

## Program name: Mathematics

### Program Description:

The student will acquire and be familiar with mathematics basics leading to prepare a master's degree or a diploma of technology engineer. On the other hand, the student will be able to master the useful tools to approach a profession in management services, statistical studies and others. The level of skill acquired must allow the integration of a research master's degree, while offering the student the possibility of completing his training with teaching units guaranteeing him to acquire professional knowledge or pedagogy (in normal schools) allowing him to integrate the education sector. The detailed program is given on the Table below.

Level	Semester	Subjects taught (modules)	
1 <sup>st</sup> year	S1	<ul style="list-style-type: none"> <li>- Algebra 1</li> <li>- Analysis 1</li> <li>- Algorithms and data structure 1</li> <li>- Physics 1</li> </ul>	<ul style="list-style-type: none"> <li>- Machine structure 1</li> <li>- Scientific terminology and written expression</li> <li>- Foreign Language 1</li> </ul>
	S2	<ul style="list-style-type: none"> <li>- Algebra 2</li> <li>- Analysis 2</li> <li>- Algorithms and data structure 2</li> <li>- Physics 2</li> <li>- Programming tools for mathematics</li> </ul>	<ul style="list-style-type: none"> <li>- Machine structure 2</li> <li>- Introduction to probability and descriptive statistics</li> <li>- Information and Communication Technology</li> </ul>
2 <sup>nd</sup> year	S3	<ul style="list-style-type: none"> <li>- Algebra 3</li> <li>- Analysis 3</li> <li>- Introduction to topology</li> <li>- Numerical analysis 1</li> </ul>	<ul style="list-style-type: none"> <li>- Programming tools for mathematics 2</li> <li>- Mathematical logic</li> <li>- History of mathematics</li> </ul>
	S4	<ul style="list-style-type: none"> <li>- Algebra 4</li> <li>- Analysis 4</li> <li>- Complex analysis</li> <li>- Numerical analysis 2</li> </ul>	<ul style="list-style-type: none"> <li>- Probability</li> <li>- Geometry</li> <li>- Application of mathematics to other sciences</li> </ul>
3 <sup>rd</sup> year	S5	<ul style="list-style-type: none"> <li>- Measure and Integration</li> <li>- Normalized vector spaces</li> <li>- Differential equations</li> <li>- Mathematical Physics Equations</li> </ul>	<ul style="list-style-type: none"> <li>- Optimization without constraints</li> <li>- Initiation to the didactics of mathematics</li> </ul>
	S6	<ul style="list-style-type: none"> <li>- Introduction to Linear Operator Theory</li> <li>- Numerical methods</li> <li>- Differential geometry</li> </ul>	<ul style="list-style-type: none"> <li>- Integral transformations in <math>L^p</math> spaces</li> <li>- Ethics and deontology of teaching and research</li> </ul>