



الجامعة الافتراضية السورية
SYRIAN VIRTUAL UNIVERSITY

Network Management

Course Definition

Information

Technology

Engineering



Powered by:



Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

1. Basic Information:

Course Name	Network Management
Course Code	NNM601
Number of Presentational Sessions*	20
Number of Synchronous Sessions**	10
Number of Shorter Tests***	2
Number of Exams***	1
Theoretical Sessions Work Load (hrs.)	60
Practical Sessions Work Load (hrs.)	30
Credit Hours	6

*Each presentational session comprises both recorded lecture (1.5 hrs.) and interactive learning content (1.5 hrs.).

**Each synchronous session comprises the interactive lecture carried out in real time in a virtual class (1.5 hrs.).

***Each shorter test is 0.5 hr. long. The final exam is 2 hrs. long.

N.B.

Generally, each chapter requires two presentational sessions: one for the recorded content and one for the interactive content (unless the chapter is too long, in which case it may require more sessions (. This note applies to synchronous sessions as well, where each chapter requires one synchronous session generally.

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

2. Prerequisites courses:

Course	Code
Computer Networks (2)	NNT601

3. Course Objectives:

The course aims to introduce network management systems and protocols, in addition to gaining experience in dealing with network management tools and systems and how to carry out network management engineering. The course also aims to introduce management networks and their applications

In particular, the student will be able to:

- Learn how to manage networks using SNMP management protocols.
- Practical application of using SNMP to search for management information in the MIB database.
- Learn about network management methods and systems.
- Identify management networks TMN.

Syrian Arab Republic		الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

4. Learning Outcomes (LO):

By the end of this course, the learner is expected to:

- Have an overview of how networks are managed.
- Having the ability to work with networks that employ the SNMP protocol.
- Understand how TMNs work.
- The ability to deal with broadband network management.
- The ability to understand modern network management mechanisms.

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

5. Assessment Results:

Chapter Number	Chapter Title	General Objectives	Assessment Type				
			Interactive Content & Recorded Sessions	Applied Activities (Synch. Sessions)	Final Exam * / Shorter Tests **	Presentations and Interviews ***	Reports ****
CH1	Introduction in Network Management	Comprehension –Analytical Thinking –Tools and Application Hands– On	√	√	√	√	√
CH2	The SNMP protocol	Comprehension –Analytical Thinking –Tools and Application Hands– On	√	√	√	√	√
CH3	Network management systems and tools	Comprehension –Analytical Thinking –Tools and Application Hands– On	√	√	√	√	√
CH4	Application and Network	Comprehension –Analytical Thinking –Tools	√	√	√	√	√

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

	management TMN	and Application Hands– On					
CH5	Wideband network management	Comprehension –Analytical Thinking –Tools and Application Hands– On	√	√	√	√	√

***The final exam is two hours long and is given at the end of the course.**

****Shorter tests are about 30 minutes long and are given after three or four lectures throughout the semester during synchronous sessions.**

*****Presentations, interviews, and reports are submitted once after each three or four lectures throughout the semester during synchronous sessions.**

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

6. Course Syllabus:

Chapter	Subject	Content	Number of Learning Objects	Number of synchronous Learning Objects
CH1	Introduction in Network Management	1. Network management objectives 2. Network management architecture 3. NMS	3	1
CH2	The SNMP protocol	1. Introduction 2. SNMPv1 3. SNMPv2 4. SNMPv3 5. RMON	5	2
CH3	Network management systems and tools	1. Auxiliary network management systems 2. Network statistics measuring systems 3. MIB design and engineering 4. Network management systems	4	2
CH4	Application and Network	1. TMN model 2. TMN architecture 3. TMN deployment	4	2

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

	management TMN	4. Applications		
CH5	Wideband network management	1. WAN 2. ATM Techniques 3. MPLS Network	3	1

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

7. Practical Activity:

- Tools and Labs:

Tool Name	Description
SNMP test tool	Simulation tool
SNMP Walk	SNMP command prompt

- Practical Activities per Chapters:

Chapter	Activities Type	Remarks
CH1	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Homework <input type="checkbox"/> Webinars <input type="checkbox"/> Project <input type="checkbox"/> Experiment <input type="checkbox"/> Other	Homework
CH2	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Homework <input type="checkbox"/> Webinars <input type="checkbox"/> Project <input type="checkbox"/> Experiment <input type="checkbox"/> Other	Homework
CH3	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Homework <input type="checkbox"/> Webinars <input type="checkbox"/> Project	Homework

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

	<input type="checkbox"/> Experiment <input type="checkbox"/> Other	
CH4	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Homework <input type="checkbox"/> Webinars <input type="checkbox"/> Project <input type="checkbox"/> Experiment <input type="checkbox"/> Other	Homework
CH5	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Homework <input type="checkbox"/> Webinars <input type="checkbox"/> Project <input type="checkbox"/> Experiment <input type="checkbox"/> Other	Homework

Syrian Arab Republic		الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

8. References:

- Abeck, Sebastian. Network Management know it all. Morgan Kaufmann, 2009.
- Franz, Hans–Werner, et al. Building leadership in project and network management. Springer, 2009.
- Nunzi, Giorgio, Caterina Scoglio, and Xing Li. IP Operations and Management. Springer Berlin/Heidelberg, 2009.