

5.0 credits	30.0 h + 30.0 h	1q
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Teacher(s) :	Bonaventure Olivier ;
Language :	Anglais
Place of the course	Louvain-la-Neuve
Prerequisites :	-- high-level programming language (e.g. FSAB1402) -- Unix environment (e.g. SINF1252)
Main themes :	-- Role, model and requirements of distributed applications -- Reference model used in computer networks -- Reliable transport of information in data networks : mechanisms and protocols -- Interconnection of networks, addressing, routing : mechanisms and protocols -- Local Area, Metropolitan and Wide Area Networks
Aims :	Students completing successfully this course will be able to -- explain the main requirements of distributed and multimedia applications -- explain the functions used to fulfill those requirements in the different layers of the networking reference model -- explain how those functions are implemented in the Internet protocols -- select the appropriate solution based on the application's requirement -- estimate the characteristic quantities related to networks Students will have developed skills and operational methodology. In particular, they have developed their ability to -- argue in a group to bring out a common solution based on solid foundations; -- write a summary report containing the items you want to highlight. <i>The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".</i>
Evaluation methods :	-- Participation to the discussion about the exercises (10% of final grade) -- Programming project (10% of final grade) The participation to the discussion about the exercises and the programming project may not be represented during the second session. -- Packet trace project (10% of final grade) -- Written exam (Both exercises and theory : 70% of final grade)
Teaching methods :	Lecture Exercises -- A set of questions or a small implementation in groups of 7/8 students every week (answers provided to the teaching assistant followed by a discussion) Programming project -- Implementation of a small protocol by groups of 2 Packet trace project -- Explanation of some specific behaviour of networking
Content :	The course uses the top-down approach. -- Introduction -- Application layer -- Transport layer -- Network layer -- Datalink layer and Local Area Network
Bibliography :	-- Computer Networking : Principles, Protocols and Practice open-source textbook. -- Slides online
Cycle and year of study :	<a href="#">&gt; Master [60] in Computer Science</a> <a href="#">&gt; Master [120] in Electrical Engineering</a> <a href="#">&gt; Master [120] in Computer Science and Engineering</a> <a href="#">&gt; Master [120] in Biomedical Engineering</a> <a href="#">&gt; Master [120] in Computer Science</a> <a href="#">&gt; Master [120] in Mathematical Engineering</a>

Faculty or entity in charge:	INFO
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