

**Republic of Iraq**  
**The Ministry Of Higher Education**  
**& Scientific Research**



**University: Diyala**  
**College: Engineering**  
**Department: Computer**  
**Stage: 2<sup>nd</sup> year**  
**Lecturer name: A.Lect H.S.RADHI**  
**Qualification: MSC**  
**Place of work: Computer Dept.**

Course Instructor	Asst.Lect Hussein Sultan Radhi				
E-mail	Hussein572002@yahoo.com				
Title	Advanced Mathematics				
Course Coordinator	Asst.Lect Hussein Sultan Radhi				
Course Objective	To teach students the concepts of advance applied mathematics				
Course Description	Students will learn the DE,FS, LT, power series, multiple integral & applications of each one .				
Textbook	Finite Mathematics with Applications by Mizrahi				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	As(40%)	As(10%)	As(10%)	-	As(30%)
General Notes					

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## Course Weekly Outline

Week	Date	Topes Covered	Lab. Experiment Assignments	Notes
١	٢٣/٠٩/٢٠١٤	Solution of 1 <sup>st</sup> order D.E by separating variable		
٢	٣٠/٠٩/٢٠١٤	Solution of 1 <sup>st</sup> order D.E by homogeneous equations		
٣	٠٧/١٠/٢٠١٤	Solution of 1 <sup>st</sup> order D.E by exact equations		
٤	١٤/١٠/٢٠١٤	Second order differential equation, homogeneous		
٥	٢١/١٠/٢٠١٤	2 <sup>nd</sup> order D.E: Non- homogeneous		
٦	٢٨/١٠/٢٠١٤	Real form of Fourier series		
٧	٠٤/١١/٢٠١٤	Even and add functions		
٨	١١/١١/٢٠١٤	Complex form of Fourier series		
٩	١٨/١١/٢٠١٤	Fourier Transform		
١٠	٢٥/١١/٢٠١٤	Definition, properties of the laplace transform		
١١	٠٢/١٢/٢٠١٤	The derivative of the transform and partial fraction		
١٢	٠٩/١٢/٢٠١٤	The inverse transform		
١٣	١٦/١٢/٢٠١٤	The transforms of the derivative and solution of boundary problems		
١٤	٢٣/١٢/٢٠١٤	Transform of integrals		
١٥	٣٠/١٢/٢٠١٤	Integral-differential equations and the transform		
١٦	٠٦/٠١/٢٠١٥	End Term Exam		
<b>Half – year break</b>				
١٧	١٧/٠٢/٢٠١٥	The unit step functions, pulses, unit impulse and their Laplace transfer		
١٨	٢٤/٠٢/٢٠١٥	periodic Functions and the transform		
١٩	٠٣/٠٣/٢٠١٥	Partial derivatives		
٢٠	١٠/٠٣/٢٠١٥	Function of several variables,		
٢١	١٧/٠٣/٢٠١٥	limits and continuity, partial derivative		
٢٢	٢٤/٠٣/٢٠١٥	Gradients, directional derivative and tangent planes		
٢٣	٣١/٠٣/٢٠١٥	Application of partial derivatives		
٢٤	٠٧/٠٤/٢٠١٥	Sequence, convergence, series		
٢٥	١٤/٠٤/٢٠١٥	Power series interval of convergence		
٢٦	٢١/٠٤/٢٠١٥	Taylor and macluriun and Binomial series		
٢٧	٢٨/٠٤/٢٠١٥	N-th term test, comparison test, limit comparison test		
٢٨	٠٥/٠٥/٢٠١٥	Ratio test, integral test root fest		
٢٩	١٢/٠٥/٢٠١٥	line integral		
٣٠	١٩/٠٥/٢٠١٥	Double integrals, Triple integral		
٣١	٢٦/٠٥/٢٠١٥	Physical and geometrical applications		
٣٢	٠٢/٠٦/٢٠١٥	End Term Exam		

INSTRUCTOR Signature:

Dean Signature: