

Course Description Form

1. Course Name:	
Linear System 2	
2. Course Code:	
ADCO1452	
3. Semester / Year:	
1 st Semester 2	
4. Description Preparation Date:	
15/2/2024	
5. Available Attendance Forms:	
Personal	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45/ 2	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Ahmed Khalaf Hamoudi - Email: 60155@uotechnology.edu.iq	
8. Course Objectives	
Course Objectives	<ul style="list-style-type: none"> • Introducing the student to the basics of Linear System 2. • • Enable the student to find solutions to problems related to Linear System 2•
9. Teaching and Learning Strategies	
Strategy	<p>1: Enable the student to test the Linear system for Controllability or Observability.</p> <p>2: Enable the student to learn how improve the performance of the system by using the Pole Placement method.</p> <p>3: Enable the student to learn how to observe the system states by using the State Observer.</p> <p>4: Enable the student how to obtain the solution for the Nonlinear Systems problem.</p>

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	9		Decomposition of System to obtain the Controllable part or to obtain the Observable part.	Live presentation and text books.	Written exam + home work
4-6	9		State Feedback Controller	Live presentation and text books.	Written exam + home work
7-9	9		State Observers	Live presentation and homework	Written exam + home work
10-12	9		Lyapunov Stability Analysis	Live presentation and text books.	Written exam + home work
13-15	9		The Linear Quadratic Regulator	Live presentation and text books.	Written exam + home work
11. Course Evaluation					
20% documented exam 5% Quizzes 5% homeworks					
12. Recommended books and references (scientific journals, reports...)			1. Katsuhiko Ogata, " <i>Modern Control Engineering</i> ," Prentice Hall, Pearson, 2010. 2. Richard C. Dorf, Robert H. Bishop, " <i>Mod Control Engineering</i> ," Prentice Hall, Pearson, 20		
Electronic References, Websites					