



COMPUTER NETWORKS	
Enrollment year	2016/2017
Academic year	2016/2017
Regulations	DM270
Academic discipline	ING-INF/05 (DATA PROCESSING SYSTEMS)
Department	DEPARTMENT OF MATHEMATICS "FELICE CASORATI"
Course	MATHEMATICS
Curriculum	PERCORSO COMUNE
Year of study	1°
Period	1st semester (03/10/2016 - 13/01/2017)
ECTS	6
Lesson hours	54 lesson hours
Language	ITALIAN
Activity type	WRITTEN AND ORAL TEST
Teacher	MASSARI LUISA (titolare) - 6 ECTS
Prerequisites	=
Learning outcomes	<p>The aim of this course is to introduce key concepts and principles of computer networks; the objective is to give the student familiarity with the behaviour of modern data transmission technologies and the ability of analysing their performance. The Internet's architecture and protocols will be used as the primary examples to illustrate the fundamental principles of computer networking.</p> <p>Lab activity will be on tools for network traffic monitoring and analysis.</p>
Course contents	<p>Introduction to computer networks: elements of a network, circuit switching and packet switching, access to the network and transmission media.</p> <p>Performance: delay and losses in computer networks</p> <p>Layered communication architectures, definition of protocol, Internet</p>

	<p>architecture</p> <p>Application layer: basics on application layer.</p> <p>Transport layer: services, UDP and TCP protocols. Flow control and congestion control. Performance problems: latency, throughput and utilization.</p> <p>Network layer: services. Routing algorithms. Internet protocol, IP addressing and routing in Internet. IPv6</p> <p>Network monitoring: techniques and tools.</p>
<b>Teaching methods</b>	<p>Lectures (hours/year in lecture theatre): 38</p> <p>Practical class (hours/year in lecture theatre): 14</p> <p>Practicals / Workshops (hours/year in lecture theatre): 6</p>
<b>Reccomended or required readings</b>	<p>J. Kurose, K. Ross. Reti di calcolatori ed Internet - Un approccio top-down. 6 ed. Pearson. 2013 (ed. inglese J. Kurose, K. Ross. Computer Networking - A Top-Down Approach, 6th ed. Addison Wesley, 2012).</p> <p>Lecture slides.</p>
<b>Assessment methods</b>	<p>Final exam consists of a written test, containing exercises and questions, and in a report on lab activity.</p>
<b>Further information</b>	<p>Final exam consists of a written test, containing exercises and questions, and in a report on lab activity.</p>
<b>Sustainable development goals - Agenda 2030</b>	<p><a href="#">\$Ibl legenda sviluppo sostenibile</a></p>