

STAGE 3

Module	HCI and GUI Programming
Credits	5 ECTS / 3 U.S. semester credits
Important notes	Please note that this module is advanced and is intended for third or fourth year students only
Allocation of marks	40% Continuous assessment 60% Project

Intended Module Learning Outcomes

On successful completion of this module learners will be able to:

1. write programs for a GUI based environment
2. explain how programs interact with the GUI based environment
3. discuss aspects of good interface design
4. write methods to link your applications to third party applications.
5. identify the need for custom controls and demonstrate their implementation
6. identify and implement the importance of human factors within system development
7. demonstrate the application of correct HCI concepts when designing computer interfaces.
8. demonstrate the features of event-driven programming.

Module Objectives

This module enable sthe learner to critically evaluate the importance of the human aspect of system development. The learner learns about the key issues involved in designing computer interfaces. The learner experiences the skills needed to program for a GUI based environment.

Module Curriculum

Introduction and motivation

- Overview of the subject
- Why do we need HCI?
- How do we evaluate the usability of systems?

Event-driven programming overview

- Principles of event-driven programming
- Procedure types
- Passing by reference verses passing by value.

Presentation of information to the user

- Layout guidelines
- Flow of information
- Principles of colour theory
- Methods for displaying different categories of information

Accepting information from the user

- Field entry
- Validation of data
- Multiple inputs
- Gathering information for the mouse
- Restricting input options

Testing and verification

- Principles of testing
- Different testable aspects of an application
- User testing / QA testing

Third party software

- Allowing applications to communicate
- Creating links between applications