KAMPALA INTERNATIONAL UNIVERSITY, KAMPALA

COLLEGE OF MATHEMATICS AND COMPUTING, OPEN DISTANCE AND E-LEARNING

STUDY GUIDE FOR COMPUTER PROGRAMMING METHODOLOGY

COS 1201: COMPUTER PROGRAMMING METHODOLOGY

Introduction

This course is an introduction to computer programming and programming languages. You will be introduced to the basics of programming using a modern programming language such as Java. You will learn basic computer programming concepts and terminologies such as variables, constants, operators, expressions, conditional statements, loops, and functions. The course will include hands-on exercises to help students understand the components of Java programming while incrementally developing more significant programs. The exercises in this course will be based on small assignments which will relate to real-world problems.

Recommended Study Time

This course is a 4-unit course divided into 8 study units. You are enjoined to spend at least 3 hours in studying the content of each study unit.

What you are about to learn in this course

The overall aim of this course, COS 1201 is to introduce you to:

a) introduce to students the basic programming concepts and terminologies
b) Introduce the concept of computer programming and how it's done.
c) Explain and understand the syntax and semantics of the most common programming languages

Course Aim

This course introduces the students to the history of computer programming and evolution of programming languages used in building computer applications or programs. It also aims at equipping you with basic programming skills.

Course Objectives

Upon successful completion of the course, you should be able to:

- gained an understanding of the different types of programming languages
- design simple programs
- explain behavior of simple programs

- design, implement, test, modify and debug simple programs
- select appropriate conditional and iteration constructs for a given programming tasks
- decompose a given problem into sub-tasks and implement appropriate custom functions implement

Working through this course

In order to have a thorough understanding of the course study units, you will need to read and understand the contents and practice what is discussed in this module.

This course is designed to cover approximately fifteen weeks and it will require your devoted attention. You should do the exercises in the Tutor-Marked Assignments and submit to your tutors via the email.

Teaching – Learning Materials

- Course Guide
- Printed Lecture materials
- Text Books
- Electronic Lecture materials via LMS
- Tutor Marked Assignments
- LMS.
- Whiteboard and markers
- Flip charts
- Interactive Lectures
- Practical assignments

The printed lecture material consists of 8 study units broken down into sub-units;

References and Additional Reading Materials

The following texts and Internet resource links will be of enormous benefit to you in learning this course:

1. Java Software Solution: Foundations of Program Design (8th Edition) by John Lewis and William Loftus, Addison- Wesley, 2015. https://www.amazon.com/Java-Software-Solutions-John-Lewis/dp/0133594955
2. Herbert Schildt .,Java The Complete Reference. McGraw Hill.

3. David J. Barnes and Michael Kolling (2017). Objects First with Java: A Practical Introduction Using BlueJ (6th Edition) https://www.amazon.com/Objects-First-Java-Practical-Introduction/dp/0134477367
4. Laura Lemay, Charles L.Perkins., teach Yourself Java in 21 days.
5. Java Totorials by Oracle https://docs.oracle.com/javase/tutorial/
6. Coursera online course https://www.coursera.org/specializations/object-oriented-programming
7. MIT Open courseware courses for Introduction to programming https://ocw.mit.edu/courses/intro-programming/
8. Coursera course on Code Yourself! An Introduction to Programming https://www.coursera.org/learn/intro-programming

Assessment

There are two aspects to the assessment of this course. First, there are tutor marked assignments and second the written examination. Therefore, you are expected to take note of the facts, information and problem solving gathered during the course. The tutor marked assignments must be submitted to your tutor for formal assessment in accordance to the deadline given. The work submitted will count for 40% of your total course mark.

At the end of the course, you will need to sit for a final written examination. This examination will account for 60% of your total score. You will be required to submit some assignments by uploading them to COS 1201page on the LMS.

Tutor-Marked Assignment (TMA)

There are TMAs in this course. You need to submit all the TMAs. The best 10 will therefore be counted. When you have completed each assignment, send them to your tutor as soon as possible and make certain that it gets to your tutor on or before the stipulated deadline. If for any reason you cannot complete your assignment on time, contact your tutor before the assignment is due to discuss the possibility of extension. Extension will not be granted after the deadline, unless on extraordinary cases.

Final Examination and Grading

The final examination for COS1201 will last for a period not more than 2 hours and has a value of 60% of the total course grade. The examination will consist of questions which reflect the Self-Review Questions (SRQs), In-text Questions (ITQs) and Tutor Marked Assignments (TMA) that you have previously encountered. Furthermore, all areas of the course will be examined. It would be better to use the time between finishing the last study unit and sitting for the examination to revise the entire course. You might find it useful to review your TMAs and comment on them before the examination. The final examination covers information from all parts of the course. Final examinations will be conducted either via Computer Based Testing (CBT) or Pen on Paper (PoP) or both combined.

Tutors and Tutorials

There are few hours of face-to-face tutorial provided in support of this course. You will be notified of the dates, time and location together with the name and phone number of your tutor as soon as you are allocated a tutorial group. Your tutor will mark and comment on your assignments, keep

a close watch on your progress and on any difficulties, you might encounter and provide assistance to you during the course. You must submit your tutor marked assignment to your tutor well before the due date. At least two working days are required for this purpose. They will be marked by your tutor and returned as soon as possible via the same means of submission.

Do not hesitate to contact your tutor by telephone, e-mail or discussion board if you need help. The following might be circumstances in which you would find help necessary: contact your tutor if:

- You do not understand any part of the study unit or the assigned readings.
- You have difficulty with the self-test or exercise.
- You have questions or problems with an assignment, with your tutor's comments on an assignment or with the grading of an assignment.

You should endeavor to attend the tutorials. This is the only opportunity to have face-to-face contact with your tutor and ask questions which are answered instantly. You can raise any problem encountered in the course of your study. To gain the maximum benefit from the course tutorials, have some questions handy before attending them. You will learn a lot from participating actively in discussions.

GOODLUCK!