





5 credits

30.0 h + 30.0 h

Q2

Teacher(s)	Bronchart Nicolas ;
Language :	English
Place of the course	Louvain-la-Neuve
Main themes	<ul style="list-style-type: none"> <li>• Quality: definition &amp; history</li> <li>• Where is Quality within an organization?</li> <li>• Quality Management &amp; Quality Management Systems (QMS): principles, evolution and quality improvements methods</li> <li>• Total Quality Management: impacts of a high-quality product organization</li> </ul>
Aims	<p>With respect to the reference AA of the programme of studies "Masters degree in Mechanical Engineering", this course contributes to the development and acquisition of the following skills:</p> <ul style="list-style-type: none"> <li>• AA2.3, AA2.5</li> <li>• AA4.1, AA4.3, AA4.4</li> <li>• AA5.1, AA5.3, AA5.6</li> <li>• AA6.1, AA6.2</li> </ul> <p>1 <b>Specific learning outcomes of the course:</b></p> <p>At the end of the course, the student will be able to</p> <ul style="list-style-type: none"> <li>• Define what is Quality, how it impacts an organization (through products, processes, people), including historical and cultural aspects;</li> <li>• Illustrate the links between Quality Management and Strategy, including aspects such as HR Management, R&amp;D Strategy, Investments' Strategy or in general Leadership aspects;</li> <li>• Choose a Quality Improvement tool and apply it to a specific situation</li> <li>• Define a long term Quality Management Strategy, and implement it through an enterprise simulation.</li> </ul> <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	<p>The final grade will be based on</p> <ul style="list-style-type: none"> <li>• the participation to the enterprise simulation (50%)</li> <li>• an oral examination (50%).</li> </ul>
Teaching methods	<p>The course is based on lectures and will be illustrated by several examples and use cases. Speakers from enterprise world will also be invited to illustrate some topics.</p> <p>During exercise periods, students will get the opportunity to practice the concepts presented. They will participate to an enterprise simulation game that will allow them to play the role of managers</p>
Content	<ul style="list-style-type: none"> <li>• Philosophy and concepts                         <ul style="list-style-type: none"> <li>o Definition and key elements</li> <li>o Quality and global competitiveness</li> <li>o Quality Management, Ethics and Corporate responsibility</li> <li>o Quality Culture</li> <li>o Customer satisfaction</li> </ul> </li> <li>• Tools and techniques                         <ul style="list-style-type: none"> <li>o Quality function deployment</li> <li>o Statistical process control</li> <li>o Six Sigma, Lean,                                 <ul style="list-style-type: none"> <li>o Implementing total quality management</li> </ul> </li> </ul> </li> </ul>
Inline resources	<p><a href="http://icampus.uclouvain.be/claroline/course/index.php?cid=LMECA2711">http://icampus.uclouvain.be/claroline/course/index.php?cid=LMECA2711</a></p> <p>The enterprise simulation platform is also available online (for more info, please see <a href="http://www.cesim.com">www.cesim.com</a>).</p>

Bibliography	<ul style="list-style-type: none"><li>• « The Goal : A Process of Ongoing Improvement », E. M. Goldratt, 2014 (or previous editions)</li><li>• « Processus et Entreprise 2.0 - Innover par la collaboration et le Lean management », Yves Caseau, 2011</li><li>• «Quality Management for organizational excellence: introduction to total quality », David Goetsch &amp; Stanley Davis, 2012</li></ul>
Faculty or entity in charge	MECA

<b>Programmes containing this learning unit (UE)</b>				
Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Biomedical Engineering	<a href="#">GBIO2M</a>	5		
Master [120] in Statistics: Biostatistics	<a href="#">BSTA2M</a>	5		
Master [120] in Chemical and Materials Engineering	<a href="#">KIMA2M</a>	5		
Master [120] in Physical Engineering	<a href="#">FYAP2M</a>	5		
Master [120] in Mechanical Engineering	<a href="#">MECA2M</a>	5		