



UNIVERSITI TEKNOLOGI MARA

CSC541: PROGRAMMING INTERACTIVE SYSTEMS

Course Name (English)	PROGRAMMING INTERACTIVE SYSTEMS APPROVED
Course Code	CSC541
MQF Credit	3
Course Description	This course is intended to introduce students to interactive system and the user-experience-centered view of software development. Students are required to use suitable approach and technology to design and develop software with usable and interactive user interface. The components that will be covered include human and technology aspects of the HCI. In this course, students will demonstrate their HCI knowledge via assignments that require them to analyze the user interface, designing a user interface, developing an interactive system and thus evaluating it using suitable tools and techniques.
Transferable Skills	<ul style="list-style-type: none"> - Analyzing user interface - Designing usable and interactive user interface - Developing an interactive system - Evaluating system using suitable tools and techniques
Teaching Methodologies	Lectures, Lab Work
CLO	CLO1 Demonstrate concept programming interactive systems CLO2 Constructs practical skills in programming interactive systems CLO3 Determine scientific skills in assessment relate to programming interactive systems
Pre-Requisite Courses	No course recommendations
Topics	
1. Introduction to Human Computer Interaction	
1.1) Interactive System 1.2) Human-computer Interactive System 1.3) Good and Poor Design 1.4) Advance Interfaces 1.5) HCI in multidisciplinary	
2. User interface programming	
2.1) Software layers 2.2) Event based programming 2.3) Interface builders & Toolkits 2.4) Swing widget	
3. Peripherals	
3.1) Structure of interactive system 3.2) Input peripherals 3.3) Output peripherals	
4. Software Architectures and MVC	
4.1) Model View Controller 4.2) Advantages and disadvantages of MVC 4.3) MVC and JAVA Swing	
5. Psychology and Motor Performance	
5.1) Human capabilities 5.2) Moore's Law 5.3) Fitts Law 5.4) Human Processor and Perception	

6. Cognitive aspects 6.1) Cognitive process 6.2) Recall vs recognition 6.3) Externalization of cognition
7. UCD - User Centered Design 7.1) UCD Principles 7.2) UCD Process 7.3) UCD Advantages and Disadvantages 7.4) HCI and Software Life Cycle 7.5) Waterfall Method, Interactive System Design, Iterative Design and Prototyping 7.6) Heuristic Evaluation
8. Web Development 8.1) Scripting Language 8.2) Server side Scripting 8.3) Cascading Style Sheet (CSS)
9. Emergent interfaces and interactions 9.1) N/A

Assessment Breakdown	%
Continuous Assessment	70.00%
Final Assessment	30.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Assignment 1	10%	CLO2
	Assignment	Assignment 2	10%	CLO2
	Group Project	Group Project	20%	CLO2
	Individual Project	Individual Project	10%	CLO3
	Test	Test 1	10%	CLO1
	Test	Test 2	10%	CLO1

Reading List	Recommended Text	• Steve Krug 2014, <i>Don't Make Me Think, Revisited</i> , Pearson Education [ISBN: 9780321965516]
	Reference Book Resources	<ul style="list-style-type: none"> • Y. Daniel Liang 2013, <i>Introduction to Java Programming</i>, Prentice Hall [ISBN: 0133761312] • M.G. Helander 2014, <i>Handbook of Human-Computer Interaction</i>, Elsevier [ISBN: 1483295133] • K. MEENA,R. SIVAKUMAR 2014, <i>HUMAN-COMPUTER INTERACTION</i>, PHI Learning Pvt. Ltd. [ISBN: 8120350502] • Andrew F. Monk 2014, <i>Fundamentals of Human-Computer Interaction</i>, Academic Press [ISBN: 1483276759] • Stuart K. Card 2018, <i>The Psychology of Human-Computer Interaction</i>, CRC Press [ISBN: 135140945X] • Martin G. Tauber,D. Ackermann 2013, <i>Mental Models and Human-Computer Interaction</i>, Elsevier [ISBN: 1483291030] • Management Association, Information Resources 2015, <i>Human-Computer Interaction: Concepts, Methodologies, Tools, and Applications</i>, IGI Global [ISBN: 1466687908]
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	