

5.0 credits	30.0 h + 15.0 h	2q
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Teacher(s) :	Van Vyve Mathieu ; Chevalier Philippe ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	Education focuses on the approach to modeling, and on solving problems in applications and management science by using mathematical methods or formal logic. It aims to develop a systematic analysis and resolution: What is the matter in quantitative terms, what model is the question correctly? What tools are useful? The conditions of application are respected? How to implement these tools, what is the solution of the model? What is the answer to the original question (in the context of the original question, not in the world of its mathematical abstraction or logic)?
Aims :	<p>This mathematics course is the third part of the course of Mathematics given in BAC1. This part is devoted to the optimization and differential equations.</p> <p>We can summarize the objectives and purposes of the course to three dimensions:</p> <ul style="list-style-type: none"> <li>- The learning of the mathematical tool (which is directly targeted a set of knowledge). Acquis should be a reasonable ability to handle the concepts discussed in the course, which are the basic concepts used in the models and quantitative methods in economics and management.</li> <li>- The learning of a formalized and rigorous reasoning (which is more difficult to achieve and is more of "knowledge" of mathematical modeling)</li> <li>- The development of student autonomy in the workplace and in the process of learning.</li> </ul> <p>This course is applied to the mathematical sciences in economic and social policies in general, with particular emphasis to business applications. It aims to prepare students for the study of advanced quantitative models or "state of the art" analysis and decision support in different areas of management</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>
Content :	<ul style="list-style-type: none"> <li>- Optimization without constraints</li> <li>- Optimization under constraints</li> <li>- Linear programming</li> <li>- Equations differences</li> <li>- Differential Equations</li> </ul> <p>Each topic is dealt with examples and illustrations in Economics and Management</p> <p>The course is given in the form</p> <ul style="list-style-type: none"> <li>- lectures (the teacher defines the concepts, demonstrates the results, and illustrated with an application),</li> <li>- of exercises (the teacher will submit applications / problems for students and offers a resolution )</li> <li>- supplemented by active participation of students in the form of lectures, independent resolution of problems, reports of resolution of cases, tests.</li> </ul>
Cycle and year of study :	<ul style="list-style-type: none"> <li>&gt; <a href="#">Master [120] in Agricultural Bioengineering</a></li> <li>&gt; <a href="#">Bachelor in Economics and Management</a></li> <li>&gt; <a href="#">Bachelor in Business Engineering</a></li> <li>&gt; <a href="#">Master [120] in Environmental Bioengineering</a></li> </ul>
Faculty or entity in charge:	ESPO