

3.00 credits

15.0 h + 30.0 h

Q1

Teacher(s)	Buysse Martin ;Cherpion Marielle ;
Language :	French
Place of the course	Bruxelles Saint-Gilles
Main themes	<p>This course is designed to provide students with the mathematical methods used in other scientific subjects. It involves both understanding the necessary basic concepts for modelling in science and gaining a certain degree of skill in the application of calculus techniques.</p> <p>This course will also develop skills in the field of generalisation, logical thinking, rigour and lead to a good understanding of the real world, particularly through the perception of geometric objects in space.</p> <p>To do this, the following will be covered :</p> <p>A/ Pure geometry</p> <ul style="list-style-type: none"> <li>• Thales's and Pythagorus's theorems</li> <li>• Trigonometry</li> <li>• Applications : polygons, polyhedrons, etc.</li> </ul> <p>B/ Analytical geometry</p> <ul style="list-style-type: none"> <li>• Vectors in space (definition, operations, properties)</li> <li>• Analytical and parametric equations</li> <li>• Parallelism, perpendicularity, secancy, distances in space</li> </ul>
Learning outcomes	<p><b>At the end of this learning unit, the student is able to :</b></p> <p><b>Specific learning outcomes</b></p> <p>By the end of the course, students will be able to</p> <ul style="list-style-type: none"> <li>• break down a complex geometric figure in the plan and in space to take its measurement by making use of similarities and/or remarkable trigonometric functions.</li> <li>• establish the surface and volume of simple geometric figures with the help of basic vector operations.</li> <li>• determine the coordinates of points and the equations of rights and plans defined by their geometric position in figures inspired by buildings.</li> <li>• identify the essential properties of geometric figures and use them with clarity and rigour when solving problems of a geometric nature.</li> </ul> <p><b>Contribution to the learning outcome reference framework:</b></p> <p>1 <b>Express an architectural procedure</b></p> <ul style="list-style-type: none"> <li>• Be familiar with, understand and use the codes for representing space, in two and three dimensions</li> <li>• Identify the main elements of a hypothesis or a proposal to express and communicate them</li> <li>• Express ideas clearly in oral, graphic and written form</li> </ul> <p><b>Use the technical dimension</b></p> <ul style="list-style-type: none"> <li>• Be familiar with and describe the main technical principles of building</li> </ul> <p><b>Make use of other subjects</b></p> <ul style="list-style-type: none"> <li>• Interpret the knowledge of other subjects</li> </ul>
Bibliography	<ul style="list-style-type: none"> <li>• Syllabus : Mathématique-Géométrie</li> </ul>
Faculty or entity in charge	LOCI

<b>Programmes containing this learning unit (UE)</b>				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Architecture (Bruxelles)	ARCB1BA	3		