

MODULE PROFORMA		
Full module title: Human Computer Interaction & User Experience (HCI & UX)		
Module code: 5COSC025W	Credit level: 5	Length: 1 Semester
UK credit value: 20	ECTS value: 10	
College and School: College of Design, Creative and Digital Industries; School of Computer Science and Engineering School of Computer Science and Engineering		
Module Leader(s): Frantzeska Kolyda		
Extension:	Email: kolydaf@westminster.ac.uk	
Host course and course leader: BSc Computer Science		
Status: Option - BSc Computer Science		
Subject Board: COMENG		
Pre-requisites: None	Co-requisites: None	
Study abroad: Yes		
Special features: None		
Access restrictions: None		
Are the module learning outcomes delivered, assessed or supported through an arrangement with an organisation(s) other than the University of Westminster: No		
<p>Summary of module content</p> <p>The module introduces students to the theoretical aspects of Human Computer Interaction (HCI) and User Experience (UX) as well as provides a practical understanding of current principles of effective interface design. The module equips students with the practical skills needed for the design and evaluation of interactive systems using a user-centred approach. It provides an understanding of the relevance and application of human abilities and limitations to the design of interactive systems and how context influences the human system interaction.</p>		

Learning outcomes

By the end of the module the successful student will be able to:

- LO1 Explain the importance of understanding users and their cognitive aspects and how this knowledge can be applied to interface design, identify user needs and establish user requirements for different application domains;
- LO2 Apply theory, design principles, practices and tools for the design, prototyping and evaluation of a user interface (UI);

- LO3 Demonstrate knowledge of various guidelines and techniques applied in the process of interaction design;
- LO4 Critically evaluate the usability and the user experience of various applications, systems and products;
- LO5 Plan and conduct user study/user research to inform development of systems and applications and appraise/recognise the ethical and professional issues involved.

Course outcomes the module contributes to

Option module contributing to Graduate attributes

KU – Critical and creative thinker

KTS – Literate and effective communicator

Indicative syllabus content

Introduction to core concepts

Defining Human Computer Interaction, Human Factors, User Experience, Usability, User-centred Design/Human centred Design, Accessibility.

The process of Interaction Design

The four basic activities for interaction design and how interaction design activities can be integrated into other development lifecycles. How the human-centred design approach to interactive systems development aims to make systems usable and useful.

Interaction Design in practice

Agile UX and Lean UX, Design Patterns, Interaction Design tools (low fidelity/paper-based prototyping, high fidelity prototypes), Design Principles and Guidelines, Conceptual Design, Generating prototypes, Accessibility.

Cognitive aspects

How cognitive processes (i.e. attention, perception, memory, learning, reading, speaking, and listening, problem-solving, planning, reasoning, and decision-making) affects the human computer interaction and respective design implications.

How understanding users and the knowledge of human capabilities and limitations can inform the design of technologies that can extend human capabilities and compensate for human weaknesses.

Interfaces

Interface types (for example, Command, Graphical, Web, Mobile, Virtual Reality, Appliance, Voice, Touch, Gesture, Haptic, Multimodal, Augmented Reality, Wearables, Ubiquitous Computing, Emerging User Interfaces, etc. Emotional Interaction (emotional design, affective computing, persuasive technologies and behavioural change, anthroporphism)).

Data gathering, analysis, interpretation

Techniques for data gathering (choosing and combining techniques), difference between qualitative and quantitative data and analysis, interpreting and presenting findings. Ethical and professional issues involved.

User centred Design/Human-centred Design and Requirements gathering

Data gathering for requirements, personas and scenarios, etc.

Evaluation

Types and methods of evaluation - for example, usability testing, conducting experiments, field studies, heuristic evaluation and walk-throughs, analytics and A/B Testing, predictive models, etc.

Teaching and learning methods

This is a semester-based module. This module will be delivered using a combination of lectures and tutorials on a weekly basis. In the lecture (2h) students will be introduced to the theoretical aspects and concepts of Human Computer Interaction (HCI) and User Experience (UX) as well as offered a practical understanding of current principles of effective interface design. In the tutorial (2h) students will be challenged to apply the concepts learned through the lecture in a variety of settings in order to achieve the LOs and consequently become equipped with the practical skills needed for the design and evaluation of interactive systems using a user-centred approach. Students will have the opportunity to work in small groups, apply the knowledge acquired during the lectures through practical, problem solving exercises, case studies, active learning and interaction with others. In addition, the tutorials will introduce an industry-standard tool, used for the development of prototypes/UX deliverables.

Activity type	Category	Student learning and teaching hours*
Lecture	Scheduled	24h
Seminar	Scheduled	
Tutorial	Scheduled	24h
Project supervisor	Scheduled	
Demonstration	Scheduled	
Practical Classes and workshops	Scheduled	
Supervised time in studio/workshop	Scheduled	
Fieldwork	Scheduled	
External visits	Scheduled	
Work-based learning	Scheduled	
Total Scheduled		48h
Placement	Placement	
Independent study	Independent	152h
Total student learning and teaching hours		200h

*the hours per activity type are indicative and subject to change.

Assessment rationale

The assessment is designed to measure the full range of learning outcomes. It is sufficiently diverse as it offers more latitude for students to demonstrate their knowledge.

The Coursework (i.e. Coursework 1 and Coursework 2) will take students through the complete development lifecycle of an interactive system and the process of Interaction Design. The overall purpose of the Coursework is that students design (or extend) and assess (using a user-centred approach) an interactive system (such as an online system, mobile, smart systems, a voice user interface (VUI), etc.) following a human-centred design approach. This approach focuses on the users, their needs and requirements and applying human factors/ergonomics and usability knowledge and techniques with the aim to make systems usable and useful.

The Coursework is industry-relevant and aligned with the University's assessment strategy to increase employability. It allows students to build on and demonstrate knowledge and skills at progressive levels. Students completing successfully the Coursework will be able to demonstrate that they have achieved the respective learning outcomes of the module (LO1, LO2, LO3, LO4, LO5) as well as they can use this to demonstrate their UX competency to potential employers.

Formative Assessment

Students will study an environment or a situation and either identify a problem and suggest the development of a new interactive system to address this problem or identify a problem of a current system and suggest its redesign and/or extension in order to identify and address user needs and requirements. Students will submit their ideas/proposals of the system they plan to design or extend and will receive feedback that will guide and support them towards working and completing the Coursework.

Summative Assessment

For Coursework 1, students will work in small groups (for example, ideally in groups of four members). Having obtained formative feedback for the interactive system they propose to design or extend they will then identify user needs and establish requirements, design or extend the system effectively through a user-centred approach, communicate this design, perform evaluation and present their findings (deliverables would be focusing on presenting findings from user research and low fidelity prototyping). At this stage there might also be opportunities for peer-to peer feedback (among different groups).

It is often common industry practice that UX professionals working with other team members to create documentation and deliverables, especially during the user research phase. Therefore, it is important having students working in small groups in Coursework 1 where tasks are designed in such way that involve high levels of collaboration and negotiation between the members.

For Coursework 2, students will work individually. Having taken into consideration their findings from Coursework 1, they will then develop a high-fidelity prototype (using an industry standard tool or a software tool or language of their choice) while considering the interface design in detail. They will then proceed with planning and conducting evaluation of the prototype and discuss their findings. (deliverables would be focusing on high-fidelity prototyping and evaluation - details of the type of the evaluation will be provided). Having students working individually in Coursework 2 offers a degree of freedom to students to choose the tool(s) they will use to implement the high-fidelity prototype (based on their preference and/or competence), reflect on the previous findings and take full responsibility on their design decisions as well as on how they will proceed with the evaluation.

Assessment criteria

Criteria for assessments are designed with reference to the University's generic criteria to measure students' ability to meet the learning outcomes of a module. Specifically, within this module you will find detailed grading descriptors as part of each assessment.

The assessment evaluates whether and to what extent the student has demonstrated achievement of the learning outcomes.

The Coursework requires an understanding of what is an effective user interface, critically reviewing the needs of different user groups, conducting user research, suitably applying techniques and methodologies for the design and construction of low and hi-fidelity prototypes, applying evaluation methods and presenting findings. Marks will be allocated based on the extent the student has demonstrated the ability to achieve the above.

Assessment methods and weightings

Assessment name	Weighting %	Qualifying mark %	Qualifying set	Assessment type (e.g. essay, presentation, open exam or closed exam)
<i>Coursework 1</i>	50	30		<i>Portfolio</i>
<i>Coursework 2</i>	50	30		<i>Portfolio</i>

Synoptic assessment

None

Sources

Link to the online reading list

<https://rl.talis.com/3/westminster/lists/C656768A-74AD-BCB9-D798-85DA508DE91A.html>