

ID	2060
Curricular Unit	Mathematics II
Regent	Ana Maria Fité Alves Diniz
Learning Outcomes	<p>(i) To provide students with complementary mathematical tools at the level of Linear Algebra and Mathematical Analysis, necessary for other subjects;</p> <p>(ii) To develop in students logical thinking, fundamental for scientific studies;</p> <p>(iii) To pass on to students the relevance of mathematics in eventual areas of interest, both for their studies and for their professions.</p>
Syllabus	<p>1. Complements of linear algebra</p> <p>1.1. Determinants</p> <p>1.2. Eigenvalues and eigenvectors</p> <p>2. Functions of several variables</p> <p>2.1. Partial derivatives</p> <p>2.2. Extremes</p> <p>3. Linear differential equations</p> <p>3.1. First order equations</p> <p>3.2. Second order equations with constant coefficients</p>
Evaluation	<p>Teaching methodology:</p> <p>Classes operate on a theoretical-practical level to ensure students that the practical component is always present. In general, together with the theoretical exposition of each subject a practical illustration is made with real situations.</p> <p>Assessment:</p> <p>Four or five mini-tests during term time plus a final test or Final exam. The final grade in the course is obtained via a process which may be seen in http://www.fmh.utl.pt/sga/.</p>
Bibliography	<p>Ferreira, J. Campos. Introdução à Análise Matemática, Fundação Calouste Gulbenkian, Lisboa.</p> <p>Apostol, Tom M. Calculus, Blaisdell Publishing Company, Massachusetts.</p>