Human–computer interaction (HCI) involves the study, planning, design and uses of the interaction between people (users) and computers. It is often regarded as the intersection of computer science, behavioural sciences, design and several other fields of study. ----- Wikipedia

HCI also burrowed heavily from psychology, human perception, sociology, cognitive science, human factors / ergonomics, visualization and design. This course will address how to design technologies that helps people to interact with computer with a greater ease and joy. Techniques for rapidly prototyping and evaluating multiple interface alternatives. This course will teach how to conduct fieldwork with people and how to generate design ideas. This will also cover principles of visual design, perception and cognition and how to perform and analyze controlled experiments online.

Models in HCI - GOMS, Fitts’ law and Hick-Hyman’s law Communication and collaboration models. Developing descriptive and predictive models and theories of interaction.

Task analysis; Dialogue design; Interaction design driven by what is wanted?
Analysis of tasks and knowledge informs: functionality and objects offered in interface; organisation (layout, grouping, navigation)

Cognitive architecture and HCI; Symbolic cognitive architectures, Emergent cognitive architectures, Hybrid cognitive architectures. Experimental cognitive psychology and Artificial intelligence and linguistics methods.

Graphic User Interfaces & aesthetics; Usability Testing and Evaluation; Design Case Studies.

On completion of this course according to course goals, the student should be able to:

Understand the basics of human and computational abilities and limitations.
Understanding Cognitive architecture and models.
Understand basic theories, tools and techniques in HCI.
Understand the fundamental aspects of designing and evaluating interfaces.
Apply appropriate HCI techniques to design systems that are usable by people.

**Evaluation:**
Written Exam 25% Weightage
Assignments and presentation: 50% Weightage
Term paper: 25% Weightage

Books:

HCI foundation and history; Usability life cycle and methods; Rapid Prototyping Visual and informational Design: guidelines, Thirteen principles of display design [Perceptual principles, Mental model principles, Principles based on attention, Memory principles].