**BSE1201; Numerical Analysis (4CU)**

**Course Objectives,** Upon completion of the course, the student should be able to: (i) Demonstrate factual knowledge including the mathematical not action and terminology used in the course; (ii) Describe the fundamental principles including the laws and theorems arising from the concepts covered in this course; (iii) Apply course material along with techniques and procedures covered in this course to solve particle problems; and (iv) Write numerical programs, such as Mat lab programs, to solve the above problems.

**Course Content**, Numerical linear algebra, numerical solution of systems of non-linear equations, approximations, Fast Fourier-Transformation, numerical integration, deference equations and numerical solution of ordinary differential equations. Problem solving is an important part of the course.

**References**

•Numerical Analysis, by Burden, R.L. and Faires, D.J, Eighth Edition, Brooks/Cole Publishing

Co., Pacific Grove, CA, 2001.ISBN:0-534-38216-9