# ltarc1143

*2021*

# Mathematics - geometry

| 3.00 credits | 22.5 h + 22.5 h | Q1 |
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| Teacher(s) | Buysse Martin ; |
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| Language : | French |
| Place of the course | Tournai |
| Main themes | 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.<br><br>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.<br><br>To do this, the following will be covered:<br><br>A/ Pure geometry<br><br>• Thales's and Pythagorus's theorems<br>• Trigonometry<br>• Applications : polygons, polyhedrons, etc.<br><br>B/ Analytical geometry<br><br>• Vectors in space (definition, operations, properties)<br>• Analytical and parametric equations<br>• Parallelism, perpendicularity, secancy, distances in space |
| Learning outcomes | **At the end of this learning unit, the student is able to :**<br><br>1<br><br>**Specific learning outcomes**<br><br>By the end of the course, students will be able to<br><br>• 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.<br>• establish the surface and volume of simple geometric figures with the help of basic vector operations.<br>• determine the coordinates of points and the equations of rights and plans defined by their geometric position in figures inspired by buildings.<br>• identify the essential properties of geometric figures and use them with clarity and rigour when solving problems of a geometric nature.<br><br>**Contribution to the learning outcome reference framework:**<br>**Express an architectural procedure**<br><br>• Be familiar with, understand and use the codes for representing space, in two and three dimensions<br>• Identify the main elements of a hypothesis or a proposal to express and communicate them<br>• Express ideas clearly in oral, graphic and written form<br><br>**Use the technical dimension**<br><br>• Be familiar with and describe the main technical principles of building<br><br>**Make use of other subjects**<br><br>• Interpret the knowledge of other subjects |
| Faculty or entity in charge | LOCI |

| Programmes containing this learning unit (UE) | | | | |
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| Program title | Acronym | Credits | Prerequisite | Learning outcomes |
| Bachelor in Architecture (Tournai) | ARCT1BA | 3 | | 🔍 |