Course Description Form

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1. Course Name:								
Theory of Ordinary Differential Equations								
2. Course Code:								
MATH 318								
Semest	ter / Y							
		Second Semester	/ Third Class					
4. Description Preparation Date:								
A '1 1	1 4)24					
Availat	ole Atte	endance Forms:						
Numbe	r of Cr	edit Hours (Total) / Num	ber of Units (To	otal).				
Tumbe				Juli).				
Course	admin			n one name	e)			
Name: Dr. Ahmed Ayyoub Yousif								
Email:	ahmed.a	ayyoub@nahrainuniv.edu.iq						
Course	Objec	tives						
Objectiv	es	• The course aims to give t	he basic exercise	s and theori	es of first-			
		order differential systems ar	nd find the solution	n to them th	rough the			
		basic solution matrix.						
 After that, the course deals with the study of the phase level and 								
the solution behavior of these systems without addressing their								
solution								
• At the end of the course, the study of the stability of solutions was								
addressed through the theory of parallel behavior and the theories of								
	-							
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5								
10. Course Structure								
Hours	Requi	red Learning Outcomes	Unit or	Learning	Evaluation			
	1.5 4.1			-	method			
8		Linear systems		Give	Daily Exams			
0					and H.W. Daily Exams			
1 0	Fund	amental matrix solution		Lectures	and H.W.			
8	1 4114			Letteres				
	Course Semest Descrip Availat Numbe Course Name: Email: Course Objectiv Objectiv Teaching 1 2 3 course Sourse Hours	Course Code: Semester / Y Description F Available Atta Number of Cr Course admin Name: Dr. Ah Email: ahmed.a Course Objectives Objectives Objectives Teaching and y 1- Daily 2- Daily 3- The 4- Hom course Structur Hours 8	Theory of Ordinary DifCourse Code:MATHSemester / Year:Second SemesterDescription Preparation Date:1/3/20Available Attendance Forms:Number of Credit Hours (Total) / Num 60 HouCourse administrator's name (mention at Name: Dr. Ahmed Ayyoub Yousif Email: ahmed.ayyoub@nahrainuniv.edu.iqCourse ObjectivesObjectivesObjectivesObjectivesObjectivesObjectivesObjectivesAfter that, the course aims to give for order differential systems ar 	Theory of Ordinary Differential Equat Course Code: MATH 318 Second Semester / Third Class Description Preparation Date: 1/3/2024 Available Attendance Forms: Number of Credit Hours (Total) / Number of Units (Total) / Number of Units (Total) / Ourse administrator's name (mention all, if more than Name: Dr. Ahmed Ayyoub Yousif Course administrator's name (mention all, if more than Name: Dr. Ahmed Ayyoub@nahrainuniv.edu.iq Course Objectives After that, the course deals with the study the solution behavior of these systems without solution At the end of the course, the study of the saddressed through the theory of parallel beha Lyabanov. Teaching Course Structure V 1 - Daily Post. <	Theory of Ordinary Differential Equations Course Code: MATH 318 Second Semester / Third Class Description Preparation Date: 1/3/2024 Available Attendance Forms: Number of Credit Hours (Total) / Number of Units (Total): 60 Hours/ 4Unit Course administrator's name (mention all, if more than one name Name: Dr. Ahmed Ayyoub Yousif Email: ahmed.ayyoub@nahrainuniv.edu.iq Course Objectives Objectives • The course aims to give the basic exercises and theori order differential systems and find the solution to them the basic solution matrix. • After that, the course deals with the study of the phase the solution behavior of these systems without addressin solution • At the end of the course, the study of the stability of so addressed through the theory of parallel behavior and the Lyabanov. Teaching and Learning Strategies y 1- Daily Post. 2- Daily Exams. 3- The Monthly Exam. -4 Home Works. Unit or Learning subject name @ Linear systems Give & Linear systems			

$7^{ ext{th}}$ & $8^{ ext{th}}$	8	Phase plane		Give Lectures	Daily Exams and H.W.		
9 th & 10 th	8	Existence and Uniquenes theorem	S	Give Lectures	Daily Exams and H.W.		
11 th & 12 th	8	Periodic Systems		Give Lectures	Daily Exams and H.W.		
13 th & 14 th	8	Stability theory		Give Lectures	Daily Exams and H.W.		
15 th	4	Liapunov stability		Give Lectures	Daily Exams and H.W.		
11.Course Evaluation							
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc							
12. Learning and Teaching Resources							
Require	ed textbo	oks (curricular books, if any)	The Qualitative Theory of Ordinary Differential				
			Equations: An Introduction				
			By Fred Brauer، John A. Nohel				
Main re	ferences	(sources)					

Recommended	books	and	references	
(scientific journals				
Electronic Referen				