


Teacher(s)	Bonaventure Olivier ;
Language :	English > French-friendly
Place of the course	Louvain-la-Neuve
Main themes	<ul style="list-style-type: none"> <li>• network architectures and the role of virtual networks</li> <li>• quality of service</li> <li>• provision of multicast</li> <li>• network reliability</li> <li>• principles of network management</li> </ul>
Learning outcomes	<p><b>At the end of this learning unit, the student is able to :</b></p> <p>Given the learning outcomes of the "Master in Computer Science and Engineering" program, this course contributes to the development, acquisition and evaluation of the following learning outcomes:</p> <ul style="list-style-type: none"> <li>• INFO1.1-3</li> <li>• INFO2.2-4</li> <li>• INFO5.2, INFO5.4-5</li> <li>• INFO6.1, INFO6.3, INFO6.4</li> </ul> <p>Given the learning outcomes of the "Master [120] in Computer Science" program, this course contributes to the development, acquisition and evaluation of the following learning outcomes:</p> <p>1</p> <ul style="list-style-type: none"> <li>• SINF1.M1</li> <li>• SINF2.2-4</li> <li>• SINF5.2, SINF5.4-5</li> <li>• SINF6.1, SINF6.3, SINF6.4</li> </ul> <p>Students completing successfully this course will be able to</p> <ul style="list-style-type: none"> <li>• design, deploy and manage data networks</li> <li>• explain the threats against networks and the defense strategies</li> <li>• deploy mechanisms to ensure quality of service, security and reliability</li> </ul>
Evaluation methods	<ul style="list-style-type: none"> <li>• Oral exam (60%)</li> <li>• Group project (25%)</li> <li>• Peer review (10%)</li> <li>• Course participation (5%)</li> </ul> <p>Projects cannot be repeated in the second session. The same applies to peer reviews and course participation.</p> <p>The use of generative AI software such as chatGPT, GitHub copilot, ... is forbidden for assistance in writing the reports and source code requested in this course. In addition, external sources of information must be systematically cited in compliance with bibliographic referencing standards.</p> <p>Translated with <a href="https://www.DeepL.com/Translator">www.DeepL.com/Translator</a> (free version)</p>
Teaching methods	<ul style="list-style-type: none"> <li>• Inverted classroom</li> <li>• Network design and management project in small groups</li> </ul>
Content	<ul style="list-style-type: none"> <li>• BGP</li> <li>• Traffic control in IP networks</li> <li>• IP Multicast</li> <li>• MultiProtocol Label Switching</li> <li>• BGP/MPLS VPNs</li> <li>• Evolution of the Internet architecture</li> </ul>
Inline resources	<a href="https://moodle.uclouvain.be/course/view.php?id=2046">https://moodle.uclouvain.be/course/view.php?id=2046</a>
Bibliography	<p>Slides available on moodle</p> <p>reference articles available on moodle</p>

Faculty or entity in charge	INFO
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Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Computer Science and Engineering	INFO2M	5		
Master [120] in Computer Science	SINF2M	5		