



PRIFYSGOL CYMRU
Y Drindod Dewi Sant
UNIVERSITY OF WALES
Trinity Saint David

SWANSEA - ABERTAWE

UNIVERSITY OF WALES: TRINITY SAINT DAVID
PRIFYSGOL CYMRU: Y DRINDOD DEWI SANT

School of Applied Computing

Data Centre Technologies ACUA6000

MODULE CODE: ACUA6000

TITLE: Data Centre Technologies

LEVEL: 6

CREDITS: 20

AIM(S)

- To study in depth the technical details of data center fundamentals and technologies. To contextualize an overview of how DC technologies fits into the wider field of cloud computing.

LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to demonstrate the ability to:

1. Demonstrate comprehensive and detailed theoretical knowledge of data center technologies and their deployment.
2. Research how data center relates to the wider field of cloud computing and critically evaluate current and advancements in the field, including sustainability.

INDICATIVE CONTENT

- LAN and SAN
- Introduction to server farm
 - Data centre architecture
 - Application architecture model
- Data centre network design
 - Data centre topologies
 - Fully redundant layer 2 and layer 3 design
- Server and application architecture
- Server load balancing
- Server farm protocols
- Data centre unified fabric
- The sustainable data centre

LEARNING AND TEACHING STRATEGY

The conceptual, theoretical issues are suited to delivery during weekly lectures. These topics necessitate exploration and application to case studies pertaining to cluster computing, for which laboratory work is the most appropriate strategy. Students will be expected to read widely within the literature relevant to the subject area.

The allocation of teaching to deliver the module is:

Activity type	Hours	Percentage
Scheduled learning	60	30%
Independent learning	140	70%
Placement learning	0	
TOTAL	200	100%

ASSESSMENT

Description of each assessment component and its weighting, together with an example for new forms of assessment:

Assessment Component 1 – Written- 50%

2-hour exam. Complete a written examination to demonstrate technical knowledge based on theoretical principles.

Assessment Component 2 – Coursework– 50%

3000-word report. This assignment will require students to write a report to demonstrate understanding and knowledge on latest advancement on data centre technologies.

Exemplar: 'Critically evaluate storage area network architecture and security issues.'

Assessment Summary

Activity type	Percentage
Written	50%
Coursework	50%
Practical	0%
TOTAL	100%

BIBLIOGRAPHY

Essential

M. Arregoces and M. Portolani (2012) Data Centre Fundamentals, Cisco Press

T. Lammle and J. Swartz (2014) Introducing Data Center Technologies Study guide, Sybex

Background

T. Lammle and J. Swartz (2014) Introducing Data Center Networking Study guide, Sybex

G. Santana (2014) Data Centre Virtualisation Fundamentals, Cisco Press