

Course Description Form

1. Course Name:					
Numerical Analysis Using MATLAB					
2. Course Code:					
NUAN1336					
3. Semester / Year:					
1 st Semester					
4. Description Preparation Date:					
8/2/2024					
5. Available Attendance Forms:					
Presence					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2/30					
7. Course administrator's name (mention all, if more than one name)					
Name: Luay Thamir Rasheed Email: luay.t.rasheed@uotechnology.edu.iq					
8. Course Objectives					
Course Objectives		The objective of this course is to provide the numerical methods of solving the non-linear equations, interpolation, differentiation, and integration. To improve the student's skills in numerical methods by using the numerical analysis software and computer facilities.			
9. Teaching and Learning Strategies					
Strategy		<ul style="list-style-type: none"> • Lectures. • Tutorial. • Quizzes. 			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	3		Finding Roots Bracketing methods	Lectures	Discuss and evaluate homework
2	3		Finding roots Open methods	Lectures	Quiz
3	3		Least squares regression	Lectures	Discuss and evaluate homework
4	3		interpolation	Lectures	Quiz
5	3		Numerical integration	Lectures	Discuss and evaluate homework
6	3		Numerical differentiation	Lectures	Discuss and evaluate homework
7	3		One step method	Lectures	Quiz
8	3		Elliptic PDE	Lectures	Discuss and evaluate homework
9	3		Parabolic PDE	Lectures	Discuss and evaluate homework
10	3		Hyperbolic PDE	Lectures	Discuss and evaluate homework
11	3		Tutorials	Lectures	Discuss and evaluate homework
12	3		Tutorials	Lectures	Discuss and evaluate homework
13-15	9		Practical applications	Lectures	Discuss and evaluate homework

11. Course Evaluation

20% documented exam
5% Quizzes
5% reports and homework

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	ParvizMoin, “Fundamentals of Engineering Numerical Analysis”, second edition, Cambridge university press, 2011.
Main references (sources)	Rama B, “Numerical Analysis in Engineering”, second edition, Alpha Science International press, 2004.
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	