Tutorial Letter 101/3/2016

Interactive Programming

ICT2612

Semesters 1 and 2

School of Computing

IMPORTANT INFORMATION:

This tutorial letter contains important information

about your module.

This is the only tutorial letter that you will receive in printed format.

This tutorial letter and information on *myUNISA* are available in English only.

BAR CODE

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1 INTRODUCTION

Dear ICT2612 Java/Android Student

Welcome to the School of Computing and a special welcome to the module, Interactive Programming. This tutorial letter is the only tutorial letter that you will receive in printed format.

The module is presented as a practical open and distance learning (ODL) module. All the information regarding the contents of the module is available on Unisa's virtual interface, *myUnisa*. You will submit all your assignments and portfolios and receive tutoring via *myUnisa*. Your will have the opportunity to participate in the online discussion forums.

For this module, it is compulsory that you have access to a computer, the internet, *myUnisa* and your myLife e-mail. We will correspond with you via the discussion forum, Q&A and your myLife e-mail account, sending out reminders and information.

All the information, course materials and assignments required for this module are available for download on *myUnisa* as well as at the regional offices. You will receive a CD from Unisa that contains the software we will use. Alternatively, the links to the online sites where you can download the software are available on the *myUnisa* site.

To get started, go to the website https://my.unisa.ac.za and login with your student number and password. Select the module code ICT2612. Remember to also check the [-more-] tab if you cannot find the module code in the visible orange blocks. Please consult with the *my Studies @ Unisa* publication for more information on the activation of your myLife e-mail address as well as obtaining access to the *myUnisa* module site.

Good luck with your studies!

Your lecturers

ICT2612-16-S1@unisa.ac.za
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2 PURPOSE OF AND OUTCOMES

Purpose

This module will be useful to provide an intermediate level mobile application developer with the knowledge to analyse contents and problems, design, develop and maintain an appropriate mobile application solution and skills to supply program solutions with the values needed to develop an appreciation for a principled working methodology within a changing society. Qualified students will able to analyse, design, develop and maintain mobile application environments with problem-specific solutions to standards of precision, robustness, reliability, cost-effectiveness, within a specified time-frame and client-satisfaction level. Students will be equipped to analyse, design and develop appropriate Android mobile application solutions in a changing environment using Java programming language. The enrolled students must be connected to the internet on a weekly basis.

Pre- and co-requisites

The pre-requisites for this module are:

- Introduction to Programming (ICT1511)
- Introduction to Web Design (ICT1513)
- Introduction to Interactive Programming (ICT1512)
- access to the internet and *myUnisa* on a regular basis (at least once a week)
- at least five to seven hours per week access to a personal computer where software needs to be installed

Outcomes

Specific outcome 1:

Demonstrate an understanding of basic program operations in a mobile application environment.

Range:

Input/Output. Basic arithmetic operations. Logical operations. Saving code.

Assessment criteria:

Code that requests input and produces output is written for a mobile application environment.

The use of operators to perform calculations and make logical decision is applied in such a way that correct output is produced.

Demonstration includes the saving of work and retrieval and demonstration thereof in an application.

Specific outcome 2:

Demonstrate an understanding of and utilise the mobile application environment.

Range:

Classes, objects and methods.

Assessment criteria:

Code that contains the range elements is used. How it all forms part of an application to solve a problem is explained and implemented logically in a mobile application environment.

Specific outcome 3:

Demonstrate an understanding of and use variables in a mobile application environment.

Range:

Data types and operators (primitive data types, Strings and operators)

Assessment criteria:

Types of variables and how they may be manipulated are explained.

When and from which parts of the code variables are accessible are explained.

The use of constants is demonstrated and the motivation for using them is explained.

The conversion of one type to another is demonstrated and the reason it is useful is explained.

Specific outcome 4:

Demonstrate an understanding of structures and their use in a mobile application environment.

Range:

Control flow statements: Loops decision making, arrays.

Repetition, procedures, methods, passing and returning objects.

Assessment criteria:

Code that involves structures is demonstrated to show how these structures are used in decision-making repetitions and variable structures.

The use of procedures is explained by demonstrating the reusability of such code.

The use of classes and methods are explained and demonstrating the reusability of such code.

The demonstration includes the use of procedures and methods that are predefined.

Specific outcome 5:

Demonstrate an understanding of and use basic exception handling in a mobile application environment.

Range:

Catch exception. Provide a way to handle the exception while code keeps running.

Assessment criteria:

The student demonstrates in code how an exception is captured. The demonstration also includes code to deal with the exception to prevent a program from halting.

Specific outcome 6:

Identify areas in community for which relevant mobile applications can be developed.

Range:

Identify areas in the community where there is a lack of mobile applications, for example multi-lingual (English – Bantu language) online application, fuel consumption calculation, and so on.

Assessment criteria:

The student demonstrates in the development of applications that solve or address a specific need in the community.

3 CONTACT DETAILS

As a VCard

As text

Lecturer

The primary lecturer for this module is:

Mrs R van der Merwe

Tel: +27 11 471 2929

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ict2612-16-S1@unisa.ac.za and ict2612-16-S2@unisa.ac.za

Before you contact us telephonically, verify that we are available. The School of Computing has a dedicated website, called Osprey: http://osprey.unisa.ac.za/. Select the option “SoC registered students”. Select your module codes on the right-hand side, for example ICT2612. You will now be able to see who is available and which telephone number or e-mail address to use to contact us.

E-tutors

This module uses e-tutors to assist you in the module. Online tutorials are conducted by these qualified e-tutors who are appointed by Unisa and are offered free of charge. All you need to be able to participate in e-tutoring is a computer with internet connection. If you live close to a Unisa regional centre or a telecentre contracted with Unisa, please feel free to visit any of these to access the internet. E-tutoring takes place on *myUnisa* where you are expected to connect with other students in your allocated group. It is the role of the e-tutor to guide you through your study material during this interaction process. For your to get the most out of online tutoring, you need to participate in the online discussions that the e-tutor will be facilitating.

4 RESOURCES

Prescribed book(s)

You do not need to purchase a prescribed book for this module. The course notes are available on *myUnisa* under “Learning Units”.

Learning units

To assist you, the learning units are available in three different formats, namely the traditional online learning version – with links to additional multimedia such as podcasts and internet links, a ZIP folder that you can download and extract on your own computer (without the multimedia) and an PDF version of the learning units. The PDF version may appear slightly different from the online and ZIP version, but they are exactly the same and have been copied from the *myUnisa* website. Download the ZIP and PDF versions from “Additional Resources”.

Recommended books

There are no recommended books. However, there are several links on *myUnisa* to recommended sites where you can download more information and help.

5 STUDY PLAN

You need to set aside at least five to seven hours per week, excluding time to install the software. Below is a break-down into weeks to assist you in planning your studies. Your situation may differ from others, but it is important that you plan your studies and put aside enough time for learning, practice and implementation.

Week	Lesson		Focus area
1		*myUnisa* Eclipse	Getting to know the *myUnisa* environment Meeting the lecturer and your fellow students Installing the software and getting ready for action!
2	0	Android	Get to know the Eclipse environment and Android implementation environment
3 & 4	1	Android Java	Adding widgets to the layout Data types and operators (primitive data types, Strings (intro) and operators)
5 & 6	2	Android Java	Generating multiple screens Control flow statements (loops and if ... else ...)
7	3	Android Java	RadioButton and RadioGroup controls Classes, objects and methods
8	4	Android Java	Creating lists using arrays Arrays (one dimensional)
9	5 6	Android Java Java	Splash screens, audio methods, local vs class variables Class variables and String objects Error handling
10 & 11	7 8	Java Java	Passing and Overloading methods Inheritance
12	9	Java	Text Files, Data Tables and SQLite

6 ASSESSMENT

Assessment plan

You will complete assignments and develop and submit a portfolio (project) that contributes 50% of your year mark and still write an examination that contributes 51% of your final mark.

Year mark = assignment 01 (written) x 15% + assignment 02 (mcq) x 35%
+ assignment 03 (project) x 50%

Final mark = year mark x 49% + exam mark x 51%

You will pass this module provided that the mark you've obtained in the exam is 40% and above AND your final mark is above 50%. Refer to UNISA's rules and regulations regarding supplementary and aegrotat examinations.

		Due dates and unique numbers for assignments			
Assessment	**Type**	**Semester 1**	**Unique Nr**	**Semester 2**	**Unique Nr**
Assignment 01 *Compulsory*	Written	16 Feb	810743	12 Aug	714246
Assignment 02	MCQ	15 Apr	888363	30 Sep	743315
Portfolio *Compulsory*	Application	29 Apr	707229	7 Oct	721266
Written examination *Compulsory*	MCQ	*Refer to the communication from UNISA on the Examination Dates*			

Submission of assignments

You must submit ALL the assignments online via *myUnisa*. No e-mails or written assignments will be accepted. The specific requirements and questions are in the learning units.

Assignments

The specific requirements and questions for the assignments and specifications for the portfolio (project) are available on *myUnisa* under “Additional Information” and “Learning Units”.

7 EXAMINATION

The final written examination is a two-hour MCQ examination.

Good luck and enjoy!