ID	600
Curricular Unit	Mathematics of Interest Rates and Finance
Regent	Alfredo Duarte Egídio dos Reis
Learning Outcomes	Provide the basic knowledge necessary to solve quantitative problems appearing in common business and financial operations that are done by either companies or individuals. Students must become familiar with the basic concepts and their definitions relating the mathematics of finance. The application is enhanced, the students must be able to solve common basic practical problems.
Syllabus	- Capitalization, interest regimes, rates and relations; - Equivalence of capitals. Equation of value, common capital, terms, rates; - Annuities certain, constant or variable. Applications; - Loan reimbursement; - Some sort of commercial and financial instruments; - Bonds. Issuing, reimbursement, terms, returns and rates.
Evaluation	Lectures are jointly theoretical and tutorial, 2 per week, lasting 1.5h each, during 13 weeks, that gives a total of 39 hours. With that time it is possible to introduce the basic mathematics of finance focusing on the application, not going deep into the mathematical formulation. First, we give the definitions and explain concepts, then present the mathematical tools. Finally we proceed to their application into typical problems. Practical focus is enhanced so that a great part of the lecture will be spent in problem resolution. Students are given in advance a set of compulsory problems to be solved. Assessment is made through a final exam, a sheet with the basic formulae is provided in the exam paper. The exam is divided into two different sections, a first mainly dedicated to concepts evaluation and another targeting the application. The students are given in advance an example of the exam paper with the basic framework of questions for training.
Bibliography	Barroso, M. N.; Couto, E. & Crespo, N. (2009). Cálculo e Instrumentos Financeiros, Escolar Editora, Lisboa