

## Module: Operating Systems 263

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| <b>Module name:</b>        | Operating Systems 263   |
| <b>Code:</b>               | OPS263  |
| <b>NQF level:</b>          | 6   |
| <b>Type:</b>               | Fundamental – Diploma in Information Technology (Infrastructure stream) |
| <b>Contact time:</b>       | 34 hours  |
| <b>Structured time:</b>    | 6 hours   |
| <b>Self-directed time:</b> | 40 hours  |
| <b>Notional hours:</b>     | 80 hours  |
| <b>Credits:</b>            | 8   |
| <b>Prerequisites:</b>      | OPS261  |

### Purpose

This course is aimed at providing students with tools necessary to manage a Linux Server environment. In this course, students will focus on managing and troubleshooting various problems of a Red Hat Enterprise Linux system and the tools available to aid this task through a series of hand-on-labs and practical use case.

### Outcomes

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

- Demonstrate the ability to make decisions and act appropriately in system start-up and advanced system management.
- Demonstrate the ability to evaluate, select, and apply configurations of the Linux kernel.
- Demonstrate the ability to evaluate, select, and apply the necessary skills to perform Linux commands in the Linux command line interface.
- Demonstrate the ability to evaluate, select, and apply user management within the Linux environment.
- Demonstrate detailed knowledge on the graphical user interface of Linux.

### Assessment



Assessment is performed using a variety of instruments:

- 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)

-  **Linux for beginners the ultimate guide to the Linux operating system**
-  **Linux Command Line, Cover all essential Linux commands. A complete introduction.**

#### Additional material

-  **Linux: The Ultimate Step by Step Guide to Quickly and Easily Learning Linux.**

### 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                |
|                    |       | <b>34.0</b>  | <b>6.0</b>      | <b>40.0</b>        |

### Syllabus

- Installation of Linux
- System Start-up & Advanced System Management
- Linux Kernel Configuration
- Philosophy and concepts
- Basic graphical user interface configurations
- Introduction to basic commands in command line.
- User management and permissions.
- User management commands.