** Title **

Human-Computer Interaction: Tools and Strategies (HCI)

** CFU **

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** Learning outcomes **

Gain a foundational understanding of usability engineering principles and their application. Explore usability engineering concepts and develop the skills to conduct usability testing specifically for medical devices. Learn the fundamentals of cognitive task analysis and apply this knowledge to analyse and improve processes. Evaluate the importance of anthropometry and physiology in system design. Incorporate principles of stress, fatigue, and workload management into design practices. Learn to create personas tailored to the medical context and develop prototypes for specific medical devices.

** Syllabus **

Usability Engineering and Medical Device Testing

Usability Engineering Principles

Conducting Usability Testing for Medical Devices

Analysis and Interpretation of Usability Test Results

Cognitive Task Analysis

Fundamentals of Cognitive Task Analysis

Applying Cognitive Task Analysis

Improving System Processes through Analysis

Design Considerations

Importance of Anthropometry and Physiology in System Design

Designing for Stress, Fatigue, and Workload Management

Integrating Human Factors into Design Practices

Persona Development and Prototyping

Creating Personas for the Medical Context

Prototyping for Specific Medical Devices

Presenting and Evaluating Prototypes

** Course organization & Assessment**

Lecture: 60 %, Laboratory/practice: 40%

Assessment: Essay (5000 words), medium-fidelity prototype

** Prerequisites **

none