

Module: Operating Systems 262

Module name:	Operating Systems 262
Code:	OPS262
NQF level:	6
Type:	Fundamental – Diploma in Information Technology (Infrastructure stream)
Contact Time:	34 hours
Structured Time	6 hours
Self-directed time	40 hours
Notional hours:	80 hours
Credits:	8
Prerequisites:	OPS261

Purpose

This module is aimed at equipping students with the necessary skills to remotely manage single or multiple servers and automate day-to-day management and administration tasks. The module provides students with fundamental knowledge and skills to use PowerShell scripting language for administration and automating administration of Windows servers. It focus on primary windows PowerShell command-line features and techniques.

Outcomes

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

- Demonstrate an informed understanding of basic concepts behind PowerShell scripting including key terms, concepts, facts and recent trends in scripting.
- Demonstrate the ability to select and apply the appropriate tools to administer day to day administration tasks within the server environment context.
- Demonstrate the ability to identify, analyze and solve problems through the use of command, parameter syntax and troubleshooting techniques.
- Demonstrate the ability to work with files and folders within PowerShell
- Demonstrate the ability to gather information from a range of different sources and select information appropriately in relation to how PowerShell manages objects.
- Demonstrate an understanding of process management activities.

Assessment

- Continuous evaluation of theoretical work through written assignment, a formative, and a summative test.
- Continuous evaluation of project work, where the student must design, manage and report on the evaluation of testing methodologies and the selection of an appropriate methodology for a given scenario, justifying the choice made with well-formed arguments and evidence.
- Final assessment through a written examination.
- The assignments or projects collectively will count 30% of your class mark.
- All tests will collectively account for 70% of your class mark.

- Your class mark contributes 30% towards your final mark for the subject, while the final assessment accounts for 70% of your final mark.

Teaching and Learning

Learning materials

Prescribed books (EBSCO)

 **Learning PowerShell Jonathan Hassell, 2017**

Additional Material

 **MEYERS, M., n.d. Server Automation Scripting tools.**

 **Blawat, B. 2015 Mastering Windows PowerShell Scripting**

Learning activities

Learning will be facilitated by the lecturer with student centred activities that involve problem-based learning where pupils are presented with challenges that replicate the situation in the real-world environment. This will be achieved through a combination between presentation of theoretical concepts, guided exercises, group work and discussions during the module. One mandatory assignment and one project must be completed during the course.

Notional learning hours

Activity	Units	Contact Time	Structured Time	Self-Directed Time
Lecture		27.0		13.0
Formative feedback		3.5		
Project	1	3.5		9.0
Assignment	1			3.0
Test	2		4.0	8.0
Exam	1		2.0	7.0
		34.0	6.0	40.0

Syllabus

- The basics of using the shell.
- Getting set up with PowerShell
- Learning and running PowerShell commands.
- Finding and Running Basic Commands
- Working with Active Directory Objects in PowerShell (Delete, Move, Disable and reset users accounts)
- Automation of tasks.
- Format command output by using basic formatting commands
- Creating scripts to automate tasks
- Working with processes.
- Working with files and folders.