

## NETW C7029: Network Management

Module Details	
Module Code:	NETW C7029
Full Title:	Network Management <b>APPROVED</b>
Valid From:	Semester 1 - 2019/20 ( June 2019 )
Language of Instruction:	English
Duration:	1 Semester
Credits:	5
Module Owner::	Martin McCourt
Departments:	Unknown
Module Description:	Students completing this module will understand the theory and principles of network management. Student will be able to use network management tools to monitor, configure, test and manage LAN and WAN infrastructures.

Module Learning Outcome	
On successful completion of this module the learner will be able to:	
#	Module Learning Outcome Description
MLO1	Compare network management strategies and standards.
MLO2	Assess different network management protocols and notations.
MLO3	Employ network management tools.
MLO4	Configure network management protocols and applications.
Pre-requisite learning	
<p><b>Module Recommendations</b>  <i>This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named DkIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).</i></p>	
No recommendations listed	

<b>Module Indicative Content</b>
<b>ISO Management Model</b> Standards, Models, Management Information Tree, Managed Object Perspective.
<b>Abstract Syntax Notation (ASN.1)</b> Terminology, Symbols and Conventions, Objects and Data Types, Encoding Structure.
<b>SNMP</b> SMI, Architecture, Protocol Specifications, Operation.
<b>RMON/MIB</b> Textual Conventions, MIB, Relationship Between Control and Data Tables.
<b>Network Management Tools and Applications</b> Protocol Analyser, CA Unicenter TN, Tivoli TME, Low-End System Management.

## Module Assessment

Assessment Breakdown	%
Course Work	35.00%
Practical	15.00%
Final Examination	50.00%

<b>Module Special Regulation</b>

### Assessments

#### Full Time

Course Work			
<b>Assessment Type</b>	Multiple Choice Questions	<b>% of Total Mark</b>	20
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	Week 12	<b>Learning Outcome</b>	1,2
<b>Duration in minutes</b>	45		
<b>Assessment Description</b> The MCQ will cover all aspects of network management covered to date.			
<b>Assessment Type</b>	Essay	<b>% of Total Mark</b>	15
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	Week 10	<b>Learning Outcome</b>	2,3
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> This assignment will be independent work covering aspects and trends in network management.			

No Project
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#### Practical

<b>Assessment Type</b>	Practical/Skills Evaluation	<b>% of Total Mark</b>	15
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	Week 13	<b>Learning Outcome</b>	4
<b>Duration in minutes</b>	120		
<b>Assessment Description</b> The practical exam will test a student's ability to configure and interpret network management protocols and applications			

#### Final Examination

<b>Assessment Type</b>	Formal Exam	<b>% of Total Mark</b>	50
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	End-of-Semester	<b>Learning Outcome</b>	1,2,3
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> End-of-Semester Final Examination			

#### Part Time

Course Work			
<b>Assessment Type</b>	Multiple Choice Questions	<b>% of Total Mark</b>	20
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	Week 12	<b>Learning Outcome</b>	1,2
<b>Duration in minutes</b>	45		
<b>Assessment Description</b> The MCQ will cover all aspects of network management covered to date.			
<b>Assessment Type</b>	Essay	<b>% of Total Mark</b>	15
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	Week 10	<b>Learning Outcome</b>	2,3
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> This assignment will be independent work covering aspects and trends in network management.			
No Project			
Practical			
<b>Assessment Type</b>	Practical/Skills Evaluation	<b>% of Total Mark</b>	15
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	Week 13	<b>Learning Outcome</b>	4
<b>Duration in minutes</b>	120		
<b>Assessment Description</b> The practical exam will test a student's ability to configure and interpret network management protocols and applications			
Final Examination			
<b>Assessment Type</b>	Formal Exam	<b>% of Total Mark</b>	50
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	End-of-Semester	<b>Learning Outcome</b>	1,2,3
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> End of semester exam			
Reassessment Requirement			
<b>A repeat examination</b> <i>Reassessment of this module will consist of a repeat examination. It is possible that there will also be a requirement to be reassessed in a coursework element.</i>			

**Module Workload**

<b>Workload: Full Time</b>					
<i>Workload Type</i>	<i>Contact Type</i>	<i>Workload Description</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>	<i>Hours</i>
Lecture	Contact		Every Week	2.00	2
Practical	Contact		Every Week	2.00	2
Directed Reading	Non Contact	No Description	Every Week	2.00	2
Independent Study	Non Contact		Every Week	2.00	2
Total Weekly Learner Workload					8.00
Total Weekly Contact Hours					4.00

<b>Workload: Part Time</b>					
<i>Workload Type</i>	<i>Contact Type</i>	<i>Workload Description</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>	<i>Hours</i>
Lecture	Contact	No Description	Every Week	2.00	2
Practical	Contact	No Description	Every Week	2.00	2
Directed Reading	Non Contact	No Description	Every Week	2.00	2
Independent Study	Non Contact	No Description	Every Week	2.00	2
Total Weekly Learner Workload					8.00
Total Weekly Contact Hours					4.00

## Module Resources

### Recommended Book Resources

- Subramanian, Mani. (2010), Network Management: Principles and Practice, 2. Pearson, [ISBN: 8131734048].
- Douglas Mauro, Kevin Schmidt. (2005), Essential SNMP, 2. O'Reilly Media, p.462, [ISBN: 0-596-00840-6].
- Burke, J. R.. (2004), Network Management: Concepts and Practice, A Hands-on approach, Prentice Hall, [ISBN: 0130392950].
- Morris, Stephen. (2003), Network Management, MIBs and MPLs: Principles, Design and Implementation, Prentice Hall, [ISBN: 0131011138].

### Supplementary Book Resources

- Jukka Vesalainen. (2017), Practices for Network Management: In Search of Collaborative Advantage, Google Books.

*This module does not have any article/paper resources*

### Other Resources

- [Journal], The IP Journal, Cisco.
- [Journal], Packet, Cisco.
- [Configuration Manual], Cisco. Catalyst 3750-X and 3560-X Switch Software Configuration Guide, <http://Catalyst 3750-X and 3560-X Switch Software Configuration Guide>
- [Configuration Manual], Cisco. (2018), NetFlow Configuration Guide, Cisco IOS Release 15M&T, <https://www.cisco.com/c/en/us/td/docs/ios-sxml/ios/netflow/configuration/15-mt/nf-15-mt-book/ios-netflow-ov.html>
- [Website], Cisco. (2016), Catalyst 2960 and 2960-S Software Configuration Guide, 12.2(55)SE, [http://Catalyst 2960 and 2960-S Software Configuration Guide, 12.2\(55\)SE](http://Catalyst 2960 and 2960-S Software Configuration Guide, 12.2(55)SE)