

<b>ID</b>	2473
<b>Curricular Unit</b>	Numerical Simulation
<b>Regent</b>	Carlos Alberto Rosa Ferreira
<b>Learning Outcomes</b>	The aim of the course is to introduce basic concepts of numerical analysis and simulation.
<b>Syllabus</b>	<p>1. Basics: Definitions of Simulation and Modelling Models</p> <p>2. Numerical Analysis: Use of computers for solving numerical methods Mathematical modeling - Examples of physical Approximations and Errors Determination of Roots - Bracketing Methods - Methods Charts - Bisection - False Positions - Looking incremented - Open Methods Solving systems of linear equations - Gauss- Jordan Settlement Curves - Regression Methods - Linear - Polynomial - Interpolation - Splines</p> <p>3. Introduction to Operations Research: Basics Linear programming Simplex methods Tools</p>
<b>Evaluation</b>	<p>Discipline is of theoretical and practical nature. Daily practice in the development of small routines computing is essential to the learning process.</p> <p>The evaluation is obtained alternatively by continuous evaluation or final exam.</p> <p>Continuous assessment consists of three tests. The three tests are written with practical development of small routines.</p> <p>The Final Exam consists of a theoretical and practical part and in the end the student must make an oral examination.</p>
<b>Bibliography</b>	A list is presented to the students.