

<b>Course unit title:</b>	Network Security
<b>Course unit code:</b>	CSC440
<b>Type of course unit:</b> (Compulsory/optional)	Optional
<b>Level of course unit:</b> (First, second or third cycle)	Bachelor (1st cycle)
<b>Year of study:</b>	4
<b>Semester when the unit is delivered:</b>	7 or 8
<b>Number of ECTS credits allocated:</b>	6
<b>Name of lecturer(s):</b>	TBA
<b>Learning outcomes of the course unit:</b>	
<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> <li>• Describe and exemplify fundamental network security concepts</li> <li>• Recall, classify and state procedure and functional details of symmetric and asymmetric encryption</li> <li>• Interpret, categorize and explain computer security threats and countermeasure</li> <li>• State and describe concepts relating to authentication and IP-related services (e-mail and web security)</li> <li>• Recall and explain details relating to commercial applications of network security</li> </ul>	
<b>Mode of delivery:</b>	Face- to- face
<b>Prerequisites and co-requisites:</b>	CSC322
<b>Recommended optional program components:</b>	None
<b>Course Contents:</b>	
<p><b>Objective:</b> This course introduces important topics in network and inter-network security. Cryptography (encryption/decryption), web site security, remote logins.</p>	
<p><b>Description:</b> The fundamentals of cryptography, encryption/decryption, public-key and symmetric cryptography, the RSA algorithm and the data encryption standard (DES). Secure socket layer (SSL) and PGP encryption. Security of e-commerce transactions, http and https.</p>	

Sources of vulnerability in a corporate network, firewalls, software and hardware firewalls, firewall configuration. Closing the security holes with TCP/IP ports that remain active without any reason, identifying other points of entrance in the corporate inter-network.

Visuses, types of viruses, virus signatures, anti-virus software. Spread of viruses with e-mail, executables and macro viruses. Single point of checking for incoming data.

Corporate security policies, the importance of physical security and security procedures in the corporation. Cultivating the sense of responsibility by the individual employees. Passwords and authentication.

Privacy on the Internet. Malicious WWW browsers, other software that collect private data while users are connected on the Internet.

Hackers and the hacker community, characteristics of hackers, the tools used by hackers. How to detect hacker trials to intrude the corporate network. How to handle possible hacker intrusions.

**Recommended  
or  
required reading:**

Stallings William, NETWORK SECURITY ESSENTIALS,  
Prentice Hall

Stallings William, CRYPTOGRAPHY AND NETWORK  
SECURITY: PRINCIPLES AND PRACTICE

Conklin et al., PRINCIPLES OF COMPUTER SECURITY,  
Mc GrawHill

Charlie Kaufman, et al., NETWORK SECURITY: PRIVATE  
COMMUNICATION IN A PUBLIC WORLD

Mark Rhodes-Ousley et al., NETWORK SECURITY: THE  
COMPLETE REFERENCE

Cole Eric et al., NETWORK SECURITY BIBLE

Uyless D. Black. , INTERNET SECURITY PROTOCOLS  
PROTECTING IP TRAFFIC

Thomas A. Wadlow.,THE PROCESS OF NETWORK  
SECURITY

**Planned learning activities  
and teaching methods:**

Class Instruction  
Consultation/Computer Lab

42 Hours
15 Hours

<b>Assessment methods and criteria:</b>	<table border="1" data-bbox="1117 233 1294 352"> <tr> <td data-bbox="618 233 1117 275">Examinations</td> <td data-bbox="1117 233 1294 275">80%</td> </tr> <tr> <td data-bbox="618 275 1117 317">Coursework</td> <td data-bbox="1117 275 1294 317">20%</td> </tr> <tr> <td data-bbox="618 317 1117 352"></td> <td data-bbox="1117 317 1294 352">100%</td> </tr> </table>	Examinations	80%	Coursework	20%		100%
Examinations	80%						
Coursework	20%						
	100%						
<b>Language of instruction:</b>	English						
<b>Work Placement(s):</b>	No						
<b>Place of Teaching:</b>	Regular Classroom European University Cyprus, Nicosia						