensics and e-discovery
- Technical Concepts
 - Networks, Memory and Operating systems
 - Tools and Techniques
- Crime Scenes and Procedures
- Chain of custody
- Forensic Images
- Encryption
- Legal issues
- Network and Internet Forensics
- Complex devices and future trends

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework 1	Report on concepts and impact of digital forensics	LO1 30%
Coursework 2	Digital Forensic Laboratory experiments with analysis and evaluation of results.	LO2, LO3 70%

REFERRAL ASSESSMENT (Same)

Element Category	Component Name	Component Weighting
Coursework 1	Report on concept and impact of digital forensics (New/different)	LO1 30%
Coursework 2	Digital Forensic Laboratory experiments with analysis and evaluation of results. (New/different)	LO2, LO3 70%

To be completed when presented for Minor Change approval and/or annually updated

Updated by: Date: 19/01/2018	Approved by: Date: 19/01/2018
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UNIVERSITY OF PLYMOUTH MODULE RECORD

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

MODULE CODE: CITY2111 **MODULE TITLE:** Organisational Systems Security
CREDITS: 20 **FHEQ LEVEL:** 5 **JACS CODE:** L435
PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes
SHORT MODULE DESCRIPTOR: (max 425 characters)

This module will develop the student's analytical ability and provide a foundation for computer security. Students will learn of how to protect computer systems and networking against network attacks and develop the techniques, skills and knowledge needed for design methods for and secured a networked system(s).

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

E1 (Examination) 50% **C1** (Coursework) 50% **P1** (Practical)

E2 (Clinical Examination) **A1** (Generic assessment)

T1 (Test)

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

The aim of this module is to provide learners with an understanding of the fundamental principles and techniques of computer systems and networks threats and attacks to design and implement security rules.

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
LO1. Understand organisational aspects of network security and the types and sources and of computer systems and networking attacks.	8.1.1, 8.1.2, 8.1.3, 8.2.1, 8.2.2, 8.3.3, 8.4.1, 8.4.3, 8.5.2, 8.5.3
LO2. Design and implement security systems.	
LO3. Manage network security solutions.	

DATE OF APPROVAL: 09/03/2018

DATE OF IMPLEMENTATION: September 2018

DATE(S) OF APPROVED CHANGE: XX/XX/XXXX

Notes:

FACULTY/OFFICE: Academic Partnerships

SCHOOL/PARTNER: City College Plymouth

SEMESTER: Semester 1

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>

- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

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ACADEMIC YEAR: 2018/19**MODULE LEADER:** [REDACTED]**NATIONAL COST CENTRE: 121****OTHER MODULE STAFF:****Summary of Module Content**

Organisational aspects of network security:

- Potential threats.
- Understanding of client needs.
- Social and business impact.
- Security policy.
- Server deployment.
- User access.
- User rights.

Network attacks:

- Social Engineering.
- DoS and DDoS.
- Brute Force and Dictionary Attacks.
- Backdoor.
- Spoofing.

Design and implement security systems:

- Understand of OSI model.
- Understand of TCP and UDP.
- Design a policy based on client needs.
- Border systems.
- Software security - IDS and IPS, Firewall, IPtables, ACL, VPN, NAT.
- Physical security - locks, sign in/out systems, biometrics, etc.

Manage network security solutions:

- Security policy life cycle.
- Cryptography.
- Security management systems Cisco vs. Juniper.
- Security Information and Event Management (SIEM).

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Written exam	End of module Examination on Principles	LO1 100%
Coursework	Report on design and management	LO2, LO3 100%

REFERRAL ASSESSMENT (Same)

Element Category	Component Name	Component Weighting
Written Exam (as coursework)	Principles of Organisational Systems Security	LO1 100%
Coursework	Report on design and management (New/different)	LO2, LO3 100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: [REDACTED] Date: 19/01/2018	Approved by: [REDACTED] Date: 19/01/2018

UNIVERSITY OF PLYMOUTH MODULE RECORD

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

MODULE CODE: CITY2112 **MODULE TITLE:** Advanced Computer Networks
CREDITS: 20 **FHEQ LEVEL:** 5 **JACS CODE:** I120
PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes
SHORT MODULE DESCRIPTOR: (max 425 characters)

This module will develop the student's networking skills and provide a deeper understanding of routing and switching; IP addressing, designing and troubleshooting of small to large scale networked systems and also analysing network traffic.

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

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

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

The aim of this module is to provide learners with an understanding of the advanced principles of routing and switching (LAN and WAN), and the software tools that can be applied to a computer networks investigation.

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
LO1. Apply understanding of routing protocols to solve networking problems.	8.1.1, 8.1.2, 8.1.3, 8.2.1, 8.2.2, 8.3.2, 8.3.3, 8.4.1, 8.4.3, 8.5.1, 8.5.3
LO2. Analyse concepts of switching and Wi-Fi.	
LO3. Troubleshoot routing and switching.	

DATE OF APPROVAL: 09/03/2018

DATE OF IMPLEMENTATION: September 2018

DATE(S) OF APPROVED CHANGE: XX/XX/XXXX

Notes:

FACULTY/OFFICE: Academic Partnerships

SCHOOL/PARTNER: City College Plymouth

SEMESTER: Semester 2

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>

- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

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: 2018/19**MODULE LEADER:** [REDACTED]**NATIONAL COST CENTRE: 121****OTHER MODULE STAFF:****Summary of Module Content**

Routing:

- VLSM and CIDR.
- IPv4 and IPv6.
- Static routing.
- Dynamic routing.
- Distance Vector Routing protocols - RIP, RIPv2, EIGRP, OSPF.
- Link State Routing Protocols - OSPFv2 and v3, IS-IS and IS-IS for IPv6.
- Path Vectors - EGP, BGPv4 and BGPv4 for IPv6
- The routing table.

Switching:

- LAN design.
- Virtual Local Area Network (VLAN).
- VLAN Network Management - VLAN Trunking Port (VTP).
- Spanning-tree Protocol (STP).
- Inter-VLAN Routing.
- Wireless Concepts and Configuration.

Troubleshooting:

- Analysing a network.
- Analysing a network traffic.
- Analysing a routing table.
- Detecting faults, errors, etc.
- Tools and techniques.
- Preparing solutions.
- Implementing and evaluating solutions.
- Application of theory.

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Main vehicle for delivering theory in specialist computing labs
Labs	30	Experimentation with tools and techniques in specialist labs
Directed Study	155	Google classroom is the starting point for guidance in directed study.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Concepts and analysis of switching and routing	LO1, LO2 100%
Practical	Demonstration of troubleshooting	LO3 100%

REFERRAL ASSESSMENT(Same)

Element Category	Component Name	Component Weighting
Coursework	Concepts and analysis of switching and routing (New/different)	LO1, LO2 100%
Practical	Demonstration of troubleshooting (New/different)	LO3 100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: [REDACTED] Date: 19/01/2018	Approved by: [REDACTED] Date: 19/01/2018

UNIVERSITY OF PLYMOUTH MODULE RECORD

SECTION A: DEFINITIVE MODULE RECORD. Proposed changes must be submitted via Faculty/AP Quality Procedures for approval and issue of new module code.**MODULE CODE:** CITY2113**MODULE TITLE:** Embedded Systems And Robotics**CREDITS:** 20**FHEQ LEVEL:**5**JACS CODE:** H671**PRE-REQUISITES:** None**CO-REQUISITES:** None**COMPENSATABLE:** Yes**SHORT MODULE DESCRIPTOR:** (max 425 characters)

This unit will cover the history of robotics and sensors and the mathematics behind them including various types of computer platforms and devices used to control robots and embedded systems. There will be a practical element where students will build and program various embedded systems and robots and sensors for different applications.

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

E1 (Examination) **C1** (Coursework) 70% **P1** (Practical) 30%

E2 (Clinical Examination) **A1** (Generic assessment)

T1 (Test)

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

The aims of this module are to enable the student to Identify mathematical concepts of robotic kinematics and sensors. Obtain practical experience programming and using a variety of computer based platforms and sensors for robots and embedded systems Investigate and use various languages and development tools to control sensors and devices. Investigate technological advances leading to modern embedded systems and robotics.

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
LO1. Demonstrate knowledge of the mathematics and theory of robotics and sensors. LO2. Show a practical ability to build robotic and embedded systems for a variety of uses. LO3. Demonstrate knowledge of different technologies used in robotics including and understand of how humans receive and process information. LO4. Review emerging technologies within the sphere of Human Robot Interaction.	8.1.1, 8.1.2, 8.2.1, 8.2.2, 8.3.2, 8.3.3, 8.4.1, 8.4.3, 8.5.1, 8.5.2

DATE OF APPROVAL: 09/03/2018**FACULTY/OFFICE:** Academic Partnerships**DATE OF IMPLEMENTATION:** XX/XX/XXXX**SCHOOL/PARTNER:** City College Plymouth**DATE(S) OF APPROVED CHANGE:** XX/XX/XXXX**SEMESTER:** All Year

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

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ACADEMIC YEAR: 2018/19**NATIONAL COST CENTRE: 121****MODULE LEADER:** [REDACTED]**MODULE STAFF:****Summary of Module Content**

Initially the students will learn about various platforms used for embedded systems and robotics and also sensors and components used for both input and output.

Students will then build and test various sensors and platforms before undertaking a practical build of an embedded system or robot.

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Report on principles and techniques of robotics and embedded systems	LO1, LO3, LO4 100%
Practical	Demonstration of Practical Work	LO2 100%

REFERRAL ASSESSMENT(Same)

Element Category	Component Name	Component Weighting
Coursework	Report on principles and techniques of robotics and embedded systems (New/different)	LO1, LO3, LO4 100%
Practical	Demonstration of Practical Work (New/different)	LO2 100%

To be completed when presented for Minor Change approval and/or annually updated

Updated by: [REDACTED]
Date: 19/01/2018

Approved by: [REDACTED]
Date: 19/01/2018

UNIVERSITY OF PLYMOUTH MODULE RECORD

SECTION A: DEFINITIVE MODULE RECORD. Proposed changes must be submitted via Faculty/AP Quality Procedures for approval and issue of new module code.**MODULE CODE:** CITY2114**MODULE TITLE:** Computer Systems Architecture**CREDITS:** 20**FHEQ LEVEL:**5**JACS CODE:** I111**PRE-REQUISITES:** None**CO-REQUISITES:** None**COMPENSATABLE:** Yes**SHORT MODULE DESCRIPTOR:** (max 425 characters)

This module will help learners to understand the evolution of computer architecture and the factors influencing design of hardware and software elements of computer systems. Topics include: instruction set design; processor micro-architecture and pipelining; cache and virtual memory organizations; protection and sharing; I/O and interrupts; multithreaded architectures; symmetric multiprocessors; and parallel computing.

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

E1 (Examination) **C1** (Coursework) 100% **P1** (Practical)

E2 (Clinical Examination)

A1 (Generic assessment)

T1 (Test)

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

Initially students will understand different computer architectures used today.

Students will identify problems that can be solved with distributed computer systems and gain experience in programming these systems for various problems.

Students will also investigate future computer systems architectures.

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
LO1 Evolution of modern computers LO2 Understand how to efficiently solve problems on different computer architectures. LO3 Identify the various types of computer architecture and different operating systems. LO4 Investigate technological advances within modern computer architectures.	8.1.1, 8.1.2, 8.2.1, 8.2.2, 8.3.3, 8.4.1, 8.4.3, 8.5.1, 8.5.2

DATE OF APPROVAL: 09/03/2018

FACULTY/OFFICE: Academic Partnerships

DATE OF IMPLEMENTATION: September 2018

SCHOOL/PARTNER: City College Plymouth

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

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ACADEMIC YEAR: 2018/19**NATIONAL COST CENTRE: 121****MODULE LEADER:** [REDACTED]**OTHER MODULE STAFF:****Summary of Module Content**

Students will a study of the evolution of computer architecture and the factors influencing the design of hardware and software elements of computer systems.

Topics will include: instruction set design; processor micro-architecture and pipelining; cache and virtual memory organizations; protection and sharing; I/O and interrupts; in-order and out-of-order superscalar architectures; vector supercomputers; multithreaded architectures; symmetric multiprocessors; parallel computers, and quantum computing.

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework 1	Report on solving problems with advanced computer architectures.	LO1 LO2 LO3 70%
Coursework 2	Report on future technologies.	LO4 30%

REFERRAL ASSESSMENT (Same)

Element Category	Component Name	Component Weighting
Coursework 1	Report on solving problems with advanced computer architectures. (New/different)	LO1 LO2 LO3 70%
Coursework 2	Report on future technologies. (New/different)	LO4 30%

To be completed when presented for Minor Change approval and/or annually updated

Updated by: [REDACTED]**Approved by:** [REDACTED]

Date: 19/01/2018

Date: 19/01/2018

UNIVERSITY OF PLYMOUTH MODULE RECORD

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

MODULE CODE: CITY2115**MODULE TITLE:** Digital Business Strategy**CREDITS:** 20**FHEQ LEVEL:** 5**JACS CODE:** N211**PRE-REQUISITES:** None**CO-REQUISITES:** None**COMPENSATABLE:** Yes**SHORT MODULE DESCRIPTOR:** (max 425 characters)

Business Policy or Strategy is a subject that has developed over many years, and there are standard models for analysing the business context. We will use those models and then apply them to the strategic implementation of Digital Technologies in organisations. We will also evaluate the impact of frameworks such as ITL for the implementation of a business strategy.

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

E1 (Examination)**C1** (Coursework)

100%

P1 (Practical)**E2** (Clinical Examination)**A1** (Generic assessment)**T1** (Test)**SUBJECT ASSESSMENT PANEL to which module should be linked:** Computing**Professional body minimum pass mark requirement:** N/A**MODULE AIMS:**

This module aims to provide a business context for IT decision making, by analysing the environment in which organisations operate and how can be used to develop a strategic vision and policies for the role of IT.

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
LO1. Understand the models used to analyse internal and external context of organisations	8.1.2, 8.1.3, 8.2.1, 8.2.2, 8.3.2, 8.3.3, 8.4.1, 8.4.3, 8.5.2
LO2. Analyse organisations and their Digital Strategies	
LO3. Evaluate frameworks for IT and Technology management in the context of organisational Digital strategy.	

DATE OF APPROVAL: 09/03/2018**FACULTY/OFFICE:** Academic Partnerships**DATE OF IMPLEMENTATION:** September 2018**SCHOOL/PARTNER:** City College Plymouth**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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

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ACADEMIC YEAR: 2018/19 MODULE**LEADER:** [REDACTED]**NATIONAL COST CENTRE: 121****OTHER MODULE STAFF:****Summary of Module Content**

- Models of business strategy
- Strategic IT
- Impact of IT and Digital Technologies on organisations and industries
- Strategic Alignment
- ITIL and other frameworks and standards for IT Management
- Innovation and IT
- Application of IT Strategy to business contexts

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework 1	Report on application of Strategic Analysis	LO1, LO2 70%
Coursework 2	Evaluation of Frameworks	LO3 30%

REFERRAL ASSESSMENT (Same)

Element Category	Component Name	Component Weighting
Coursework 1	Report on application of Strategic Analysis (New/different)	LO1, LO2 70%
Coursework 2	Evaluation of Frameworks (New/different)	LO3 30%

To be completed when presented for Minor Change approval and/or annually updated**Updated by:** [REDACTED]

Date: 19/01/2018

Approved by: [REDACTED]

Date: 19/01/2018

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

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: 2018/19**NATIONAL COST CENTRE: 121****MODULE LEADER:** [REDACTED]**OTHER MODULE STAFF:****Summary of Module Content**

- Models of business organisations
- Application of IT in business
- Impact of e-business on consumers and business
- Business to business
- Business to consumer
- Stakeholder analysis
- Legislation
- Security
- Payment systems
- Social impact

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Report on development and impact of E-Business	LO1, LO2 100%
Practical	Demonstration of E-Business Solutions and presentation of findings	LO3 100%

REFERRAL ASSESSMENT (Same)

Element Category	Component Name	Component Weighting
Coursework	Report on development and impact of E-Business (New/different)	LO1, LO2 100%
Practical	Demonstration of E-Business Solutions and presentation of findings (New/different)	LO3 100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: [REDACTED] Date: 19/01/2018	Approved by: [REDACTED] Date: 19/01/2018

UNIVERSITY OF PLYMOUTH MODULE RECORD

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

MODULE CODE: CITY2117 **MODULE TITLE:** Data Structures And Algorithms
CREDITS: 20 **FHEQ LEVEL:**5 **JACS CODE:** I260
PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes
SHORT MODULE DESCRIPTOR: (max 425 characters)

This module will provide the learner with experience in the use of algorithms and data structures which underpin much of today's computing. The unit will develop formal concepts of data structures and algorithms and the relationship between them. Topics covered will include stacks, queues, linked lists, binary trees and sorting and searching algorithms.

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

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

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing
Professional body minimum pass mark requirement: N/A

MODULE AIMS:

This unit will provide the learner with experience in the use of algorithms and data structures which underpin much of today's computing. The unit will develop formal concepts of data structures and algorithms and the relationship between them. Topics include stacks, queues, linked lists, binary trees and sorting algorithms.

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
LO1. Synthesise and implement stacks, linked lists, sorting and queues. LO2. Compile and use abstract data types within programs. LO3. Evaluate algorithms and justify the selection of the most appropriate data structure/algorithm for a given problem	8.2.1,8.2.2,8.4.1,8.5.1,8.5.2,8.5.3

DATE OF APPROVAL: 09/03/2018

DATE OF IMPLEMENTATION: September 2019

DATE(S) OF APPROVED CHANGE: XX/XX/XXXX

Notes:

FACULTY/OFFICE: Academic Partnerships

SCHOOL/PARTNER: City College Plymouth

SEMESTER: Semester 2

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

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: 2018/19**NATIONAL COST CENTRE: 121****MODULE LEADER:** [REDACTED]**OTHER MODULE STAFF:****Summary of Module Content**

This unit will provide the learner with experience in the use of algorithms and data structures which underpin much of today's computing.

The unit will develop formal concepts of data structures and algorithms and the relationship between them. Topics include stacks, queues, linked lists, binary trees and sorting algorithms.

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Exam	Exam covering evaluation and justification of algorithms	LO3 100%
Coursework	Assignment covering application and implementation of algorithms	LO1,LO2 100%

REFERRAL ASSESSMENT

Element Category	Component Name	Component Weighting
Exam	Exam covering evaluation and justification of algorithms	LO1, LO2 100%
Coursework	Assignment covering application and implementation of algorithms	LO3 100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: [REDACTED] Date: 19/01/2018	Approved by: [REDACTED] Date: 19/01/2018

UNIVERSITY OF PLYMOUTH MODULE RECORD

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

MODULE CODE: CITY2118 **MODULE TITLE:** Systems Analysis
CREDITS: 20 **FHEQ LEVEL:** 5 **JACS CODE:** I230
PRE-REQUISITES: None **CO-REQUISITES:** None **COMPENSATABLE:** Yes
SHORT MODULE DESCRIPTOR: (max 425 characters)

Software developers are often good at understanding conceptual models of the software they write and can document this in both code and as UML diagrams. This module looks at the modelling of an organisation using UML and related notations, and the transition from Business Model into Software Model.

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

E1 (Examination) 50% **C1** (Coursework) 50% **P1** (Practical)

E2 (Clinical Examination) **A1** (Generic assessment)

T1 (Test)

SUBJECT ASSESSMENT PANEL to which module should be linked: Computing

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

This module aims to provide students with an understanding of the role and practicalities of systems analysis and the modelling of business systems. It also aims to help students understand the relationship between business models and software using standard notations and modelling languages.

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
LO1. Understanding the process of analysing of business requirements	8.1.1, 8.1.2, 8.2.1, 8.2.2, 8.3.3, 8.4.1, 8.4.3, 8.5.2
LO2. Analyse and accurately apply models to the analysis of a business requirement	
LO3. Evaluate modelling notations and their application to business problems	

DATE OF APPROVAL: 09/03/2018

DATE OF IMPLEMENTATION: September 2018

DATE(S) OF APPROVED CHANGE: XX/XX/XXXX

Notes:

FACULTY/OFFICE: Academic Partnerships

SCHOOL/PARTNER: City College Plymouth

SEMESTER: Semester 2

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/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

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: 2018/19**MODULE LEADER:** [REDACTED]**NATIONAL COST CENTRE: 121****OTHER MODULE STAFF:****Summary of Module Content**

Modelling notations

- UML; BPMN
- Object Constraint Language

Diagrams

- Use Cases
- Class diagram
- Workflow Diagrams
- Interaction Diagrams
- State Diagrams
- Activity Diagrams

UML tools

- Drawing vs Modelling
- Visual Paradigm
- Rational Architect
- MS Visio
- Cloud based tools

Transition to Software

- Implementation of Class diagrams
- O/R Mapping

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	15	Combined lecture/lab sessions
Directed Study	45	Combined lecture/lab sessions
Student Self Study	140	Google classroom is the starting point for guidance in directed study with direction from module leader.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Written exam	End of module Examination covering modelling notations	LO2 100%
Coursework	Report on an application of business modelling and the transition to software models. Includes evaluation of tools and techniques.	LO1, LO3 100%

REFERRAL ASSESSMENT (Same)

Element Category	Component Name	Component Weighting
Written exam (As coursework)	Modelling notations (New/different)	LO2 100%
Coursework	Report on an application of business modelling and the transition to software models. Includes evaluation of tools and techniques. (New/different)	LO1, LO3 100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: [REDACTED] Date: 19/01/2018	Approved by: [REDACTED] Date: 19/01/2018