

# SULTAN QABOOS UNIVERSITY COURSE OUTLINE PROGRAM: B.SC. IN COMPUTER SCIENCE

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1. Course Code	COMP4607					
2. Course Title	Human Computer Interaction					
3. Credits	3					
4. Pre-requisite Course(s)	COMP3401					
5. Co-requisite Course(s)						
6. Equivalent Course(s)						
7. Incompatible Course(s)						
8. Course Category	Department Elective					
9. Course Owner	College: Science Department: Computer Science					
10. Course Type	Lecture/Tutorial					
11. Language of Instruction	English					
12. Course Description						
This course provides an overview and introduction to the field of human-computer interaction. The course presents the essential foundations of human computer interaction and how to apply them in the design implementation and/or evaluation						

essential foundations of human computer interaction and how to apply them in the design, implementation and/or evaluation of everyday things. Students will learn about HCI theory, cognitive foundations, guidelines for effective interface design, HCI methods, tools, and techniques for designing and evaluating user interfaces through the use of low and high-fidelity prototypes.

#### 13. Teaching/Learning Strategies

The theory part is delivered during the lectures and student prototyping and designing skills are developed during the tutorial sessions. Moodle is used as an online platform to support student learning.

## 14. Assessment Components and Weight [%]

Homework assignments 10%	In-term examination(s) 25%
Project 25%	Final examination 40%

**15. Grading Method:** A-F Scale

## 16. Textbook(s) and Supplemental Material:

- Y. Rogers, H. Sharp and J. Preece, Interaction Design: beyond human-computer interaction, John Wiley & Sons, 4th edition, 2015.
- Dix, J. Finlay, G. Abowd, and R. Beale, Human Computer Interaction, Prentice Hall, 3rd edition, 2004.
- D. Norman, The Design of Everyday Things, New York: Basic Books. 1988.

MATCHING COURSE OBJECTIVES WITH PROGRAM OUTCOMES AND SQU GRADUATE ATTRIBUTES								
SQU Graduate Attributes								
A. SQU graduates should be able to:	B. SQU graduates possess	C. SQU graduates should						
<ol> <li>apply the knowledge and skills relevant to the specialization</li> <li>communicate effectively and use information and communication technologies</li> <li>critically analyze complex information and present it in simple clear manner</li> </ol>	<ol> <li>interpersonal communication skills and alignment with culture of international labour market to assist them in practical life and in living successfully</li> <li>skills and motivation for independent learning and engagement in lifelong learning and research</li> <li>work ethics and positive values, and intellectual independence and autonomy</li> <li>teamwork skills and display potential leadership qualities</li> </ol>	relish good citizenship qualities, be conscious of their national identity and be socially responsible, engage in community affairs and be mindful of contemporary issues.						

#	Intended Student Learning Outcome	Relevant Student Outcome(s)	Applicable	
	/Course Learning Objective		Attribute(s)	
1	Understand the basics of human and computational abilities	SO1	A-1	
1.	and limitations			
2	Understand basic theories, tools and techniques in human-	SO1	A-1	
۷.	computer interaction			
2	Identify and recognize important aspects in human-computer	SO9	A-1	
5.	interaction and interaction design process			
4.	Differentiate between a good and bad design	SO9	A-1, A-3	
	Apply human-computer interaction principles and guidelines	SO9	A-1, A-2, A-3	
5.	to criticize and justify the usability of daily life things,			
	particularly computer-related products			
6	Employ user-centered design processes in designing and	SO1, SO2, SO3	A-1	
0.	building systems			
7	Create and present new design ideas and apply evaluation	SO1, SO2, SO3, SO4, SO5, SO8,	A-1, A-2, A-	
7.	techniques to examine the usability of the design	SO9	3, B-2, B-4	

## 16. Student Responsibilities

It is the student's responsibility to know and comply with all University Academic Regulations relevant to participation in this course. These regulations specifically include attendance requirement and students` academic code of conduct.

For attendance, it is the student's responsibility to be punctual and to attend all classes.

Students are expected to perform their work with honesty and avoid any academic misconduct, which is defined as the use of any dishonest or deceitful means to gain some academic advantage or benefit. This can take many forms, including but not limited to, the following: copying, plagiarism, collusion and forging documents. For full details, please refer to the Undergraduate Academic Regulations and to the Student Academic Misconduct Policy.

COURSE INFORMATION					
Course Code: COMP4607     Course Title: Human Computer Interaction					
Semester/ Year: Fall 2021 Section(s): 10					
Day, Time, and Place: SUN & TUE 12:00 - 13:50 CMT/D06					
Course Coordinator Dr. Abir Al Hajri					
Office Location: Office #: 0232, CS Dept.	Office Hours: SUN & TUE (10:00 - 11:00) online at				
	https://meet.google.com/emr-vixm-ibj				
Office Tel. Ext.: 2400 Email: abir@squ.edu.om					

## **TENTATIVE SCHEDULE**

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Week	Topic/Material to be covered	Assessment
1	Introduction to Human Computer Interaction: Rogers et al. Ch 1 & Norman, Ch 1-2: What is Human Computer Interaction (HCI)? Importance of HCI, Good and Poor Design Examples, What and Who are involved in HCI design? General Principles of HCI Design, and Norman's Principles of Usability	HW1 and/or Midterm and/or Final
2	<ul> <li>Human:</li> <li>Dix et al. Ch 1 &amp; Rogers et al. Ch 2 &amp; 3: Human Models, Senses and Memory (Vision, Hearing, Memory, Thinking, Emotion,), Conceptual Model and Mental Model, and Human Perceptual and Cognitive System</li> </ul>	HW1 and/or Midterm and/or Final
3	<ul> <li>Computer &amp; Interaction:</li> <li>Dix et al. Ch 2 &amp; 3: Computer Input and Output Devices (Display Devices, Text Entry Devices, Positioning, Pointing, Drawing, and Tracking Devices), Design Implications and Device Usages, Interaction Models and Styles, and Elements of the WIMP Interface.</li> </ul>	HW1 and/or Midterm and/or Final
4	HCI Design Process: Rogers et al. Ch 9: What is HCI Design Process, Practical Issues in HCI Design Process, Examples of Lifecycle Models	HW2 and/or Project and/or Midterm and/or Final
5 - 6	Identifying Needs and Establishing Requirements: Rogers et al. Ch 7, 8 & 10 & Dix et al. Ch 7: What, How and Why, Types of Requirements, Data Gathering Techniques, Task Description and Task Analysis	HW2 and/or Project and/or Midterm and/or Final
7 - 9	Design and Prototyping: Rogers et al. Ch 11 & Dix et al. Ch 4 & 5: Conceptual Design, Physical Design, Design Rationale, Prototyping (Low Fidelity, Medium Fidelity, Hi Fidelity), and Prototyping Tools (Paper Prototyping and Mockups, Wizard of Oz, Video Prototyping, Creating and Comparing Alternatives)	HW2 and/or Project and/or Midterm and/or Final
10 - 12	<ul> <li>Evaluation:</li> <li>Rogers et al. Ch 12 – 15 &amp; Dix et al. Ch 9: What, Why, Where, and When to Evaluate, Evaluation Types, Evaluation Approaches and Methods, Ethics, Designing Experiments, and Classification of Evaluation Techniques</li> </ul>	Project and/or Final
13	Visual Design: Notes, Handout: Layout, Visual Hierarchy, Visual Flow, White Space, Alignment and Grouping, Typography and Color	Project and/or Final
14	The Past and Future of HCI	Final
15	Project Presentations	Final

## **APPENDIX: ADDITIONAL INFORMATION**

Assessment Plan:				
Item	Date out/In	Chapters of Weeks	Marks	
Project: Proposal	Week 1/4	1 - 4	2%	
Assignment 1	Week 2/4	1 - 3	5%	
Assignment 2	Week 5/7	4 - 7	5%	
Midterm	Week 8 SUN 24 <sup>st</sup> October 2021	1 - 7	25%	
<b>Project</b> : Low/Mid Fidel- ity Prototype	Week 4/10	7 - 9	4%	
Project: Study Plan	Week 4/13	10 - 12	3%	
Project: Report	Week 4/14		7%	
Project: Demo	Week 4/15		2%	
Project: Presentation	Week 4/15		4%	
Project: Peer Evaluation	Week 4/15		2%	
Final	25 <sup>th</sup> December, 2021 (SAT 15:00-18:00)	All	40%	

## **Department's Late Submission Policy:**

(a) 1-24 hours: 25% of the mark will be deducted.

(b) > 24 hours: Not accepted.

### **Department's Policy for Dealing with Copying:**

It is essential that each student solves all programming assignments, lab tests and exams individually unless instructed otherwise, e.g., for group projects. Copying, plagiarism, collusion, switching, and falsification are violations of the university academic regulations. Students involved in such acts will be severely penalized. The department has adopted a firm policy on this issue. A zero mark will be assigned the first time a student is caught involved in copying and his/her name will be added to a watch list maintained by the Head of Department. Further repeated involvements in copying will cause the student to get an F grade in that course. This is in line with the university academic regulations.

### **Department's Grading Scheme:**

Grade	А	A-	B+	В	B-	C+	С	C-	D+	D	F
Score	$\geq$ 90	≥87	$\geq 84$	$\geq 80$	$\geq 77$	≥73	$\geq 68$	≥64	≥ 58	$\geq$ 50	< 50

### List of Program Student Outcomes (SOs) Enabled in this Course

- **SO1**: Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify possible solutions.
- **SO2**: Design a computing-based solution to meet a given set of requirements.
- **SO3**: Implement a computing-based solution for a given design.
- **SO4**: Evaluate a computing-based solution against a given set of computing requirements.
- **SO5**: Communicate effectively orally and in writing in a variety of professional contexts.
- SO8: Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- SO9: Apply computer science theory and software development fundamentals to produce computing-based solutions.