UNIVERSITY of TECHNOLOGY, MAURITIUS

School of Innovative Technologies and Engineering (SITE)

BSc (Hons) Computer Science with Network Security

Cohorts: BCNS/19A/FT

Coursework for 2020 SEMESTER 1

MODULE: Internet Programming II

MODULE CODE: WAT2117C

Duration: 12 weeks **Date set: 4th March 2020**

Instructions:

1. You will have to demonstrate the software in the Lab.
2. Platform: Visual Studio 2013/15/17 and SQL SERVER 12/14/16.
3. Language: VB
4. Make sure the work submitted is your own. If found guilty of plagiarism a failure grade will be awarded.
5. Late submission of coursework will be penalized.
6. Put all your work in a CD for submission to SITE administration.
7. **The deadline date is 27th May 2020 before 15.00.**

C A S E S T U D Y

Learning Environment System (LES) is an online application platform that provides dedicated distance learning facilities to assist student in their studies. **LES** main objective is to give full and customized support to student as per their requirements, motivation and willingness to build up a successful career path in line with their specialized field of study. For this purpose there is a need to develop an appropriate web application enabling the following scenarios:

LES comprises of an administrator and two other major types of users namely Tutors and Students. To have full access to the various functionalities of the system, both student and tutor must be authenticated users.

The tutor will then have the possibility to create a course, posts lectures, tutorials, assignments, syllabus, links to software and sample exam questions. He will be able to post important events that can be viewed by his/her student.

Two types of searches will be available namely Simple and Advance. A Simple search can be made available on the Home Page. Thus students need not register to look for course information (aims, objectives etc…). The Advance search requires registration and this will display detailed information on a course and allows student to get access to course materials.

Consequently, for a user to access those materials, he must first subscribe for a course. The student will then be able to log in to the **LES** web site with his userID and password, search through, view and/or download materials. Once the student logs in to his account, he can see a customized message as follows: ***"Hello user welcome to***

Networking course …". The system shall not allow students to access materials unless they are subscribed to the course.

The different request for course subscription will be closely monitored by the tutor who will also have other additional privileges. He will be able to view all the students subscribed within a course and mark a student subscription as active/inactive.

Here you are required to develop an appropriate web application for **LES** and implement all the necessary features described above. Use session tracking techniques to know the different login sessions for a student / tutor.

Note that you must have a secure online section for the system administrator to log in with his username and password and do the necessary updates.

The software you will develop will therefore be divided into three sections namely administrator, tutor and student.

You may add other relevant functionalities to the website to make it as professional as possible.

Assessment Criteria

	Criteria	**%**
T1	Functionalities	60
T2	Interface Design & Validation	10
T3	Report/ Database Design	10
T4	Coursework Presentation	10
T5	Checkpoints	10

To derive a list of functional requirements:

F1 Tutor registers

F2 Tutor logins

F3 Student views course

F4 Admin searches ..

F5 etc..

F6

All forms must be properly validated.

Deliverables (missing any of these may lose you marks)

1. The URL of the page (http://localhost/folder/filename) on the IIS web-server from which your application can be run. The application should work correctly for users accessing it using different browsers.

2. A disk (virus-free please) containing all the files (aspx, .ascx, database, etc..). The disk must be **labeled** with your ***student ID***, cohort, programme, user id, password and name of the initial aspx file.

3. The Continuous Assessment Submission Slip form must be filled in and submit along with your coursework.

4. A report consisting of the following sections - each section should be clearly labeled:

   - How to run the application:
     List of Functional requirements (F1, F2, F3 etc…)
     - Screenshot of each functional requirement along with description
     - Screenshot label with name of the web page used (e.g F1: register.aspx)

   - A numbered list of any bugs and/or weaknesses in your program (if you don't think there are any then say so). Bugs (e.g. it always crashes when you try to delete a record) that are declared in this list will lose you fewer marks than ones that you don't declare!

   - A brief (less than half a page) description of any special strength of your application that you think should be taken into account in awarding a mark. Some examples would be use of .ascx files, stored procedures, sql injection prevention, use of components from app_code, AJAX, data table, encryption, cookies, global.asax, email etc..

   - Database design: data dictionary, ERD

   - Listing of user credentials for each Role Type, for example:
     - **Role**: Student
     - **User name**: pluto
     - **Password**: venus
     - **URL** to student home page

   - Configurations setting such as web.config