

ICT203e Foundations of Modern System Design

Level: 2

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY SEMESTER

E-Learning: BLENDED - Learning is done MAINLY online using interactive study materials in Canvas. Students receive guidance and support from online instructors via discussion forums and emails. This is supplemented with SOME face-to-face sessions. If the course has an exam component, this will be administered on-campus.

Synopsis:

This course covers the analysis and design of systems using the object-oriented paradigm. Topics include the various approaches to design and analysis, the object-oriented approach to software development, the object-oriented modelling process, analysis to derive the requirements for a system, the user interface principles, and the user interface development process. As this is a practical course, working knowledge of an object-oriented programming language is a pre-requisite. The language that will be used in the course is Java.

Topics:

- The object-oriented approach in modular system design
- Analysis of user requirements
- The use cases of a software application: performing functional analysis
- The role of user interfaces in system design
- User interface design principles and the basic elements of user interfaces
- The user interface development process

Learning Outcome:

- explain the object-oriented approach in system analysis and design
- describe the concepts behind modular software design
- analyse requirements for non-ambiguity, correctness, completeness and consistency
- select appropriate types of collections to represent groups of objects
- discuss the importance of user interface design in modern system analysis
- apply the design principles for user interfaces
- explain the key elements in the user interface development process
- construct basic class diagrams and use case models in system analysis
- apply the Java Collections Framework in the representation of groups of objects
- develop graphical user interfaces in Java

Assessment Strategies:

Continuous Assessment Component	Weightage (%)
PRE-CLASS QUIZ	2
QUIZ	6
TUTOR-MARKED ASSIGNMENT	18
PRE-CLASS QUIZ	2

PRE-CLASS QUIZ	2
Sub-Total	30

Examinable Component	Weightage (%)
Written Exam	70
Sub-Total	70

Weightage Total **100**