Module: Operating Systems 252

Module name:	Operating Systems 252
Code:	OPS252
NQF level:	6
Type:	Fundamental – Diploma in Information Technology (Infrastructure stream)
Contact time:	52 hours
Structured time:	8 hours
Self-directed time:	60 hours
Notional hours:	120 hours
Credits:	12
Prerequisites:	None

Purpose

Providing students of information systems technology with the background knowledge and skills necessary to begin using the basic facilities and concepts found within the mainframe Z/OS environment.

Outcomes

Upon successful completion of this module, the student will be able to:

- Demonstrate detailed knowledge of Z/OS basics, understanding of the key terms, concepts, facts, general principles, rules and theories within the z/OS environment.
- Evaluate, select and apply appropriate methods and techniques for performing JCL operations in a mainframe Z/OS environment.
- Identify, analyse and solve problems within datasets in the z/OS environment, gathering evidence and applying solutions based on evidence and procedures appropriate to the mainframe environment.
- Work effectively in a team or group, and to take responsibility for their decisions and actions and the decisions and actions of others within a mainframe environment.

Assessment

- Continuous evaluation of theoretical work through written assignments, formative tests, and a summative test.
- Continuous evaluation of project work.
- Final assessment through a written examination.

Teaching and Learning

Learning materials

Prescribed Book

> Operating Systems-z/OS (2018), IT without Frontiers

Additional Material

> 📖 Stephens, D. (2008). *What on Earth Is a Mainframe.* Lulu. ISBN: 978-1409225355
> 📖 Ebbers, M. (2011). *Introduction to the New Mainframe*. Redbooks. ISBN: 0738435341

Learning activities

The teaching and learning activities consist of a combination of teaching methodologies including formal lectures on theoretical concepts, lab exercises, and discussions. Two compulsory assignments and a project must be completed during this course. The progress made on these assignments and project will guide the class discussion.

Notional learning hours

Activity	Units	Contact Time	Structured Time	Self-Directed Time
Lecture		40.0		24.0
Formative feedback		8.5		
Project	1	3.5		6.0
Assignment	2			6.0
Test	3		6.0	11.0
Exam	1		2.0	13.0
	52		**8.0**	**60.0**

Syllabus

- Introduction to the new mainframe.
- Mainframe hardware systems and high availability.
- z/OS overview.
- TSO/E ISPF and interactive facilities of z/OS.
- Working with datasets.
- Using JCL and SDSF.
- Batch processing and JES.
- Designing and developing applications for z/OS.
- Using Programming Languages on z/OS.
- TMS on z/OS.
- Database management systems on z/OS.
- Messaging and Queuing.
- Using SMP/E.
- Security on z/OS.
- Network communications on z/OS.