Module Descriptor

Section A

1. **Module Title :**

Multiplatform Development

2. **SITS Module Code:**
   UI108007
3. **SCQF Level:**
   8
4. **SCQF Credit Points:**

20

5. **Module Leader, include staff ID and email address:**
   Les Wright ar02lw ar02lw@uhi.ac.uk
6. **Module Team Members, include staff IDs and email addresses**
   tbc
7. **Faculty and Cognate Subject Group**

Faculty: Science, Technology and the Environmen

CSG: Engineering, Computing and the Built Environment

8. **Exam Board and Exam Board Module Sub-group**
   CSG: Computing & IT

9. **Date of Module Start / Most Recent Revision**
   September 2020/September 2025

10. **Semester**
    SC

11. **Minimum / Maximum Student Numbers**

Minimum numbers:10
Maximum numbers: N/A

12. **Pre-requisites**

n/a

13. Co-requisites

n/a

14. Mode of Study

Give estimate of proportions of mode of study but also highlight **main** mode of study.

Table 1: Proportions of mode of study

Mode of study	Percentage	Hours
Video-conference (other video technologies accessed via Internet)	15.0%	30 hours
Online supervised practical work	12.5%	25 hours
Team activities	**37.5%**	**75 hours**
VLE (self-directed & team study)	35.0%	70 hours
TOTAL	**100.0%**	**200 hours**
Total	**100%**	**200 Hours**

15. Assessment

Table 2: Assessment

Assessment number	Type	Details	Weighting	Component Threshold Mark	Submission week	Learning Outcome(s) assessed
Assessment 1	Group work	Portfolio of evidence, equivalent to 3000 - 3500 words in total. Evidence submitted in a variety of formats including essay, project, group work, practical, oral presentation, discussion board participation.	50%	40%	14 (S2)	ALL
2	Progress log/Vlog	Evidence of progress, and breadth and depth of knowledge/research. This may take the form of short written, oral or video progress report(s) detailing for	50%	40%	6,14 (S1)	ALL

		example, project management, code reviews.				

16. Experiential Education

Highlight all that apply

Work placement	Clinical practice
Case studies	Community engagement
Simulations	Service learning
Field trip	Job shadowing
Laboratory work	Study abroad
Research project	Summer school
Internship	Volunteering
Guest lecture	**Co-operative education**
	Capstone course

Other

Other detail

17. Specialist Learning Resources

Students are expected to sign up to several online services that will facilitate their learning and team work. This may include but is not limited to:

- IBM Cloud
- Atlassian Jira
- Bitbucket.
- GitHub

These are available free to the student.

18. Additional Costs to Students

Students are expected to have access to a computer that they have complete control over. The following table has the recommended minimum requirements for a system. This is slightly higher

than the UHI minimum requirements found at https://www.uhi.ac.uk/en/lis/buying-your-own-device.

Minimum System Requirements		
	Windows	Mac
Operating system	Windows 7, 8 or 10	Mac OS 10.10.x or newer
Processor	2 GHz or better, INTL or AMD is recommended (Must support virtual machines)	
Graphics	OpenGL version 1.2 or later compatible	
RAM	8GB or more	
Monitor	17" or larger (the bigger the better) (Laptop: 15" or larger screen)	
Microphone / headphones	USB headset with microphone	
Webcam	Built-in or external (it is easier to adjust the camera angle with an external)	
Broadband	Reliable connection required 1.0 Mbps (receive) 1.5 Mbps (send) (Cisco recommendations for good quality video calls)	

Students are expected to be willing to sign up to a range of industry standard tools located online. Students will not be required to pay for any software.

19. Employability / Graduate Attributes

Employability attributes (meta-skills) have been aligned with Skills Development Scotland's *Skills 4.0*, published in 2018.

The ability to sort information into categories and to understand the relationship between information	X
The ability to focus on the present and deflect/avoid distractions	X
The ability to filter out non-essential information and focus on the essential problem at hand	X
The ability to think for one's self and trust one's own judgement	X
The act of making a considered choice after appropriately using intuition and careful thought	X
Understanding and mentally processing verbal or written communication	X

The ability to actively understand information provided by the speaker, and display interest in the topic discussed	X
Working with others toward shared goals. Creating group synergy in pursuing collective goals	X
The ability to notice behaviour or information and register it as being significant	X
The ability to ask questions in order to increase understanding about a subject or experience	X
The ability to filter resources and information to find information relevant to an issue or topic	X
The acknowledgement and definition of a problem	X
Proficiency at thinking and coming up with solutions and responses beyond that which is rote or rule-based	X
The process of classifying information into objects or classes based on key features	X
The process of organising, manipulating, pruning and filtering gathered data into cohesive structures for information building	X
The ability to identify areas of opportunity for innovation	X
A systematic examination and evaluation of data or information, by breaking it into its component parts to uncover their interrelationships	X
Breaking down a complex problem or system into smaller, more manageable parts before developing a new way of addressing the problem	X
The ability to identify, analyse and evaluate situations, ideas and information in order to formulate responses to problems	X
The act or process of forming an opinion after careful thought	X
The ability to translate vast amounts of data into abstract concepts and to understand data-based reasoning	X

SDS 2022 Meta-skills

- Self-management - time management in project deliverables
- Social intelligence - team-based assignments, peer collaboration
- Innovation - exploring novel multiplatform frameworks in a lab setting

Section B

20. Module Summary

This module builds on the skills learned in the first year with students developing projects on a variety of platforms including Desktop, Mobile, and the Cloud. Students will explore different project management techniques and the types of software they benefit. They will learn how to evaluate their own performance within the team. This module provides students with the skills to identify and correct a range of common software vulnerabilities.

21. Module Keywords

22. Software development, sustainability, frontend, mobile, browser, games

23. Module Learning Outcomes

On successful completion of this module, students should be able to…

Number	Theme	Learning Outcome
1	Agile	Explain and compare project management environments, such as 'waterfall' methods, and be able to apply the underpinning philosophy and principles of Agile in a project situation even in a non-agile environment.
2	Business	Assess, in a team context, basic business behaviour, ethics and courtesies, demonstrating timeliness and focus when faced with distractions and the ability to complete tasks to a deadline with high quality.
3	Meta-skills**	Make concise, engaging and well-structured verbal presentations and explanations of varying lengths, with and without the use of media, always taking into account the audience viewpoint.
4	Security	Examine technical aspects of info security (client data protection, data protection act
5	Technical	Correctly apply the organisation's security architecture to any particular systems or solutions development activities**.** Create appropriate implementations for a selection of different contexts for HCI (mobile devices, consumer devices, business applications, web, business applications, collaboration systems, games, etc.) and be able to produce a user-centred design that explicitly recognises the user and is DDA compliant (Disability Discrimination Act).
6	Sustainability	Apply sustainable software development principles by considering energy efficiency, resource consumption, and long-term environmental impact in technology solutions.

Correctly apply the organisation's security architecture to any particular systems or solutions development activities**.** Create appropriate implementations for a selection of different contexts for HCI (mobile devices, consumer devices, business applications, web, business applications, collaboration systems, games, etc.) and be able to produce a user-centred design that explicitly recognises the user and is DDA compliant (Disability Discrimination Act).

**Meta-skills are also known as soft skills or employability skills

24. Indicative Content

Skills that will be practiced and developed:

- Communicate the benefits of a range of project management techniques.
- Practice evaluating their own professional skills.
- Contributing effectively and conscientiously to the work of a group
- Communicating ideas and solutions to a range of audiences
- Developing an understanding of common cybersecurity threats on each platform
- Building confidence in developing software on a variety of platforms

Syllabus Content

- Project management
- Agile project management tools
  - Kanban vs Scrum
  - Backlogs
  - User stories
  - Definition of ready/done
- Developing for the web, mobile and cloud
- Secure programming for client environments
- Graphics development
- Developing for multiple frontend platforms
- HTML, CSS and Javascript
- Common desktop frontend toolkits
- Using media assets in front end software
- Event handling
- Asynchronous programming and simple threading
- Accessibility requirements

25. Library Resources

Talis Library Resource List