

# COURSE SYLLABUS

## HUMAN - COMPUTER INTERACTION

Course code: 220143

### 1. General information:

<i>Course type</i>	<i>Number of credits</i>	<i>Number of learning periods</i>
General <input type="checkbox"/>	Theory: 2 Exercise:..... Practice: 1	Theory: 30 Exercise:..... Practice: 30
Basic <input type="checkbox"/>		
Specialized <input checked="" type="checkbox"/>		
Compulsory <input type="checkbox"/>		
Elective <input checked="" type="checkbox"/>		

### *Learners:*

Level	Bachelor
Discipline	Information Technology

### *Course requirements:*

Prerequisites	Information System Design and Analysis Course code: .....
	Software Engineering Course code: .....
Parallels	N/A Course code: .....
Other requirements	Knowledge of Web/Windows/Mobile application design

### 2. Learning resources:

Prescribed textbooks	[1] Bộ môn Công nghệ thông tin. <i>Tài liệu giảng dạy học phần Tương Tác Người Máy</i> . Trường Đại học Trà Vinh.
Recommended textbooks	[1] Kim GJ (2015). <i>Human-computer interaction: fundamentals and practice</i> . CRC press. [2] Olson JS, Kellogg WA, editors (2014). <i>Ways of Knowing in HCI</i> . Springer. [3] Preece J, Sharp H, Rogers Y (2019). <i>Interaction Design:</i>

	<p><i>Beyond Human-Computer Interaction</i>. John Wiley.</p> <p>[4] Norman DA (2013). <i>Design of Everyday Things: Revised and Expanded</i>. MIT Press.</p>
Other learning materials	<p>Journal:</p> <ul style="list-style-type: none"> <li>- Human–Computer Interaction</li> <li>- International Journal of Human-Computer Studies</li> <li>- ACM Transactions on Computer-Human Interaction</li> <li>- Computer Supported Cooperative Work</li> <li>- Interacting with Computers</li> </ul> <p>Website:</p> <ul style="list-style-type: none"> <li>- <a href="https://www.interaction-design.org/">https://www.interaction-design.org/</a></li> <li>- <a href="http://www.iidesign.com.au/">http://www.iidesign.com.au/</a></li> <li>- <a href="http://www.usabilityone.com/">http://www.usabilityone.com/</a></li> <li>- <a href="http://www.usability.com.au/">http://www.usability.com.au/</a></li> </ul>

### 3. Course description:

The course provides students basic and specialized knowledge on varied aspects in the field of Human – Computer Interaction (HCI); some research methods and approaches to the design and evaluation of user-centered interactive systems. The course also aims to train students with professional skills including researching, understanding, and analyzing human needs in the digital age; designing, developing, and evaluating systems or applications to enhance user satisfaction and optimize user experience. Additionally, the course not only develops students’ appropriate awareness and attitudes on the importance of human factors and the role of users in the design of interactive systems, but also it provides students teamwork and communication skills, creative thinking, and ability to identify, select, and design system components.

### 4. Course learning outcomes (CLOs):

After finishing the course, students will be able to:

		<i>Satisfy LOs of the program</i>	<i>Satisfy LOs of the ABET</i>
<b>❖ Topic 1: Disciplinary Knowledge and Reasoning</b>			<b>B.1.1</b>
<b>L1.</b>	Describe different aspects in the field of HCI		<b>B.1.2</b>
<b>L2.</b>	Apply Cognitive-Behavioral Theory in system designs		<b>B.1.3</b>
<b>L3.</b>	Apply HCI research methods to system designs		<b>B.1.4</b>
			<b>B.1.5</b>

<b>L4.</b>	Analyze user needs and propose tasks in the system		<b>B.1.6</b>
<b>L5.</b>	Design user-centered interactive systems		
<b>L6.</b>	Evaluate user experience		
<b>❖ Topic 2: Personal and Professional Skills and Attributes</b>			
<b>L7.</b>	Evaluate problems and suggest solutions	2.1.4, 2.1.5	
<b>L8.</b>	Search and gather information	2.2.1	
<b>L9.</b>	Think creatively	2.4.3	
<b>❖ Topic 3: Interpersonal Skills: Teamwork and Communication</b>			
<b>L10.</b>	Organize groupworks	3.1.2	
<b>L11.</b>	Communicate by using multimedia	3.2.3	
<b>L12.</b>	Present orally and negotiate	3.2.4	
<b>❖ Topic 4: Conceiving, Designing, Implementing and Operating Systems in The Enterprise, Societal and Environmental Context – The Innovation Process</b>			
<b>L13.</b>	Identify requirements and formulate ideas	4.2.1	
<b>L14.</b>	Select methods to approach to the design	4.3.2	
<b>L15.</b>	Design system components	4.3.4	

### 5. Course content:

Course contents	CLOs	Number of learning periods		
		Theory	Practice	Others
<b>Chapter 1. OVERVIEW OF HUMAN – COMPUTER INTERACTION</b>	<b>L1</b>	<b>2</b>	<b>0</b>	
1.1. Human – Computer Interaction (HCI)				
1.2. User Experience				
1.3. Interaction Design				
1.4. User-centered Design				

<input type="checkbox"/> <i>Personal and Professional Skills and Attributes</i>	L7 →L9 (I)			
<input type="checkbox"/> <i>Interpersonal Skills: Teamwork and Communication</i>	L10 →L12 (I)			
<input type="checkbox"/> <i>CDIO in the enterprise, societal and environmental context</i>				
<b>Chapter 2. HUMAN FACTORS IN HCI</b>	<b>L2, L4</b>	<b>6</b>	<b>0</b>	
2.1. Cognition and Behavior				
2.2. Usability				
2.3. User-centered Design Principles				
<input type="checkbox"/> <i>Personal and Professional Skills and Attributes</i>	L7→ L9 (T)			
<input type="checkbox"/> <i>Interpersonal Skills: Teamwork and Communication</i>	L10 →L12 (T)			
<input type="checkbox"/> <i>CDIO in the enterprise, societal and environmental context</i>	L13 (T)			
<b>Chapter 3. RESEARCH METHODS IN HCI</b>	<b>L3, L5</b>	<b>8</b>	<b>10</b>	
3.1. Experimental Research				
3.2. Field Research				
3.3. Survey				
3.4. Interview				
3.5. Observation				
3.6. Log Data Analysis				
3.7. Research through Design				
3.8. Data Analysis				
<input type="checkbox"/> <i>Personal and Professional Skills and Attributes</i>	L7 → L9 (U)			
<input type="checkbox"/> <i>Interpersonal Skills: Teamwork and Communication</i>	L10 →L12 (U)			
<input type="checkbox"/> <i>CDIO in the enterprise, societal and</i>	L13 (U), L14 (T), L15 (I)			

<i>environmental context</i>				
<b>Chapter 4. USER-CENTERED DESIGN PROCESSES</b>	<b>L4, L5</b>	<b>8</b>	<b>10</b>	
4.1. Understanding and analyzing user needs				
4.2. Developing alternatives				
4.3. Prototyping				
4.4. Evaluating				
<input type="checkbox"/> <i>Personal and Professional Skills and Attributes</i>	<b>L7 → L9 (U)</b>			
<input type="checkbox"/> <i>Interpersonal Skills: Teamwork and Communication</i>	<b>L10 → L12 (U)</b>			
<input type="checkbox"/> <i>CDIO in the enterprise, societal and environmental context</i>	<b>L13 (U); L14 → L15 (T), (U)</b>			
<b>Chapter 5. EVALUATING INTERACTIVE SYSTEMS</b>	<b>L6</b>	<b>6</b>	<b>10</b>	
5.1. User-based evaluation				
5.2. Usage-based evaluation				
5.3. Expert-based evaluation				
5.4. Theory-based evaluation				
<input type="checkbox"/> <i>Personal and Professional Skills and Attributes</i>	<b>L7 → L9 (U)</b>			
<input type="checkbox"/> <i>Interpersonal Skills: Teamwork and Communication</i>	<b>L10 → L12 (U)</b>			
<input type="checkbox"/> <i>CDIO in the enterprise, societal and environmental context</i>	<b>L13 → L15 (U)</b>			
<b>Summary of skills in course level</b>				
<input type="checkbox"/> <i>Personal and Professional Skills and Attributes</i>	<b>L7 → L9 (U)</b>			
<input type="checkbox"/> <i>Interpersonal Skills: Teamwork and Communication</i>	<b>L10 → L12 (U)</b>			
<input type="checkbox"/> <i>CDIO in the enterprise, societal and environmental context</i>	<b>L13 → L15 (U)</b>			

## 6. Teaching and learning methods:

ID	Teaching method/technique		Description
M1.	Lecturing	<input checked="" type="checkbox"/>	- Being suitable to course contents
M2.	Questions – Answers	<input checked="" type="checkbox"/>	- Being suitable to course contents
M3.	Group-based Learning	<input checked="" type="checkbox"/>	- Being suitable to course contents, developing teamwork skills
M4.	Problem-based Learning	<input type="checkbox"/>	
M5.	Project-based Learning	<input checked="" type="checkbox"/>	- Being suitable to course contents
M6.	Case studies	<input type="checkbox"/>	
M7.	Role play	<input type="checkbox"/>	
M8.	Demo	<input type="checkbox"/>	
M9.	Simulations	<input type="checkbox"/>	
M10.	Debate	<input checked="" type="checkbox"/>	- Being suitable to course contents
M11.	Game	<input type="checkbox"/>	
M12.	Brainstorming	<input type="checkbox"/>	
M13.	Think-Pair-Share	<input type="checkbox"/>	

## 7. Course assessment:

ID	Assessment activity		Quantity	Weight	LOs assessed
T1.	Text-based midterm exam	<input checked="" type="checkbox"/>	1	25%	L1→L3
T2.	Text-based final exam	<input type="checkbox"/>			
T3.	Practice midterm exam	<input type="checkbox"/>			
T4.	Practice final exam	<input type="checkbox"/>			
T5.	Report	<input type="checkbox"/>			
T6.	In-class exercises	<input type="checkbox"/>			
T7.	Homework assignments	<input checked="" type="checkbox"/>	1	25%	L4→L6, L7→L10, L13→ L14

<b>T8.</b>	Question – Answer	<input type="checkbox"/>			
<b>T9.</b>	Term Project	<input checked="" type="checkbox"/>	1	50%	L1→L15
<b>T10.</b>	Final Exam	<input type="checkbox"/>			
<b>Formula for Overall score</b>		<b><math>T1*25\% + T7*25\% + T9*50\%</math></b>			

## **8. Course requirements and expectations:**

### ***8.1. Requirements on attendance***

- Students are responsible for attending all classes. In case of absence due to force majeure circumstances, there must be sufficient and reasonable evidence.
- Students who do not attend more than 20% of the class sections, whether for reason or not, are deemed not to have completed the course and must re-enroll in the following semester.

### ***8.2. Requirements and expectations on student behaviors***

- Students must show their respects for teachers and other learners.
- Students must be on time. Students who are late more than five minutes will not be allowed to attend the class.
- Students should not make noises and interfere with others in the learning process.
- Students should not eat, chew gum, and use devices such as cell phones, music players during class hours.
- Laptops and tablets can only be used in class for the purpose of learning.
- Students who violate the above principles will be asked to leave the class and considered absent from the class.

### ***8.3. Requirements on learning issues***

Issues related to applying for score reservation, scoring complaints, scoring, exam disciplines are done according to the Learning Regulation of Tra Vinh University.

## **9. Tentative course instructor:**

Thạch Kọng Saoane

**DEAN**

**DEPARTMENT HEAD**

**LECTURER**

**Thạch Kọng Saoane**