**GLASGOW CALEDONIAN UNIVERSITY**

**Programme Specification Pro-forma (PSP)**

| | | |
|---|---|---|
| **1.** | **GENERAL INFORMATION** | |
| **1.** | **Programme Title:** | BSc (Hons) Computing |
| **2.** | **Final Award:** | BSc (Hons) Computing<br>BSc (Hons) Computing (Sandwich) |
| **3.** | **Exit Awards:** | BSc Computing<br>BSc Computing (Sandwich)<br>Diploma of Higher Education in Computing<br>Certificate of Higher Education in Computing |
| **4.** | **Awarding Body:** | Glasgow Caledonian University |
| **5.** | **Period of Approval:** | September 2021 |
| **6.** | **School:** | School of Computing, Engineering and Built Environment |
| **7.** | **Host Department:** | Computing |
| **8.** | **UCAS Code:** | G401 |
| **9.** | **PSB Involvement:** | British Computer Society |
| **10.** | **Place of Delivery:** | Glasgow City Campus |
| **11.** | **Subject Benchmark Statement:** | Computing |
| **12.** | **Dates of PSP Preparation/Revision:** | December 2020 |

**2. EDUCATIONAL AIMS OF THE PROGRAMME**

GENERAL INTRODUCTION

This programme aims to equip students with the knowledge, understanding and skills required by modern IT professionals. It provides practical coverage of the software skills required for the development of computer systems across a full range of commercial and industrial software-based applications. The programme has been designed to be flexible and allows students to personalise their studies while preparing them for a range of graduate roles. Students study a core set of modules in the early years which provide them with a solid technical underpinning and can then tailor their studies to their own interests though the choice of modules in years 3 and 4. Different career paths are supported by elective module combinations. Students can, for example, choose paths which would prepare them for graduate roles such as software developer, web developer, user experience designer or IT manager. The programme offers a 2 + 2 pathway.

The broad educational aims of the programme are to:

- Provide students with the necessary specialist computing knowledge and skills to equip them for a career in the development and support of computer-based information systems.
- Provide students with a specific understanding of the concepts, processes, methods and tools, and their application, to their selected specialist area
- Enable students to develop a cultural understanding of computing applications and the computing industry
- Develop the ability to apply sound design principles and practical skills
- Enable students to acquire good analytical, synthetic and communication skills
- Enable students to take responsibility for their own learning as they progress through the programme.
- Assist the student in developing the skills required in adapting to changing technological and organisational developments and learning new skills
- Provide articulation opportunities to access the programme for students with appropriate prior accredited learning experiences
- Provide education and training which is accredited by the British Computer Society

**Expected Levels of Attainment**

**DESCRIPTION OF PROGRAMME**

- On successful completion of year1 of study a student will have a basic knowledge of the software and

hardware concepts which underpin modern computing systems.

- On successful completion of year 2 of study a student will have a sound knowledge of software design and development and show competence in applying this to a range of software development domains.
- On successful completion of year 3 of study a student will be able to specify, develop, implement and support software developed in response to a perceived business need, in accordance with fundamental principles and methods, using appropriate techniques and tools.
- On successful completion of year 4 (honours) of study a student will, in addition, be able to critically evaluate alternative solution approaches and be able to use advanced techniques in the construction of a software solution.

**3. INTENDED LEARNING OUTCOMES**

*The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills, qualities and other attributes in the following areas:* [cross refer to the appropriate benchmark statement]

**Preamble**

The development of this programme has been informed by:

- The Quality Assurance Agency for Higher Education (QAA) Subject Benchmark Statement for Computing
- The Association of Computing Machinery (ACM) Curricula Recommendations1 for Computer Science (2013), Information Systems (2010), Information Technology (2017), Cybersecurity (2017) and Software Engineering (2014)
- The British Computer Society (BCS) Core Requirements for Accreditation of Honours Programmes
- The School of Computing, Engineering and Built Environment research in the areas of:
    - Networks and Communications,
    - Distributed and Pervasive Systems Initiative,
    - Interactive and Trustworthy Technologies,
    - Visual, Affective and Pervasive Systems and
    - Computer Science Education.
- The School of Computing, Engineering and Built Environment Knowledge Transfer and Lifelong Learning programmes
- Glasgow Caledonian University's Strategy for Learning (SfL)
- The School of Computing, Engineering and Built Environment Learning, Teaching and Assessment Strategy (LTAS).

**3A Knowledge and understanding**;

A1 Explain the theoretical and practical aspects of software and hardware which underpin modern computer systems

A2 Demonstrate knowledge and understanding of facts, concepts, principles and theories relating to the development of software solutions for a range of contemporary computer systems

A3 Utilize and appraise tools and techniques to assist in the development of software solutions for a range of contemporary computer systems

A4 Demonstrate an understanding of the methods used to specify, model, develop, deploy and maintain software systems in an operational context

A5 Demonstrate an awareness of the role of the IT professional and the context in which they operate including moral, legal, safety and ethical issues

[1] https://www.acm.org/education/curricula-recommendations

A6 Demonstrate an understanding and appreciation of the importance of negotiation, effective work habits, leadership and good communication with stakeholders

A7 Demonstrate an understanding of a range of technologies and the techniques required in the development of software systems.

**3B Practice: Applied knowledge, skills and understanding**;

B1 Identify, analyse and solve practical problems across a variety of application domains

B2 Evaluate alternative solutions to problems in an appropriate subject domain.

B3 Demonstrate effective use of a variety of appropriate techniques, tools and integrated development environments in the development and deployment of computer based information systems

B4 Use appropriate methods and techniques to specify, develop and deploy IT systems and services

B5 Demonstrate competence in using processes to manage IT projects within an operational context

B6 Apply theory to practical and realistic career-related tasks

**3C Generic cognitive skills**;

C1 Plan, conduct and report upon work

C2 Critical thinking and problem solving

C3 Critical analysis

C4 Self-confidence, self-discipline & self-reliance (independent working)

C5 Creativity, innovation & independent thinking

C6 Gather and evaluate research information from a variety of sources

**3D Communication, numeracy and ICT skills**

D1 Communication skills, written, oral and listening

D2 Numeracy

D3 Effective information retrieval and research skills

D4 Computer literacy

D5 Presentation skills

**3E Autonomy, accountability and working with others.**

E1 Awareness of strengths and weaknesses/ Planning, monitoring, reviewing and evaluating own learning and development

E2 Reliability, integrity, honesty and ethical awareness

E3 Ability to prioritise tasks and time management

E4 Appreciating and desiring the need for continuing professional development

E5 Interpersonal skills, team working and leadership

E6 Entrepreneurial independence and risk-taking

E7 Knowledge of international affairs

E8 Commercial Awareness

**3F Additional Industrial Placement Skills**

The programme has an optional one-year credit-rated placement period in related employment which provides the opportunity for further development of the taught practical, personal and professional skills in a work-based environment

F1 Gain additional competence and training in the application of the practical skills of the programme.

F2 Develop an understanding of the practical considerations that constrain the application of theory in the workplace.

F3 Communicate and interact effectively within a work-based situation

F4 Evaluate current research and technology concepts and their relationship and application to a work-based problem

**Strategy for Learning (SfL)**

The Strategy for Learning (SfL) for this programme has been designed to meet the overall aims of the programme as well as the specific learning outcomes expected of students. The teaching approach is student centred, practical and participative and has been designed to move away from the traditional teacher centred paradigm to a more active, student driven, independent model of learning.
Students are encouraged to take a broad view of their education and to participate in competitions, engage in external visits, attend lectures by external speakers and participate in employer led events as well as attending scheduled classes, using online resources and undertaking independent study.

A range of delivery methods are used on the programme including: lectures; group-based tutorials and seminars (both tutor and student led); group based practical computing labs (supervised and directed); problem based learning scenarios and case studies; directed study; coursework assignments (individual and group-based) and supervised projects (in all programme levels).

GCU's Strategy for Learning (SfL) is underpinned by a model comprised of eight design principles. This programme embeds these principles in the following ways
Engaged learning:

- The programme has a project module each year.
- The group project in year 3 is group, based encouraging team working, cross curricular activity and requires students to work in interdisciplinary teams.
- A range of effective and accessible forms of academic support, including personal tutors and academic development tutors are available to students on the programme.
- Students have been involved in the programme development process and will continue to be involved in the development of the programme.
- Students are encouraged to broaden their range of skills, knowledge and strengths by participating in external competitions and events and to apply these experiences to their studies.

Divergent thinking

- Project modules in each year provide the opportunity for students to engage with open ended problems and projects both on their own and in teams
- Students are encouraged to use collaboration tools to aid learning. The tools used include both Web 2.0 collaboration tools such as social media, blogging, wiki and GCULearn and industry standard versioning tools such as GitHub.

Flexible, Inclusive and Accessible

- Modules have been written with reference to GCU LEAD's Flexible, Accessible and Inclusive Curriculum and so use a blended-learning approach which is accessible to all students. They incorporate 'real-life' scenario where possible, make extensive use of problem-based and project-based work, use a variety of individual, group learning, face-to-face and/or virtual methods of delivery and incorporate materials in a variety of formats to cater for different learning styles.
- Learning technology is recognised as being central to implementing the GCU Strategy for Learning. By combining classroom-based approaches with technology-enhanced learning the programme aims to help students develop the independent and lifelong learning skills which are essential for success in the workplace and throughout life. Members of the programme team have high levels of technical competence and are additionally supported by the school's Learning Technologists which has enabled them to embed blended and online learning across the curriculum. GCULearn is used to provide materials in different formats to engage with different learning styles e.g. video tutorials, eBooks, podcasts
- Several modules make use of social media tools, blogs and wiki.
- The programme also provides flexible learning by allowing students to transfer between Department of Computing suite programmes in the early years.
- The programme provides a number of elective choices which allow students to tailor their studies to align with their background, interests and career aspirations.

- Exchange and Erasmus opportunities are available to students.

Broader/deeper learning

- Integrated project modules provide opportunities for multi- and inter- disciplinary group working
- The integrated project modules have been designed to develop team building and team working skills, as well as to encourage the use of reflective practices.
- The later years of the integrated project modules also incorporate peer assessment.
- Students in the later years of the programme have the opportunity to choose electives which allow them to tailor their studies to their individual strengths and interests.
- The importance of timely, high quality and constructive formative feedback in a variety of forms is recognised by the programme team. A number of team members are Caledonian Scholars and are working on projects in this area and modules have been written in the knowledge of the Feedback for Future Learning's 8 Feedback Principles. Module teams are expected to provide feedback within 3 weeks of both formative and summative submissions.

Global learning

- The programme has been designed with input from employers. They have provided case studies which include working in international teams, managing distributed projects etc.
- Students are encouraged to consider participation in International Association for the Exchange of Students for Technical Experience(IAESTE) activities

Real word problem solving

- The integrated project in year 2 specifies that students are expected to address problems set by external companies
- Other modules use live project briefs supplied by companies as and when this is deemed appropriate
- A number of modules also make use of employer written case studies

Entrepreneurship and employability

- Students are prepared for employment and placement through the programme's Employability and Career Planning programme which all students undertake during level 3
- Students attend talks by guest speakers, industrial visits and employer led activities such as CV writing workshops, interview technique classes and employability events

Responsible leadership and professionalism

- Reflection activities are embedded within many modules, notably the integrated project modules
- The understanding of standards of professional ethics, behaviours and work activities are embedded within modules at each level of study and specialized knowledge in the professional field is additionally addressed explicitly in the Research Skills and Professional Issues module in year 3
- The programmes will be professionally accredited (see section 1)

Assessment methods used include unseen written examinations, coursework assignments (individual and group based), class tests (both unseen and open-book), practical laboratory tests (both unseen and open-book) and presentations (individual and group based). In project modules students produce an artefact, individual and group reports and also give presentations.
Most coursework assignments involve undertaking a significant element of independent study and implementing associated practical tasks within a given deadline. Students are thus required to develop independent responsibility, plan their learning, prioritise tasks and manage their time appropriately in order to successfully complete the assignment.
Many assignments require students to retrieve and utilise information from a variety of sources both research and commercially based.
Tutorial work requires students to present their work (and consider the work of others), in both written and oral form.
As well as the Integrated Projects at levels 1-3 being team based, significant use of group-based coursework is also prevalent throughout the programme and is used to develop communication and team working skills.
An exemplar programme assessment loading matrix is given below.

CAREERS

The initial achievement and development of the range of transferable/key life skills are also incorporated within the personal development planning process. This forms part of the learning strategy for the students to ensure that they undertake effective planning for their own personal, educational and career development. They will be supported throughout the programme by an advisor who will direct them through the process and help them to develop effective techniques for reviewing progress. Students will identify outcomes at an early stage and review their progress as the programme develops. A key element in the process is to foster the employability of graduates. Students will be encouraged to make use of the University Career Centre and other mechanisms in order to develop an awareness of the industry and identify career opportunities. Students will also be encouraged to attend relevant research seminars and professional body branch meetings.

Assessment of transferable/key skills is manifested mostly through the various coursework assessments with the development of these skills resulting in work of higher quality. Specifically, however, effective team performance forms an explicit part of all group coursework assessment and the Integrated Project Modules. The projects also specifically assess communication skills via both their presentations and report.

Industrial Placement:

The additional professional career-based skills build upon the corresponding skills obtained in the Degree programme. Additional teaching and learning is achieved on placement through the supervision of the student in a programme of work-related tasks. An Industry based supervisor (from the workplace) and a University based supervisor (a member of academic staff) provides the supervision. The student is prepared for placement through the programme's Employability and Career Planning programme which all students undertaken during level 3. The assessment of the skills is through a review of the placement performance based on a set of industry and university supervisor reports, a set of industrial experience reports by the student and a placement-based study project.

**4. PROGRAMME STRUCTURES AND REQUIREMENTS, LEVELS, MODULES, CREDITS AND AWARDS**

| **Year 1** | | | | **Module Title** | **Credits** |
|---|---|---|---|---|---|
| SCQF 7 | | | | | |
| Trimester A | | | | | |
| | 1 | A | | Fundamentals of Computer Systems | 10 |
| | 1 | A | | Fundamentals of Software Engineering | 20 |
| | 1 | A | | Programming 0 | 20 |
| | 1 | AB | | Maths for Computing | 20 |
| Trimester B | | | | | |
| | 1 | B | | Fundamentals of Network and Cloud Computing | 10 |
| | 1 | B | | Database Development | 20 |
| | 1 | B | | Practical Computing | 20 |
| | 1 | AB | | Maths for Computing | 20 |
| ***Exit Award – Certificate of Higher Education in Computing*** | | | | | ***120*** |

| **Year 2** | | | | **Module Title** | **Credits** |
|---|---|---|---|---|---|
| SCQF 8 | | | | | |
| Trimester A | | | | | |
| | 2 | A | | Programming 1 | 20 |
| | 2 | A | | Object Oriented Analysis & Design | 20 |
| | 2 | A | | Human Computer Interaction | 20 |
| Trimester B | | | | | |
| | 2 | B | | Programming 2 | 20 |
| | 2 | B | | Web Application Development 1 | 20 |
| | 2 | B | | Software Processes and Practices | 20 |
| ***Exit Award – Diploma of Higher Education in Computing*** | | | | | ***240*** |

| **Year 3** | | | | **Module Title** | **Credits** |
|---|---|---|---|---|---|
| SCQF 9 | | | | | |
| Trimester A | | | | | |
| | 3 | A | | DevOps | 20 |
| | 3 | A | | Group Project | 20 |
| | 3 | A | | Introduction to Data Science | 20 |
| Trimester B | | | | | |
| | 3 | B | | Research Skills & Professional Issues | 20 |
| | 3 | B | | Data Visualisation | 20 |
| | 3 | B | | Web Application Development 2 | 20 |
| ***Exit Award – BSc Computing*** | | | | | ***360*** |

| **Year 4** | | | | **Module Title** | **Credits** |
|---|---|---|---|---|---|
| SCQF 10 | | | | | |
| Trimester A | | | | | |
| | H | AB | | Honours Project | 40 |
| | | | Two Electives from: | | |
| | H | A | Elective: | Big Data and IoT | 20 |
| | H | A | Elective: | Mobile Platform Development | 20 |
| | H | A | Elective: | Advanced HCI | 20 |
| | H | A | Elective: | Front End Web Development | 20 |
| Trimester B | | | | | |
| | H | AB | | Honours Project | 40 |

| | | | | |
|---|---|---|---|---|
| | | Two Electives from: | | |
| H | B | Elective: | Cloud Platform Development | 20 |
| H | B | Elective: | Information Security | 20 |
| H | B | Elective: | Machine learning | 20 |

***Exit Award – BSc (Hons) Computing*** ***480***

***Industrial Placement Year (Optional) Exit Award.***

Students opting to undertake placement do so in the academic session after level 3 studies.
Assessment is via the additional 60 SCQF credit level 9 module, M3I323077 Industrial Placement.
Successful completion of that module gives (Sandwich) in the final exit award obtained by the student.
Students to follow the 2+2 pathway also have this option.

**5. SUPPORT FOR STUDENTS AND THEIR LEARNING**

- Induction Programme
- Programme and Module Handbooks
- Year Tutors
- Project Co-ordinators
- Personal tutors
- Employability and Career Planning programme
- Personal Development Planning
- Study Guides for projects and coursework
- Sir Alex Ferguson Library with access to other local and national library resources
- Student e-mail and programme/module based Virtual Learning Environment facilities (GCULearn)
- Departmentally based PC Computer Laboratories equipped with the full range of software used on the programme.
- Open access to Departmental and University Computer facilities including access to the 24-hour computing laboratory
- Specialist Computer Laboratories E.g. E-Motion Laboratory, ITT Laboratory
- Supply of specific proprietary course software for home use to provide additional study and work access
- Open access to teaching staff including the Programme Leader
- Access to Campus Life which provides support, assistance and guidance to students
- SCEBE Learning Development Centre which provides specific study skills support and guidance
- Web based learning facilities
- Access to University Careers Centre
- Professional and Industry Body Contacts
- Student representatives on the Programme Board
- Student representatives on Senate and its Standing Committees
- Student Staff Consultative Group

For Students who undertake the Optional Placement:

- Preparation programme to assist students in obtaining placement.
- Specified staff roles (Placements Tutor and Placements Administrator) to assist with identifying specific placement opportunities and helping students in applying for placements.

- When in placement liaison is conducted between University and Industry based supervisors. Planned reviews and visits of student when in placement.

**6. CRITERIA FOR ADMISSION**

***Candidates must be able to satisfy the general admissions requirements of Glasgow Caledonian University***

***Programme Admission Requirements:***
Standard First Year Entry Requirements

The minimum entrance requirements for entry into the first year of the programme are one of the following:

- SQA passes in 5 subjects of which at least 4 are at Higher Grade
- GCE passes in 5 subjects of which 2 are Advanced level (or equivalent)
- An appropriate program of SQA National Certificate Course units which must include passes in modules which are at least equivalent to SQA/GCE English and Mathematics at Ordinary/ Standard grade at Credit level
- HNC in Computing/IT Applications or Equivalent
- BTEC National Diploma in Computing/IT
- IT Access course or equivalent
- Advanced GNVQ in IT
- Irish Leaving Certificate – 5 subjects passed at H level (at least C grade) or equivalent
- International qualifications which are equivalent to standard entry (in these cases appropriate EOSL qualification is required)

**In all of the above cases, the qualifications must include SCE/GCE pass in English at Standard grade**

**Annually the Programme Board also considers the competitive entry requirements based on student demand and allocated places.**

***Entry with Advanced Standing:***

***Flexible Entry - Credit Transfer and RPL:***
Accumulation of credit points from other Courses and from prior experiential learning may allow direct entry into the programme at the appropriate level, subject to satisfying the necessary pre-requisites for completion of the programme.

***Articulation to Level 3***

The following HND group awards are likely to be sufficiently specialised to enable articulation directly to level 3 of this programme:

- HND Computer Science
- HND Computing - Software Development
- HND Information Systems (with suitable optional units)
- HND Interactive Media (with suitable optional units)
- HND Multimedia Computing (with suitable optional units)
- HND Multimedia Computing: Web Development (with suitable optional units)

Students with other Computing/IT HND group awards, without sufficient specialisation to enable level 3 articulation, would normally be able to articulate to level 2

***Articulation to Level 2***

The following HNC group award qualifications are likely to be sufficiently specialised to enable articulation directly to level 2, if the applicant also has a total of 15 HN credits:

- HNC Computing
- HNC Information Technology
- HNC Multimedia Computing: Web Development

Given the modular nature of SQA HND awards, these lists for Level 2 and level 3 articulation can only be viewed as indicative and not exhaustive. Thus consideration will be given to named HND awards on the basis of the module profile therein.

***Mature and overseas students: specific requirements***

Formal entry requirements may be relaxed for mature applicants (21 years of age and older) whose record of educational achievement and relevant experience is deemed to be appropriate. Non-standard applicants will normally be interviewed to assess their suitability for the programme.

Additionally, overseas students require to demonstrate an appropriate level of competence in written and spoken English, if their entry qualification was not delivered and assessed in English.

***Equal Opportunities***

The University will seek at all times equality of opportunity for all applicants and seeks not to discriminate on any grounds irrelevant to the above general principle of admission.

***Applicants with a disability***

All applicants for admission to the programme who reveal a disability will be invited to a meeting with the Admissions Tutor and/or University Disability Adviser in order that the specific needs of the applicant can be assessed. This is not part of the selection process but students may be advised at this stage if the nature of their disability means that they might be unable to fulfil the academic or professional requirements of the programme. Equally it may not be possible for the University to make reasonable adaptations to enable an applicant to undertake a particular programme. Should this be the case, the University will respond positively and advice on alternative programmes and options will be offered.

Glasgow Caledonian University leads the way in widening access to higher education. As part of the University's mission to promote the common good, we work with schools, children and families in the local community to raise educational aspirations in young people and their families. The Contextualised Admissions Policy aims to build on this work and recognise the different student leaner journeys. The policy aims to recognise and acknowledge that not all applicants have an equal opportunity to demonstrate their full academic potential and will take into consideration the context and circumstance in which a student has achieved his/her academic grades. For details please access the policy here: https://www.gcu.ac.uk/aes/documentsandpolicies/

## 7. METHODS FOR EVALUATING AND IMPROVING THE QUALITY AND STANDARDS OF TEACHING AND LEARNING

***Mechanisms for review and evaluation of teaching, learning, assessment, the curriculum and outcome standards:***

- Annual Module Monitoring Process
- Annual Programme Monitoring Process/ Continuous Quality Improvement Plan
- Module Feedback Questionnaire
- External Examiner reports
- Annual monitoring (required by Professional and/or Statutory Bodies)
- Enhancement-led Internal Subject Review (ELISR)
- Enhancement-led Institutional Review (ELIR)
- Annual report to external accrediting bodies
- Reports from Professional/Statuary Body
- Academic strategy review and development by School Learning and Teaching Committee(SLTC)

- School based quality procedures for moderation of assessments (Exam and Coursework)

***Committees with responsibility for monitoring and evaluating quality and standards:***

- Student-Staff Consultative Group (SSCG)
- Programme Board (PB)
- School Board
- Progression and Awards Board (PAB)
- University Learning and Teaching Sub-Committee (LTSC)
- University Academic Policy and Practice Committee (APPC)
- University Senate
- School Learning and Teaching Committee (SLTC)
- Undergraduate Assessment Board

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

- Student-Staff Consultative Group (SSCG)
- Student representation on Programme Board (PB)
- Student representation on School Board
- Module Feedback Questionnaire
- GCULearn
- Open access to members of Programme Team E.g. Module Leaders, Programme Leader, Personal Tutor, Year Tutor
- Placement Reports
- NSS

***Staff development priorities include:***

- Postgraduate Certificate in Learning and Teaching
- Continuous Professional Development (CPD)
- Performance and Development Annual Review (PDAR)
- Peer support for teaching
- Mentoring scheme for new teaching staff
- Conference and seminar attendance and presentation
- Research Excellence Framework (REF) submission
- Membership of Higher Education Academy (HEA)
- Membership of and involvement with Professional Bodies
- Regular Programme Team and Subject Group meetings
- Institutional learning and teaching workshops

## 8. ASSESSMENT REGULATIONS

Students should expect to complete their programme of study under the Regulations that were in place at the commencement of their studies on that programme, unless proposed changes to University Regulations are advantageous to students.

The Glasgow Caledonian University Assessment Regulations which apply to this programme, dependent on year of entry can be found at:
GCU Assessment Regulations

**Assessment rules and Honours classification:-**

- Minimum pass mark is (40%) for each module
- Overview of assessment details are provided in the Student Handbook for the programme and a copy of full

assessment regulations are available from the University web site

- To qualify for an award, students must complete all the programme requirements and obtain 360 SCQF credit points for the Unclassified degree (BSc) and 480 SCQF credit points for the Honours degree (BSc Hons)

**Summary of classifications, marks and their interpretation for honours degree classification**

| Classification | Marks | Interpretation |
|---|---|---|
| 1st | 70% - 100% | Excellent: Marks represent a first class performance |
| 2nd/Upper | 60% - 69% | Very Good: Marks represent an upper second class performance |
| 2nd/Lower | 50% - 59% | Good: Marks represent a lower second class performance |
| 3rd | 40% - 49% | Satisfactory: Marks represent a third class performance |

The calculation for the award and final classification of the Honours Degree is on the basis of the best 180 SCQF 10 and SCQF 9 credits, of which a minimum of 90 must be at SCQF 10. The Dissertation/Project at level 10 must be included in this set.

If a student enters directly into fourth year, then the marks from the taught 4th year only contribute to the award and final classification of the Honours Degree.

**Regulations for distinction at Unclassified degree level:**

Students who pass all 6 modules in year 3 at the first attempt and who achieve an average of 70% or more (with no mark in any module below 55%) shall normally be eligible for the award of an Unclassified degree with distinction.

**Role of External Examiner:**

External Examiners are appointed to Undergraduate Progression and Awards Boards. The duties of an External Examiner will include the following:

- To moderate the work of the Internal Assessors in respect of the assessments under his/her jurisdiction
- To attend Progression and Awards Boards at which the results of a final stage assessment will be determined
- To satisfy himself/herself that the work and decisions of the Progression and Awards Board(s) are consistent with the policies and regulations of the University and best practice in higher education
- To ensure that students are assessed within the regulations approved by the University for the programme and to inform the University on any matter which, in his/her view, militates against the maintenance of proper academic standards
- To report annually to the School's Learning and Teaching Committee on the standards attained by students on the programme and on any other matters which may seem appropriate for report

**Programme specific Assessment Regulations**

To ensure that the Industrial Placement module is not included within the Honours Classification calculation, the following exception to the Assessment Regulations is required for BSc (Hons) Computing, BSc (Hons) Software Development, BSc (Hons) Artificial Intelligence and Data Science.

**Exception to Undergraduate Assessment Regulations, Sub-sections 19.4; 19.7.1; 19.8.2 Classification of Honours Award:** ***that the Level 3 Industrial Placement module is excluded from the Honours Classification Calculation Set****.*

This was presented and accepted at the exceptions committee on 19TH October 2020 **Case 216.**

In line with the Engineering Council and as such the British Computer Society compensation related

requirements for Accreditation specifically that a maximum of 30 credits in a Bachelors or integrated Masters degree programme can be compensated, and a maximum of 20 credits in a Masters degree other than the integrated Masters degree.

**Exception to Undergraduate Assessment Regulations, Sub-section 13.2.1: Compensation**

This was presented and accepted at the exceptions committee on 8TH October 2020 **Case 215**

## 9. INDICATORS OF QUALITY AND STANDARDS

**Internal Indicators**

- Details of approval, development events and Enhancement Led Internal Subject Reviews organised by the School/University
- Annual Programme Monitoring and development of programme's Continuous Quality Improvement Plan
- School Module Management Committee annual report on module performance
- Prizes awarded by the School for outstanding performance

**External Indicators**

- Professional/Statutory Body accreditation visits and reports
- Quality Assurance Agency subject reviews
- External Examiner Reports

## 10. INFORMATION ABOUT THE PROGRAMME

Key information about the programme can be found in:

- Definitive Programme Document
- Programme Handbook
- Module Handbook
- University Website http://www.gcu.ac.uk
- School Website
- GCULearn
- My Caledonian
- University Prospectus

This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning assessment methods of each module can be found in the University Module catalogue which can be accessed from the University website. The accuracy of the information in this document is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.

A curriculum map is attached showing how the outcomes are being developed and assessed within the programme. This relates the modules from Section 4 to the outcomes in Section 3.

DATE**:** **November 2020**

**Curriculum Map for** BSc/BSc (Hons) Computing

The curriculum map links the modules (Section 4) to the Outcomes listed in Section 3

**PSMAP**

This map provides both a design aid to help academic staff identify where the programme outcomes are being developed and assessed within the course. It also provides a checklist for quality assurance purposes and could be used in approval, accreditation and external examining processes. This also helps students monitor their own learning, and their personal and professional development as the course progresses. The map shows only the main measurable learning outcomes which are assessed. There are additional learning outcomes (e.g. attitudes and behaviour) detailed in the module specifications which are developed but do not lend themselves to direct measurement

| Modules | | | Programme outcomes | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Code | Title | A1 | A2 | A3 | A4 | A5 | A6 | A7 | B1 | B2 | B3 | B4 | B5 | B6 | C1 | C2 | C3 | C4 | C5 | C6 |
| SCQF7 | | Fundamentals Of Software Engineering | | X | X | X | | | | X | X | | X | | X | X | X | | X | X | |
| | | Fundamentals Of Computer Systems | X | | | | | | | | | | | | | X | X | X | | X | |
| | | Programming 0 | | X | X | | | | X | X | | X | | | | | X | | X | | |
| | | Fundamentals Of Network and Cloud Computing | X | | | | | | X | | | | | | | X | X | X | X | | |
| | | Database Development | X | X | X | X | | | | X | X | X | X | | | X | X | X | X | | |
| | | Practical Computing | X | X | X | | | | X | X | X | X | X | | X | X | X | | | | |
| | | Maths for Computing | | X | | | | | | X | | | | | | | X | | X | | |
| SCQF8 | | Object Oriented Analysis and Design | | X | | X | | | | X | X | | X | | | X | X | | X | | |
| | | Human Computer Interaction | X | X | X | X | | | | X | X | X | X | | | X | X | X | | X | |
| | | Programming 1 | | X | X | | | | | X | | X | | | | | X | | X | X | |
| | | Programming 2 | | X | X | | | | | X | | X | | | | X | X | X | X | X | |
| | | Web Application Development 1 | X | X | X | | | | | X | X | X | | | | | X | | X | | |
| | | Software Processes and Practice | X | X | X | X | | | X | | X | X | X | | | X | X | | | | |
| SCQF9 | | DevOps | | | X | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | |
| | | Group Project | | | X | X | X | X | | X | | X | X | X | X | X | | X | X | | X |
| | | Introduction to Data Science | | X | X | | | | X | X | X | X | | | X | X | X | X | X | X | |
| | | Data Visualisation | | X | X | | | X | X | X | X | X | | | X | X | X | | X | X | X |
| | | Research Skills and Professional Issues | | X | | | X | | | | | | | | X | X | | X | X | | X |
| | | Web Application Development 2 | X | X | X | | | | X | X | | X | X | | | X | X | X | | X | |
| | | Industrial Placement | | | | | | | | | | | | | | | | | | | |
| SCQF10 | | Honours Project | | | X | X | X | | X | X | X | | | | X | X | X | X | X | X | X |
| | Level H Electives | | | | | | | | | | | | | | | | | | | | |
| | | Advanced HCI | X | X | X | X | | | | X | X | X | | | | X | | X | X | X | |
| | | Mobile Platform Development | X | X | X | | | | | X | X | X | X | | | | X | X | X | | |
| | | Front End Web Development | X | X | X | | | X | X | X | | X | | | | X | X | X | X | X | |
| | | Big Data and IoT | X | X | X | | | | X | X | | X | X | | X | X | X | | | X | |
| | | Cloud Platform Development | X | X | | | | | X | X | X | X | X | | | | X | X | X | | |
| | | Information Security | | X | X | X | X | | X | | | X | | | | | | | | | |
| | | Machine Learning | X | X | X | X | | | X | X | X | X | | | X | X | X | X | | X | |

| | Code | Title | D1 | D2 | D3 | D4 | D5 | E1 | E2 | E3 | E4 | E5 | E6 | E7 | E8 | F1 | F2 | F3 | F4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SCQF7 | | Fundamentals Of Software Engineering | X | X | | X | | | X | X | X | | | | X | | | | |
| | | Fundamentals Of Computer Systems | X | X | | | | | | X | X | X | | | | | | | |
| | | Programming 0 | X | | | | | | | | | | | | | | | | |
| | | Fundamentals Of Network and Cloud Computing | X | X | | X | | X | | X | | | | | X | | | | |
| | | Database Development | X | X | | X | | | | X | | | | | | | | | |
| | | Practical Computing | | | | X | | | | | | | | | | | | | |
| | | Maths for Computing | | X | | | | | | X | X | | | | | | | | |
| SCQF8 | | Object Oriented Analysis and Design | X | | | X | | X | | X | | X | | | | | | | |
| | | Human Computer Interaction | | | | X | X | | | X | | X | | | | | | | |
| | | Programming 1 | X | X | | X | | X | | X | | | | | | | | | |
| | | Programming 2 | X | X | | X | | X | | X | | | | | | | | | |
| | | Web Application Development 1 | X | | | X | | X | | X | | | | | | | | | |
| | | Software Processes and Practice | | | | | | | | | X | | | | | | | | |
| SCQF9 | | DevOps | X | | | X | | X | | X | X | X | | | | | | | |
| | | Group Project | X | | X | X | X | X | X | X | X | X | X | X | X | | | | |
| | | Introduction to Data Science | X | X | | X | | | | | | | | | | | | | |
| | | Data Visualisation | X | X | | | X | | | | | | | | | | | | |
| | | Research Skills and Professional Issues | X | | X | | X | | X | X | | | | | X | | | | |
| | | Web Application Development 2 | X | X | | X | | | | X | | | | | | | | | |
| | | Industrial Placement | | | | | | | | | | | | | | X | X | X | X |
| SCQF10 | | Honours Project | X | | X | X | X | X | X | X | X | | | | | | | | |
| | Level H Electives | | | | | | | | | | | | | | | | | | |
| | | Advanced HCI | X | | X | X | | X | | | X | X | | | | | | | |
| | | Mobile Platform Development | X | | X | X | | X | X | X | X | | | | | | | | |
| | | Front End Web Development | X | | | X | | | | X | | | | | | | | | |
| | | Big Data and IoT | | X | | X | | | | | | | | | X | | | | |
| | | Cloud Platform Development | | | | X | | | | | | | | | X | | | | |
| | | Information Security | | | | X | | | X | | | | | X | | | | | |
| | | Machine Learning | | X | X | X | | | | | | | | | | | | | |

**APPENDIX 1**

**Maps**

Curriculum map (PSMAP) above.

Common good attributes mapping https://edshare.gcu.ac.uk/9982/

Assessment loading matrix below.

**ASSESSMENT LOADING MATRIX** **Appendix 2**

| **SCQF Level 7** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Module Code** | **Module Title** | **Trimester** | **Credits** | **Assessment Weighting** | | | | | |
| | | | | **Cw1** | **Cw 2** | **Cw 3** | **Exam1 (Exams Office)** | **Ex2 (Exams Office)** | **Ex3 (Class Test)** |
| M1I326709 | Fundamentals Of Software Engineering | A | 20 | 50% | 50% | | | | |
| M1I325623 | Fundamentals Of Computer Systems | A | 10 | 50% | 50% | | | | |
| M1I326719 | Programming 0 | A | 20 | 50% | 50% | | | | |
| M1I325624 | Fundamentals Of Network and Cloud Computing | B | 10 | 50% | 50% | | | | |
| M1I325625 | Database Development | B | 20 | 100% | | | | | |
| M1I326724 | Practical Computing | B | 20 | 100% | | | | | |
| M1I325851 | Maths for Computing (removed M1I322951) | A-B | 20 | 40% | | | 60% | | |
| **EXIT AWARD: Certificate of Higher Education** | | | | | | | | | |

| **SCQF Level 8** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Module Code** | **Module Title** | **Trimester** | **Credits** | **Assessment Weighting** | | | | | |
| | | | | **Cw1** | **Cw2** | **Cw3** | **Exam1 (Exams Office)** | **Ex2 (Exams Office)** | **Ex3 (Class Test)** |
| M2I322952 | Object Oriented Analysis and Design | A | 20 | 50% | 50% | | | | |
| M2I625666 | Human Computer Interaction | A | 20 | 60% | 40% | | | | |
| M2I326721 | Programming 1 | A | 20 | 50% | 50% | | | | |
| M2I326729 | Programming 2 | B | 20 | 100% | | | | | |
| M2I326713 | Web Application Development 1 | B | 20 | 100% | | | | | |
| M2I226701 | Software Processes and Practice | B | 20 | 50% | 50% | | | | |
| **EXIT AWARD: Diploma of Higher Education** | | | | | | | | | |

| SCQF Level 9 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Module Code** | **Module Title** | **Trimester** | **Credits** | **Assessment Weighting** | | | | | |
| | | | | **Cw1** | **Cw2** | **Cw3** | **Exam1 (Exams Office)** | **Ex2 (Exams Office)** | **Ex3 (Class Test)** |
| M3I325687 | DevOps | A | 20 | 50% | 50% | | | | |
| M3W226703 | Group Project | A | 20 | 80% | 20% | | | | |
| M3I326697 | Introduction to Data Science | A | 20 | 50% | 50% | | | | |
| M3I326700 | Data Visualisation | B | 20 | 70% | 30% | | | | |
| M3I326184 | Research Skills and Professional Issues | B | 20 | 30% | 70% | | | | |
| M3I325640 | Web Application Development 2 | B | 20 | 30% | 70% | | | | |
| **EXIT AWARD: Bachelors Degree** | | | | | | | | | |

| SCQF Level 10 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Module Code** | **Module Title** | **Trimester** | **Credits** | **Assessment Weighting** | | | | | |
| | | | | **Cw1** | **Cw2** | **Cw3** | **Exam1 (Exams Office)** | **Ex2 (Exams Office)** | **Ex3 (Class Test)** |
| MHW225671 | Honours Project | A-B | 40 | 100% | | | | | |
| MHI625672 | Advanced HCI (option) | A | 20 | 100% | | | | | |
| MHI326841 | Mobile Platform Development (option) | A | 20 | 100% | | | | | |
| MHI326715 | Front End Web Development (option) | A | 20 | 50% | 50% | | | | |
| MHI226694 | Big Data and IoT (option) | A | 20 | 50% | 50% | | | | |
| MHI326725 | Cloud Platform Development (option) | B | 20 | 50% | | | 50% | | |
| MHI226693 | Information Security (option) | B | 20 | 50% | | | 50% | | |
| MHI226720 | Machine Learning (option) | B | 20 | 50% | 50% | | | | |
| **EXIT AWARD: Bachelors Degree with Honours** | | | | | | | | | |