



## Department of Computing

### Course: BSc in Computing in Data Centre Management

### Module Title: Private Cloud Technologies

<b>Credits:</b>	10
<b>Credit Level:</b>	7
<b>Prerequisite Modules:</b>	None

#### *Description:*

To provide the student with the theoretical and applied skills to use virtualization technology in an enterprise or data centre environment, both from the theoretical perspective and as an applied discipline.

#### *Module Learning Outcomes:*

On successful completion of this module the learner will be able to:

1. Apply detailed knowledge of architectures and practices in desktop and server virtualization.
2. Plan the selection of hardware platforms suited to the scale of business requirements.
3. Evaluate, select and configure appropriate compute, network and storage virtualization for specific purposes.
4. Implement security, management and business continuity strategies suited to a virtualized infrastructure.
5. Utilise data centre scale management tools.

#### *Indicative Content:*

1. Hardware Platforms
2. Virtual Hosts in the Data Centre
3. Data Centre Scale Management
4. Securing the Infrastructure

#### *Module Assessment:*

Coursework

100%



## Department of Computing

### Course: BSc in Computing in Data Centre Management

### Module Title: Server Maintenance

<b>Credits:</b>	10
<b>Credit Level:</b>	7
<b>Prerequisite Modules:</b>	None

#### *Description:*

To provide the student with the competencies and knowledge to design and implement an enterprise-scale network directory service deployment.

#### *Module Learning Outcomes:*

On successful completion of this module the learner will be able to:

1. Critically appraise Directory Service technologies available when choosing and planning a network infrastructure.
2. Justify the selection of appropriate topologies and technologies for a given set of business goals and requirements.
3. Identify, appraise and apply enterprise best practices for server management operations and resource management.
4. Apply best practice in securing enterprise systems.
5. Justify the selection and use of a scripting language to automate various administrative tasks
6. Apply research, information gathering, critical analysis, design and implementation techniques appropriately and effectively.

#### *Indicative Content:*

1. Planning Network Infrastructure
2. AD Server Management Operations
3. Services Management Operations
4. User & Group Administration
5. Security & Maintenance
6. Server Scripting Language

#### *Module Assessment:*

*Coursework* *100%*



## Department of Computing

### Course: BSc in Computing in Data Centre Management

### Module Title: Governance, Risk & Compliance

<b>Credits:</b>	10
<b>Credit Level:</b>	7
<b>Prerequisite Modules:</b>	None

#### *Description:*

To provide the student with skills to understand and appreciate the mandated governance, data retention and risk management procedures necessary for the successful administration and coordination of an organisation's compliance measures.

#### *Module Learning Outcomes:*

On successful completion of this module the learner will be able to:

1. Critically appraise the best practices available for IT governance.
2. Justify the selection of appropriate governance strategies for a given set of business goals and requirements.
3. Identify, remediate, monitor, exploit and manage enterprise IT risks according to best practice.
4. Design, implement and maintain a common risk infrastructure by leveraging people, process and technology transformation opportunities.
5. Critically assess compliance with relevant mandatory and best practice standards in enterprise IT.
6. Apply research, information gathering, critical analysis, design and implementation techniques appropriately and effectively.

#### *Indicative Content:*

1. Introduction
2. Governance
3. Risk Management
4. Compliance
5. Certification & Standards

#### *Module Assessment:*

Coursework

100%



## Department of Computing

### Course: BSc in Computing in Data Centre Management

### Module Title: OO Programming for Server Administration

<b>Credits:</b>	10
<b>Credit Level:</b>	7
<b>Prerequisite Modules:</b>	None

#### *Description:*

This subject will extend the learners knowledge of object oriented programming. Learners will design and implement object oriented programs for use in the administration of server systems.

#### *Module Learning Outcomes:*

On successful completion of this module the learner will be able to:

1. Create objects from previously created objects and OO libraries with particular care regarding performance and security.
2. Devise and write threaded systems
3. Design, implement and test object oriented classes with checks for error handling
4. Develop code using data structures combined with regular expressions to extract data subject to a business objective
5. Apply automation through coding of mundane system administration tasks in a timely basis

#### *Indicative Content:*

1. Introduction to Object Relationships
2. Programming with Threads
3. Regular Expressions
4. Error Handling
5. Automation

#### *Module Assessment:*

Coursework

100%



## Department of Computing

### Course: BSc in Computing in Data Centre Management

### Module Title: Management & Maintenance Project

<b>Credits:</b>	10
<b>Credit Level:</b>	7
<b>Prerequisite Modules:</b>	None

#### *Description:*

To provide the student with a with an opportunity to combine all of the knowledge obtained to this point into a cohesive structured management and maintenance project. Students will design and configure an appropriate system for application in a data centre. The module will also enable students to develop a programmed solution for the management and maintenance of devices in a data center.

#### *Module Learning Outcomes:*

On successful completion of this module the learner will be able to:

1. Devise a plan of the phases of a management project for any one of a variety of disciplines from informal requirements to implementation.
2. Develop a plan for the project showing milestones and deliverables.
3. Design and implement an appropriate test plan for the project.
4. Prepare a report on the work undertaken in the project.
5. Apply detailed knowledge of the role of governance and professionalism in data center management

#### *Indicative Content:*

1. Project Proposal
2. Technology Section
3. Implementation
4. Testing
5. Technical Report & Presentation

#### *Module Assessment:*

Coursework

100%



## Department of Computing

### Course: BSc in Computing in Data Centre Management

#### Module Title: Placement

Note: 35HPW \* 8 Weeks = 280 Hours in total

Credits:	10
Credit Level:	7
Prerequisite Modules:	None

#### *Description:*

This module aims to give students operational experience of best practice in the design and implementation and management of Data Center Operations. Students should also be exposed to a professional working environment with the objective of maximising their employability and future career prospects whilst providing employers with highly capable staff who can demonstrate and apply their technical skills to real-world situation.

#### *Module Learning Outcomes:*

On successful completion of this module the learner will be able to:

1. Explore the varied technical environments with which data centres are designed, realised and implemented.
2. Analyse complex problems in the design, implementation, maintenance and management of data centre systems and pursue appropriate approaches to solving them.
3. Apply problem solving, design and research skills in order to develop successful data centre operations.
4. Work with a range of cutting-edge enterprise technologies and maintenance techniques.
5. Reflect upon their personal professional practice demonstrating appropriate and effective leadership, communication, negotiation and organisational skills to aid life-long learning and continuing professional development
6. Exercise professional and ethical judgement in decision making and communication within a working environment
7. Apply research, information gathering, critical analysis, design and implementation techniques appropriately and effectively
8. Communicate effectively in order to enhance the understanding and engagement of a professional audience.



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Letterkenny Institute of Technology

## Indicative Content:

1. Industrial Placement Monitoring
2. Industrial Placement Assessment

## *Module Assessment:*

*Coursework* *100%*