1.	Course title	Human Computer Interaction
2.	Course number	1902353
3.	Credit hours (theory, practical)	3 Credit Hours theory
	Contact hours (theory, practical)	3 Credit Hours theory
4.	Prerequisites/corequisites	Computer Graphics (1901359)
5.	Program title	Computer Information Systems (CIS)
6.	Year of study and semester (s)	3rd year all semesters
7.	Final Qualification	Bachelor
8.	Other department (s) involved in teaching the course	-
9.	Language of Instruction	English
10.	Date of production/revision	26-01-2020
11.	Required/ Elective	Required

12. Course Coordinator: Yousef Majdalawi

Office : KASIT, CIS, 2nd floor, office # 224
office hours: Sunday, Tuesday, and Thursday: 10:30-11:30; or by appointment
phone number: 962-6-5355000 Ext: 22628
email addresses: ymajdal@ju.edu.jo

13. Other instructors:

Office numbers, office hours, phone numbers, and email addresses should be listed.
N/A

14. Course Description:

Introduction to Human Computer Interaction; design, implementation and evaluation of interactive computing system for human use; Ergonomics; Components of an interactive system; Human; Computer; Interaction Design; Interaction Design Activities; Data gathering; Prototyping; Evaluation paradigms and techniques; Agents and natural language processing The course gives students an understanding of interaction design process, the content of the course enables the students to deploy interaction design principles into health related application (healthcare and patient management), students are required to show the interaction design activities, prototyping, Evaluation paradigms and techniques, and Universal design principles in the project.

15. Course aims and outcomes:

A- Aims:

The Goal

The main goal of this course is to provide students with a solid background in implementation and evaluation of interactive computing system for human use. It introduces the vital design principles for non-traditional interfaces design.

Aims

The main objectives of the HCI course are:

       1- Understand the HCI design cycle and the principles of a good design.

       2- Understand the cognitive and mental model of the user and the impact on the designed objects.

       3- Understand the role of the users in the design process.

       4- Learn the different prototyping techniques and tools used in the design process.

       5- Describe the stages of system design and evaluation.

       6- Compare, use and synthesize different data gathering techniques.

       7- Apply different evaluation paradigms and techniques.

       8- Address non-traditional interfaces and apply design principles for each interface.

       9- Understand the needs of HCI in the design of healthcare information technology.

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to …

A- Knowledge and Understanding:

(A1) Discuss/explain the essential concepts and major principle relevant to design cycle and the principles of a good design.

(A2) Discuss/explain the importance of cognitive and mental model of the user and the impact on the designed objects.

(A3) Discuss/explain the essential concepts and major principles relevant to
    The role of the users in the design process.

(A4) Clarify the essential concepts and major principles relevant to
    the role of the users in the design process.

B-Intellectual skills-with ability to

(B1) Analyze and recognize bad designed interfaces and provide solutions through suitable design methods.

(B2) Identify a range of design solutions and critically evaluate them and justify proposed design and development solutions in healthcare domain.

(B3) Compare between the alternative solutions and recognize their significance.

(B4) Transform user requirements using design principles into useful interfaces for healthcare domain.

(B5) Employ data gathering techniques as appropriate during the system design and evaluation stages for health related applications.

C- Practical Skills-With ability to

(C1) Plan and undertake a major individual/group systems design and evaluation project in the area of computer information systems (health related applications).

(C2) Prepare and deliver low fidelity prototypes.

(C3) Give technical systems design presentations suitable for the time, and audience.

(C4) Be aware emerging technologies and apply non-traditional interfaces in healthcare domain.

(C5) Use appropriate computer-based design support tools in high fidelity prototype.

D- Transferable Skills-With ability to

(D1) Display an integrated approach to the deployment of system design and evaluation stages.

(D2) Work effectively with systems experts and for systems users.

(D3) Apply different evaluation paradigms and techniques.

(D4) Display personal responsibility by working to multiple deadlines during stages of systems design and evaluation.

16. Topic Outline and Schedule:

Topic	Week	ILOs	Program SOs[1]	TLA (teaching, learning and Assessment)
Welcome and Orientation Review Syllabus, objectives, textbook, projects assignments, and online material + chapter 1 (Introduction to HCI)	1+2	A2	1,2,5,6	T: Instructor Introductory Presentation L: Reading notes and online resources A: Class discussion
Chapter 2 (History of HCI)	3	A1-A4	1	T: Instructor Presentation, videos L: Reading notes and online resources A: Class discussion, questions and tasks
Chapter 3 (Understanding Users)	4	A1, B1	1	T: Instructor Presentation, videos L: Reading lecture notes and online resources A: Class discussion, questions
Chapter 4 (cognitive and mental model)	5+6	A1, A3, A4, B1	1	T: Instructor Presentation, Lab Demonstration and hands-on activities L: Reading lecture notes and Reading online e-Learning tutorial A: Exercise
Chapter 5 (design with users)	7+8	B2-B5 C2,C3, C5	1,6	T: Instructor Presentation, Lab demonstration and Case Study L: Reading lecture notes A: Exercise
Midterm Exam + projects Stage 1				
Chapter 6 (Prototyping)	9	B3, C4	2,5,6	T: Instructor Presentation and facilitation L: Reading and Group Project discussion A: Group project outline
Chapter 7 (Prototyping Tools)	10	B2, B4, B5 C1, C4	2,5,6	T: Instructor Presentation and facilitation L: Reading and Group Project discussion A: Group project outline
Chapter 8 (Web development in HCI)	11	B3, C4	2	T: Instructor Presentation, Case Study L: Reading lecture notes, Online Resources A: Class Dialog and scenarios
Chapter 9 (web development patterns) **Chapter 10 (web pattern examples)**	12	B3, C4	2	T: Instructor Presentation L: Reading lecture notes and online resources A: Class discussion and exercise
Chapter 11 (GUI design)	13	B3, C4	2	T: Instructor Presentation and Case Study Demonstration L: Reading lecture notes, Web search A: Class discussion and exercise
Chapter 12 (Healthcare Information Technology)	13	B3, C4	2	T: Instructor Presentation L: Reading notes and online resources A: Class discussion and questions
Chapter 13 (Agents & NLP)	14	A1, A2, D1-D4	2,5,6	T: Project Demonstration L: Observation and discussion A: Evaluation of the project documentation and presentation
Review + Case Studies: Submit Final Project for grading and presentation	15	A1, A2, D1-D4	2,5,6	T: Review and Summary L: Discussion A: Answer Review Questions
Final Exam				

(Please mention instructors per topic if the course topics are being taught by more than one instructor)

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[1] The ABET outcomes

17. Evaluation Methods and Course Requirements (Optional):

Opportunities to demonstrate achievement of the ILOs are provided through the following <u>assessment methods and requirements</u>:

Teaching/Learning and Assessment Methods:

T: Instructor Presentation, and hands-on activities.

L: Reading lecture notes, Reading online e-Learning tutorial, Discussion, observation and web search

A: Class discussion, questions, tasks, Exercise, Group project outline, Class Dialog and scenarios, Evaluation of the project documentation and presentation, and Answer Review Questions

18. Course Policies:

A- Attendance policies:

Class attendance is mandatory. University regulations will be applied. Regular attendance is essential for satisfactory completion of this course.

B- Absences from exams and handing in assignments on time:

Any student who misses any exam will receive a failing grade. Permission for makeup will be granted only if the student notifies the instructor in due time and presents evidence of an officially excused absence.

C- Health and safety procedures:

As applied in Faculty.

D- Honesty policy regarding cheating, plagiarism, misbehavior:

Assignments are individual or done in learning teams. While students are free to discuss their individual assignments with anybody, including fellow students, individual assignments are expected to show the expertise, creativity and critical faculty of the individual student. Virtually identical individual assignments (in the judgment of the instructor) are not acceptable. Plagiarism is unacceptable and will be punished with an **F** for the full course. References to all source materials are necessary.

E- Grading policy + Weighting (i.e. weight assigned to exams as well as other student work)

All of the following are important in the evaluation of a student's work.

- Written Reports:
    - o Organization, clarity and continuity.
    - o Quality, completeness and soundness of the analysis
    - o Quality of presentation.
- Oral Presentation:
    - Organization and continuity.
    - Selection and support of recommendations.
    - Time, style and clarity.
    - Professionalism.

        - Project: 20%

        -Mid term exam: 30%

        -Final exam   : 50%

        Satisfactory completion of this subject requires a 50% pass in the end-of-semester

        Grading Scale:

0-44	F	45-49	D-	50-54	D	55-59	D+
60-63	C-	64-68	C	69-72	C+		
73-76	B-	77-80	B	81-84	B+	85-89	A-	90-100	A

F- Available university services that support achievement in the course:

elearning.ju.edu.jo

G- Statement on Students with disabilities

Students with Disabilities: Students with disabilities who need special accommodations for this class are encouraged to meet with the instructor and/or their academic advisor as soon as possible. In order to receive accommodations for academic work in this course, students must inform the course instructor and/or their academic advisor, preferably in a written format, about their needs no later than the 4th week of classes.

19. Required equipment:

N/A

20. References:

A- Required book (s), assigned reading and audio-visuals:
1. Jenny Preece, Yvonne Rogers, Helen Sharp, "Interaction Design: Beyond human-computer interaction", John wiley & sons, 2011
2. Alan Dix, Janet Finlay, Gregory D. Abowd, Russell Beale, "Human-Computer Interaction", Pearson, Third edition, 2004.
3. Philip Kortum, "HCI Beyond the GUI", Morgan Kaufmann, 2008.
4. Vimla L. Patel ,Thomas G. Kannampallil ,David R. Kaufman ,"Cognitive Informatics for Biomedicine: Human Computer Interaction in Healthcare (Health Informatics)", springer, 2016.

Online Course Site
Every student should visit the following site for course material, handouts and announcements.
Site address: elearning.ju.edu.jo
User name: Your university internet id
Password: Your university internet password

B- Recommended books, materials, and media:
Students are encouraged to make heavy use of the library, E-LIBRARY http://ezlibrary.ju.edu.jo/login or from within the university using (http://e-library)

21. Additional information:

Please visit the course website available at: elearning.ju.edu.jo

Date: -------26/01/2020--------

Name of Course Coordinator: ------Yousef Majdalawi ----Signature: ------------------------

Head of curriculum committee/Department: ------------------------ Signature: ---------------

Head of Department: ------------------------ Signature: ---------------------------------

Head of curriculum committee/Faculty: ------------------------ Signature: ---------------------

Dean: --- -Signature: ---------------------------------

Copy to:
Head of Department
Assistant Dean for Quality Assurance
Course File