Module Descriptor

Title	Introduction to Programming		
Session	2025/26	**Status**	Published
Code	COMP07027	**SCQF Level**	7
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Computing, Engineering and Physical Sciences**		
Module Co-ordinator	Gerry Creechan		

Summary of Module

ntroduction to Programming serves as an entry level programming module, and aims to introduce the skills required to write simple structured programs in a high-level language and assess these skills in practical situations. Future modules in the technical computing programmes assume knowledge of basic programming principles and an ability to create simple structured programs.

The core principles considered key in this module are those which underpin a practical ability to write code: data and data structures, structured code, subroutines, parameters, loops, input/output and files. The emphasis however, is on the creation of simple programs based on common patterns found in software – data items, collections of items, iteration over collections and persistence.

An introduction to encapsulation and object-based programming is also covered.

Different deliveries of the module, to students on different degree programmes, use different programming languages, as is appropriate for the degree in question, and different delivery modes including, for the majority of full-time undergraduate students, a long thin delivery over two trimesters.

This module embeds the key "I am UWS" graduate attributes, particularly the following: Critical Thinker, Analytical, Problem-solver, Motivated, Creative/imaginative, Collaborative and Driven.

Module Delivery Method	**On-Campus[1]**	**Hybrid[2]**	**Online[3]**	**Work -Based Learning[4]**

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

	☒		☐		☒	☐
Campuses for Module Delivery	☐ Ayr ☒ Dumfries		☒ Lanarkshire ☐ London ☒ Paisley		☒ Online / Distance Learning ☐ Other (specify) Online Delivery / Distance Learning applies to delivery in the BSc (Hons) Data, AI and Software Engineering programme only	
Terms for Module Delivery	Term 1	☐	Term 2	☒	Term 3	☐
Long-thin Delivery over more than one Term	Term 1 – Term 2	☐	Term 2 – Term 3	☐	Term 3 – Term 1	☐

Learning Outcomes	
L1	write small structured programs in a high level programming language
L2	demonstrate use of standard programming constructs for iteration, selection and data structures such as arrays
L3	create a simple console-based user-interface for a program and use this to create interactive software
L4	N/A
L5	N/A

Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	**During completion of this module, there will be an opportunity to achieve core skills in:**
Knowledge and Understanding (K and U)	**SCQF 7** A broad knowledge of the following programming concepts and principles: Code and data in programs, simple data types and operators, simple expressions and statements, derived data types and collections, structured code, loops, iterating over a collection, functions and parameters, user-interactions, types of error, error handling, files and streams
Practice: Applied Knowledge and Understanding	**SCQF 7** Use the following basic computing skills, practices, techniques and materials: Selecting an appropriate data type, developing simple algorithms using expressions and statements, use of selection and repetition constructs, defining more complex data types involving records and arrays, managing a collection, iterating through a collection, creating functions, calling functions, passing parameters into and out of functions, creating a simple user-interface, interactivity in code, persisting data in files. Algorithm design, writing and correcting code, using development tools to build programs, finding errors in programs
Generic Cognitive skills	**SCQF 7**

	Use structured programming as an approach to solving routine programming problems.
Communication, ICT and Numeracy Skills	**SCQF 7** Use an integrated development environment in developing a software application
Autonomy, Accountability and Working with Others	**SCQF 7** Employ the principles of pair programming to develop a simple computer application with a partner.

Prerequisites	**Module Code**	**Module Title**
	Other	
Co-requisites	**Module Code**	**Module Title**

Learning and Teaching	
In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours.	
Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture / Core Content Delivery	20
Laboratory / Practical Demonstration / Workshop	30
Tutorial / Synchronous Support Activity	10
Asynchronous Class Activity	40
Independent Study	100
Please select	
TOTAL	200

Indicative Resources
The following materials form essential underpinning for the module content and ultimately for the learning outcomes: McMonnies, A. (2016) Introduction to Programming Module Notes (Python) Recommended reading: Mike Dawson (2010) Python Programming for the Absolute Beginner. 3rd Edition. Course Technology PTR

Shaw, Z.A. (2013) Learn Python the Hard Way: A Very Simple Introduction to the Terrifyingly Beautiful World of Computers and Code (Zed Shaw's Hard Way). 3rd Edition. Addison-Wesley
(N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Attendance and Engagement Requirements
In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time. **For the purposes of this module, academic engagement equates to the following:** The School of Computing, Engineering and Physical Sciences considers attendance and engagement to mean a commitment to attending, and engaging in, timetabled sessions. You will scan your attendance via the scanners each time you are on-campus and you will login to the VLE several times per week. Where you are unable to attend a timetabled learning session due to illness or other circumstance, you should notify the Programme Leader that you cannot attend. Across the School an 80% attendance threshold is set. If you fall below this, you will be referred to the Student Success Team to see how we can best support your studies.

Equality and Diversity
The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code. Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. This module has lab-based teaching and as such you are advised to speak to the Module Co-ordinator to ensure that specialist assistive equipment, support provision and adjustment to assessment practice can be put in place, in accordance with the University's policies and regulations.
(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	**Computing**
Overall Assessment Results	☐ **Pass / Fail** ☐ **Graded**
Module Eligible for Compensation	☐ **Yes** ☒ **No** **If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.**
School Assessment Board	Business and Applied Computing
Moderator	Frances McCormick
External Examiner	A Jindal

Accreditation Details	This module is accredited by BCS as part of a number of specified programmes. It is also accredited by Skillset as part of BSc (Hons) Computer Games Technology
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	2.10

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Laboratory work, some of which is submitted for formative feedback. Class tests (some purely formative) 20%. 1 major project involving creation of a console-based application program which manages a collection of data records – 80%.
Assessment 2
Assessment 3
(N.B. (i) Assessment Outcomes Grids for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed. (ii) An indicative schedule listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.)

Component 1							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Class test (written)/Creative output/ Audiotapes/ Videotapes/ Games/ Simulations	☒	☒	☒	☐	☐	100	0

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		
Combined total for all components						100%	0 hours

Change Control

What	When	Who
Attendance and Engagement and Equality and Diversity Statements updated.	17/1/25	L Smith