



College of Information Technology  
Department of Multimedia Science  
**COURSE SYLLABUS/ SPECIFICATION**

**Course Code & Title:** ITMS 302: Human Computer Interaction (HCI)

**Weight:** (2 - 2 - 3)

**Prerequisite:** ITCS 222

**NQF Level Allocated:** Level 7

**NQF Notional Hours/ Credits:** 120 notional hours/ 12 NQF credit

**Description:** The course is intended to introduce the concepts of human-computer interaction (HCI), a discipline concerned with the design, evaluation, and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them. It will cover theories of human psychology, human information processing, user interface design principles, information presentation, and issues involved in using technologies for different purposes.

**Objective:**

- ✓ To understand the advanced theories, tools and techniques in HCI.
- ✓ Differentiate between a good or bad design.
- ✓ To implement the basics of interaction design and design rules.
- ✓ To gather and understand user requirements.
- ✓ To apply appropriate HCI techniques to design systems that are usable by different users.
- ✓ To provide students with the knowledge and skills needed to create highly usable software systems.

**Semester:**

**Instructor (s):**

**Office Telephone:**

**Email (s):**

**Intended Learning Outcomes (ILOs):**

<b>A. Knowledge and Understanding</b>		<b>NQF Descriptor/ Level</b>
<b>A1</b>	<b>Concepts and Theories:</b> Demonstrate advanced understanding of essential facts, concepts, principles, and theories relating to the human computer interaction.	Knowledge: theoretical understanding [Level 7]
<b>A2</b>	<b>Contemporary Trends, Problems and Research:</b>	
<b>A3</b>	<b>Professional Responsibility:</b>	

<b>B. Subject-specific Skills</b>		<b>NQF Descriptor/ Level</b>
<b>B1</b>	<b>Problem Solving:</b> Solve real life problems using efficient interactive systems design.	Knowledge: Practical Application [Level 7]
<b>B2</b>	<b>Modeling and Design:</b> Design and evaluate user interface of low and medium complexity.	Knowledge: Practical Application [Level 7]
<b>B3</b>	<b>Application of Methods and Tools:</b> Implement graphical user interfaces with modern software tools.	Knowledge: Practical Application [Level 7]

<b>C. Critical-Thinking Skills</b>		<b>NQF Descriptor/ Level</b>
<b>C1</b>	<b>Analytic skills:</b> Critically evaluate and analyze the system design and user interfaces	Generic Problem Solving & Analytical skills [Level 7]
<b>C2</b>	<b>Synthetic:</b> Demonstrate creativity to produce a high quality interactive HCI system design from its basic components.	Knowledge: Practical Application [Level 7]
<b>C3</b>	<b>Creative Thinking and innovation:</b>	

<b>D. General and Transferable Skills (other skills relevant to employability and personal development)</b>		<b>NQF Descriptor/ Level</b>
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D1	<b>Communication:</b> Show ability to describe an interactive system design appropriate oral and written forms.	Communication, ICT and Numeracy Skills [Level 6]
D2	<b>Teamwork and Leadership:</b>	
D3	<b>Organizational and Developmental Skills:</b> Demonstrate ability to organize ideas and effectively allocate time in given assignment.	Competence: Autonomy, Responsibility and Context[Level 6]
D4	<b>Ethics and Social Responsibility:</b>	

### Course Structure (Outline)

Week	Hours		ILOs	Topics	Teaching Method	Assessment Method
	Lecture	Lab				
1	2	2	A1	Introduction to usability of Interactive Systems	Lecture	-
2-3	4	4	A1, D1	Guidelines, Principles, and Theories	Lecture	Oral Inquiry
4-5	4	4	A1,B1,C1, D3	Evaluating Interface Designs	Lecture/ Lab Demonstration / Supervised Work	Assignment 1
6	2	2	A1, B1,C1, C2,D1	Direct Manipulation and Virtual Environments	Lecture/ Lab Demonstration / Supervised Work	Oral Inquiry
7-8	4	4	A1, B1,B2, B3,C1, C2, D1,D3	Menu Selection, Form Fill- in, and Dialog Boxes	Lecture/ Presentation Of Projects By Students	Project 1

9	2	2	A1,B1, B2, B3,C1, C2	Command and Natural Languages	Lecture/ Lab Demonstration / Supervised Work	Test
10	2	2	A1, B2,D1	Collaboration and Social Media Participation	Lecture/ Lab Demonstration / Supervised Work	Oral Inquiry
11- 12	4	4	B1,B2, B3, D3	Design Issues	Lecture/ Lab Demonstration / Supervised Work	Assignment 2
13	2	2	A1, B2,B3, C1, C2,D1	Balancing Function and Fashion	Lecture/ Lab Demonstration / Supervised Work	Oral Inquiry
14	2	2	A1, B1,B2, B3,C1, C2,	Information Search	Lecture/ Presentation of Projects By Students	Project 2
15	2	2	A1,C1, C2,D1	Information Visualization	Lecture/ Lab Demonstration / Supervised	Oral Inquiry
16	2		A1,B1, C1,C2	All Topics		Final Exam

\* **Formative assessment:** (Oral Inquiry) Students will be questioned orally to demonstrate their understanding and knowledge of the topics covered during class lectures and lab sessions. Feedback will be given to students to reaffirm their learning outcomes.

### Teaching Materials:

<b>Textbook(s):</b>	1. Rogers, Sharp, and Preece "Interaction Design: Beyond Human Computer Interaction", Preece, John Wiley & Sons, 4 <sup>th</sup> , 2015. 2. Ben Shneiderman and Catherine Plaisant, Designing the User Interface, 5 <sup>th</sup> Edition. Addison Wesley, 2010.
<b>Handout(s):</b>	Power point slides, <a href="http://www.ahlia.edu.bh/moodle">http://www.ahlia.edu.bh/moodle</a> .
<b>Reference(s):</b>	1. Prophets Agency, "Trends in Interactive Design 2013", on Jan 28, 2013, <a href="http://www.slideshare.net/ProphetsAgency/trends-in-interactive-design-2013">http://www.slideshare.net/ProphetsAgency/trends-in-interactive-design-2013</a> .

### Assessment

Method of Assessment	Description	Learning Outcomes	Weighting
Assignment 1	The assignment consists of some short-answer and essay questions on object oriented concepts and theories covered in class up to week 3. Soft copy submission is required by the end of the 4 <sup>th</sup> week through the course page in Moodle where answers will be checked by Turnitin against plagiarism.	A1, B1, C1, D3	10%
Assignment 2	The assignment consists of some short-answer and essay questions on object-oriented concepts and theories covered in class up to week 11, the student are required to design a conceptual design using appropriate software. Soft copy submission is required by the end of the 12 <sup>th</sup> week through the course page in Moodle where answers will be checked by Turnitin against plagiarism.	B1, B2, B3, D3	10%
Project 1	Students will be asked (individually) to use all the steps in the HCI development methodology, you need to also practice how to make informed design decisions by applying knowledge about humans, and the design principles and guidelines. In addition, the project will also provide an opportunity for enhancing communication and collaboration skills, and time management skills.	B1, B2, B3, C1, C2, D1, D3	5%
Project 2	Students will be asked (individually) to use a structured and disciplined approach to develop a human-centered interactive system from scratch. Each student starts by choosing a topic/system to do, followed by HCI analysis and design including evaluations, and ends with delivering a prototype. The developed system and associated issues will be presented.	B1, B2, B3, C1, C2, D1, D3	5%
Test (Written)	The written test will be an in-class 1-hour test that will consists of MCQs, short-answer, essay, and problem solving questions and cover the topics studied in the first 9 weeks.	A1, B1, B2, B3, C1, C2	30%

Final Exam	The final exam is comprehensive and will be of two hours duration. It will consist of MCQs, short-answer, essay and problem-solving questions in interactive systems concepts and theories. Students will be asked also to design a conceptual design using the appropriate methods and techniques and to define and model precisely the required objects and highlight their components and relationships.	A1, B1, C1, C2	40%
<b>Overall:</b>			<b>100 %</b>

<b>Admissions</b>	
<b>Pre-requisites</b>	ITCS 222
<b>Minimum number of students</b>	8
<b>Maximum number of students</b>	25