



5 credits

30.0 h

Q2

Teacher(s)	Descampe Antonin ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	<p>Topics covered during the course are:</p> <ul style="list-style-type: none"> <li>• Current emerging technical devices, and historical perspective.</li> <li>• Understanding of key underlying technologies.</li> <li>• Terms of invention and innovation for the emergence of these devices.</li> <li>• Possible ways of appropriation and potential impact in terms of communication, mobility, work, health, ethics and community life.</li> </ul>
Aims	<p>After the course, students should have:</p> <p>1      • Knowledge on emerging technology devices and basic understanding of the underlying technologies.</p> <p>         • Knowledge on the conditions for the appearance of these devices and their societal consequences.</p> <p>         • Ability to use such knowledge for the understanding and critical analysis of new devices.</p> <p>-----</p> <p><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></p>
Evaluation methods	<ul style="list-style-type: none"> <li>• Oral evaluation on transmitted knowledge: underlying technologies of emerging devices, conditions of appearance, societal impact.</li> <li>• Evaluation of the research and analytical work carried out by the student on a chosen emerging device. This work will be presented and discussed during the course.</li> </ul>
Teaching methods	<ul style="list-style-type: none"> <li>• Lectures by the teacher and by stakeholders directly involved in the analysis, design and / or marketing of emerging devices.</li> <li>• Analysis by the student of a specific device, according to a list of criteria provided by the teacher, and group discussion and presentation of the analysis outcomes.</li> </ul>
Content	<p>The course is made of 3 different parts.</p> <p>In the 'technology' part, the keys to understand underlying technologies will be presented, including:</p> <ul style="list-style-type: none"> <li>• Digitalization of information, in particular images and videos.</li> <li>• Data mining and Big Data management</li> <li>• Artificial Intelligence and Deep Learning</li> <li>• <u>Blockchain (used in crypto-currencies like bitcoin)</u></li> </ul> <p>In the 'critical analysis' part, the technical and societal challenges of these technologies and the devices that make use of them are studied. What does the emergence of these devices say of our society and how is the latter deeply transformed by these new tools? The themes covered in this section deal in particular with mobility, democracy, community life, work, algorithmic governance, transhumanism.</p> <p>Finally, in the "case study" part, mainly fed by the students' work, a series of emerging devices is studied. Based on the knowledge gained in the first two parts, the goal is to analyze, on a series of concrete cases, the underlying technologies, the uses and the first appropriations made of the devices, and the societal transformations likely to be triggered by them.</p> <p>Examples of emerging devices:</p> <ul style="list-style-type: none"> <li>• Assistance systems and automation of driving vehicles</li> <li>• Biometrics, body activity monitoring, and real-time capture of facial expressions, eye movements and gestures</li> <li>• Assistive devices for composition, creation, staging and execution of artistic and technical works</li> <li>• Perception assistance</li> <li>• Smart clothes</li> <li>• Assisted interfaces for users with sensory, cognitive or motor limitations</li> <li>• Internet of Things</li> <li>• Virtual or augmented reality</li> <li>• Social Robotics</li> </ul>
Other infos	<p>Technological complement to the course "Digital Media and Education", centered on educational process rather than on the study of actual devices.</p>

Faculty or entity in charge	COMU
-----------------------------	------

<b>Programmes containing this learning unit (UE)</b>				
Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Communication	<a href="#">CORP2M</a>	5		
Master [120] in Information and Communication Science and Technology	<a href="#">STIC2M</a>	5		
Master [60] in Information and Communication	<a href="#">COMU2M1</a>	5		