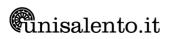
## **AEROSPACE ENGINEERING (LM52)**

(Brindisi - Università degli Studi)

Teaching MATHEMATICAL AND NUMERICAL METHODS IN AEROSPACE ENGINEERING, WITH GenCod A003291 Owner professor Raffaele VITOLO		<b>Teaching in italian</b> MATHEMATICAL AND NUMERICAL METHODS IN AEROSPACE ENGINEERING, WITH	Course year 1 Language INGLESE
		Teaching MATHEMATICAL AND NUMERICAL METHODS IN AEROSPACE SSD code MAT/07 Reference course AEROSPACE	Curriculum CURRICULUM AEROSPACE DESIGN Location Brindisi
		Course type Laurea Magistrale	Semester Primo-Semestre
		<b>Credits</b> 6.0	Exam type Orale
		<b>Teaching hours</b> Ore-Attivita-frontale: 54.0	Assessment Voto-Finale
		For enrolled in 2020/2021	<b>Course timetable</b> https://easyroom.unisalento.it/Orario
		Taught in 2020/2021	
BRIEF COURSE DESCRIPTION	Algorithms and methods of approximate solution of algebraic and differential equations, with computer experiments.		
REQUIREMENTS	Calculus of functions of one or more real variables; linear algebra.		
COURSE AIMS	The students will acquire basic knowledge about main numerical methods in engineering applications.		
TEACHING METHODOLOGY	Lectures and computer experiments.		
ASSESSMENT TYPE	Oral exam on the course program (as exposed during the lectures) and proof of knowledge of the Matlab language.		
FULL SYLLABUS	Matrix computations Principles of numerical mathematics Direct methods for the solution of linear systems Iterative methods for the solution of linear systems Iterative methods for eigenvalues and eigenvectors Solution of non-linear algebraic equations Polynomial interpolation of functions and data Numerical integration		
	Orthogonal polynomials and Fourier transform Numerical solution of ODEs Finite difference methods and finite element methods for PDEs.		



REFERENCE TEXT BOOKS

Quarteroni, Sacco, Saleri: Numerical Mathematics, 2nd ed., Springer 2006.

