

Math 423 (Numerical Analysis II)

Math 423	Numerical Analysis II		Credits	Lec	Tut
			3	3	1
Course Summary	Numerical solution of linear systems (direct and iterative methods), Approximation theory and orthogonal polynomials, curve fitting, Numerical solution of the Initial value problems and the Eigenvalue problems.				
Prerequisites	Math 421	Numerical analysis I			
Textbook	Richard L. Burden, J. Douglas Faires	Numerical Analysis (Eighth Edition),	Brooks/ Cole, USA	2005	

Objectives:

Numerical Analysis is a powerful tool in applied Mathematics. In this course

the students will learn how

- 1) How to solve linear system of equations
- 2) How to use least squares method for fitting discrete data, and approximate continuous functions
- 3) How to solve the initial value problems
- 4) How to calculate the Eigenvalues and eigenvectors.

Course description:

- 1- Numerical solution of linear systems
- 2- Approximation theory and orthogonal polynomials
- 3- Numerical solution of Initial value problems
- 4- Eigenvalues problem

Teaching Schedule:

Delivery Type	Number	Lecture Length (hours)	Student Hours
Lecture	39	1	39
Tutorial	13	1	13
Private Study Hours			117
Total Contact Hours			52
Total Hours			169

Methods of Assessment:

1- Coursework

Assessment Type	Notes (paper HW/Online)	% of Formal Assessment
In-course Assessment	Weekly Paper HW	10
Total Percentage		10

2- Exams

Assessment Type	Notes (MCQ, etc ...)	% of Formal Assessment
First Exam	Written	25
Second Exam	Written	25
Final Exam	Written	40
Total Percentage		90