ID	563
Curricular Unit	Numerical Simulation
Regent	Carlos Alberto Rosa Ferreira
Learning Outcomes	The aim of the course is to introduce basic concepts of numerical analysis and simulation.
Syllabus	1. Basics: Definitions of Simulation and Modelling Models 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 3. Introduction to Operations Research: Basics Linear programming Simplex methods Tools
Evaluation	Discipline is of theoretical and practical nature. Daily practice in the development of small routines computing is essential to the learning process. The evaluation is obtained alternatively by continuous evaluation or final exam. Continuous assessment consists of three tests. The three tests are written with practical development of small routines. The Final Exam consists of a theoretical and practical part and in the end the student must make an oral examination.
Bibliography	A list is presented to the students.