



Faculty of Computer Studies

MT262 A: Putting Computer Systems to work (Part A)

Course Guide

MT262A: Putting Computer Systems to work (Part A)

Credit Points/ Credit Hours: 15/4

Pre-Requisites:

T171 or M150

Short Description:

The course tackles the problem of how to get a computer to do something useful. It sets out to analyze problems and design solutions in such a way that a computer can be used to carry out the solution. The course develops skills in analysis and design. There is also a lot of practical programming in the widely used C++ language, using non-object and object-oriented approaches.

Aims:

The aims of this course are:

- To introduce students to designing software solutions to problems.
- To introduce students to concepts of modular software development.
- To enable students to learn practical programming skills.

Learning Outcomes:

The Learning Outcomes of this course are given below:

A. Knowledge and understanding of:

- A1. The principles and techniques associated with modular software development.
- A2. The modified version of the model-view-controller approach to program development.
- A3. The core syntactic structures of C++.
- A4. The techniques of debugging for detection of semantic mistakes in code.

B. Cognitive skills:

- B1. To be able to analyze specifications of small software tasks.
- B2. To be able to refine specifications to a state suitable for coding.
- B3. To be able to select suitable software components for a task and adapt them if necessary.

C. Key skills:

- C1. To be able to apply software engineering process used to develop code.
- C2. To be able to improve own learning and performance.

D. Practical and /or professional skills:

- D1. To be able to apply the principles, concepts and techniques of the course in the development of programs given a tight specification.
- D2. To be able to extend the concepts and techniques of the course to more open-ended problems.

Course Structure:

The MT262 course consists of 2 blocks of study consisting of 4 units each.

Table of Contents:

Block I Beginnings

- Unit 1 The Course and its Software
- Unit 2 Problem Solving
- Unit 3 Looping and Branching
- Unit 4 Further considerations

Block II Structures

- Unit 1 Records and Arrays
- Unit 2 Functions and Modular Programs
- Unit 3 Designing Modular Programs
- Unit 4 Input, Output and Files

Assessment:

- Tutor-marked assignments: 2 TMAs
- Quiz/Mid-term Assessment: 1 MTA
- Final Exam: 1 Final Exam

Grade Distribution:

- Tutor-marked assignments: 35%
- Quiz/MTA: 15%
- Final Exam: 50%

Course Calendar (Indicative Version):

There are 2 Tutor Marked Assignments, 1 Midterm Assessment and 1 Final Exam associated with this course. Course result is determined on the basis of student's scores in TMAs, Midterm Assessment and the Final Exam. To be sure of passing the course the student needs to score at least 40% (at least 20% in TMA and Quiz/MTA and at least 20% in the final exam) in the above 3 components and achieve an overall average score of 50%.

Study Week	Course	Other	Assignment /Assessments
	Text	components/ notes	Number
1	Block 1 Unit 1, The Course and its Software		
3	Unit 2, Problem Solving		
5	Unit 3, Looping and Branching		TMA01 due date Part (1)
7	Unit 4, Further Considerations		Quiz/MTA
9	Block II Unit 1, Records and Arrays. Unit 2, Functions and Modular Programs		
11	Unit 3, Designing Modular Programs		TMA01 due date Part (2)
12			
13	Unit 4, Input, Output and Files		
14			TMA02 due date
15	Revision		
16	Final Exam Period		