Program and Degree: **BSc in Aerospace Engineering**	
Course Description	
Course Title	**Numerical Methods**
Prerequisites	Algorithm and computer programming, Differential Equations
The course aims	To provide students with knowledge of numerical methods in engineering. 1- The ability to write numerical solution algorithms of nonlinear differential equations 2- Ability to find the roots of nonlinear equations 3- Ability to solve problems that there is no analytical solution for them
Contents	1- An introduction to numerical methods for solving problems and computer considerations such as errors and the accuracy of calculations 2- numerical solution for nonlinear algebraic equations 3- Numerical differentiation- finite differences 4- Numerical methods for solving first and second order differential equations 5- Linear Algebra (Eigen Values and Eigen Vectors) 6- Numerical Integration
Duration	**1 Semester (16 weeks)**
Course Hours	**3 hours/week**
Course Type	**Required**