COURSE TITLE: **Platform Technologies I**

COURSE CODE: INFO 2603

TYPE: Core

LEVEL: 3

SEMESTER: 1

START DATE: SEP-03-2018

DEPARTMENT and FACULTY: DCIT/FST

CREDITS: 3

PRE-REQUISITE(S):

ESTIMATED STUDY HOURS:

Two 1-hour lectures, One 2-hour lab, 6 hours per week independent study

Lectures:

Day	Time	Room
Monday	11:00 a.m. to 11:50 a.m.	TCB 21
Tuesday	1:00 p.m. to 1:50 p.m.	FST 412

Labs:

Day	Time	Room
Wednesdays	2:00 p.m. to 3:50 p.m.	FST CSL1

LECTURER: Dr. Phaedra Mohammed (Phaedra.Mohammed@sta.uwi.edu)

Office Hours: Wednesdays 11:00 a.m. to 12:00 p.m.
Wednesdays 1:00 p.m. to 2:00 p.m.

TUTOR: Mr. Nicholas Mendez (info2603uwi@gmail.com)

COURSE OVERVIEW

This course provides the student with an introductory understanding of the terminology and concepts of operating systems and computer networking. The technical foundation of operating systems installation, configuration, administration and troubleshooting are introduced to students. The course will be delivered using a combination of lectures, eLearning and various online resources. Assessments will take the form of written examinations and lab examinations.

COURSE CONTENT

Operating Systems are central to computing activities. An operating system is a program that acts as an intermediary between a user of a computer and the computer hardware. Two primary aims of an operating system are to manage resources (e.g. CPU time, memory) and to control users and software. This course bridges the knowledge gap between computer architecture and all other software systems and prepares students for further courses on computer systems such as computer networks.

COURSE LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Examine the basic hardware and architectural requirements used by modern operating systems.
2. Discuss operating system and networking terms and concepts as they apply to a business scenario.
3. Recommend an operating system and features to meet the needs of a business.
4. Design an installation strategy for operating systems, the features and software to ensure the most economical use of hardware resources and time.
5. Configure an operating system and its features so that it can perform a specific task on a company network
6. Perform administration of an operating system allowing ongoing user access to the required resources on a network.
7. Troubleshoot errors and problems with computers and the network to ensure the systems are available at all times.
8. Utilise command line environments to manage file and directories, and perform administrative tasks in order to increase administrative performance.
9. Recommend a network configuration to suit real-world business environments.

TEACHING STRATEGY

The course will be delivered using a combination of interactive lectures including case studies and practical lab sessions for implementing basic concepts. Course content is reinforced through student participation in online activities posted on myElearning.

COURSE ASSESSMENT

Assessment	Learning Outcomes									Weighting %	Assessment Description	Duration
	1	2	3	4	5	6	7	8	9			
Written Exam	✓	✓	✓	✓						25	Problems & Short Answer	2 hrs
Lab Exam 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	25	Scenario-based Problems & Practical Exercises	2 hrs
Lab Exam 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	25		
Lab Exam 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	25		
TOTAL %										100		

This course has 100% coursework. There is no final examination.

CONTENT

1. Unit 1 Hardware Review
    1.1. Review of Von Neumann Computer Architecture
    1.2. Computer Components
    1.3. Bus Interconnection
    1.4. Instruction Set Architectures - x86, x86_64, IA64, ARM, SPARC
    1.5. Bus Width, Pipelining
    1.6. I/O Architecture
2. Unit 2 Operating System Concepts
    2.1. Functions of an Operating System
    2.2. Types of Operating Systems
    2.3. Task and Device Management
    2.4. File System Management
    2.5. Windows Architecture
3. Unit 3 Operating System Networking Concepts
    3.1. Windows Networking Models
    3.2. Networking Hardware and Software
    3.3. Protocols
    3.4. Introduction to TCP/IP
4. Unit 4 Operating Systems in Practice
    4.1. UNIX Operating Systems
    4.2. Windows Operating Systems
    4.3. Linux Operating Systems
    4.4. Android Operating Systems
    4.5. Raspberry Pi and Embedded Systems
5. Unit 5 System Administration and Command Line
    5.1. Installing and Configuring Windows Server
    5.2. Active Directory and Account Management
    5.3. Configuring, Managing, and Troubleshooting Resource Access
    5.4. Configuring and Managing Data Storage
    5.5. Virtualization and Troubleshooting
    5.6. BASH and Command Line
    5.7. Absolute and Relative Paths
    5.8. Managing Files and Folders from the Command Line

COURSE CALENDAR (Approximate)

Week	Topic
1	**Introduction to Course/ Course Overview - Unit 1**
2	**Unit 1, Unit 2**
3	**Unit 2**
4	**Revision / Written Test 1**
5	**Unit 3**
6	**Unit 3**
7	**Revision / Lab Examination 1**
8	**Unit 4**
9	**Unit 4**
10	**Revision / Lab Examination 2**
11	**Unit 5**
12	**Unit 5**
13	**Revision / Lab Examination 3**

RECOMMENDED READING

Understanding Operating Systems, 6th edition, Ana McIver McHoe and Ida M. Flynn, CEngage Learning, 8th edition, 2018

Modern Operating Systems, Global Edition by Andrew Tanenbaum and Herbert Bos, Prentice-Hall 2014

Computer Organisation and Architecture, 7th edition by William Stallings, Prentice-Hall 2006