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Program(s) on wh						hanics and Contr	ol Option	1		
Department offering the program:				Aerospace Engineering						
Department offering the course:				Aerospace Engineering						
Academic Level:			Graduate	Graduate						
Date			•							
Semester (based o	on fina	l exam tir	ning)	🔲 Fall	🗆 Sp	oring				
A- Basic Infor	mati	on								
1. Title:	Robu	st Contro	1		Code	Aero	o 752			
2. Units/Credit hours per week:	Lectu	ures	2	Tutorial	1	Practical	-	Total	3	
B- Professiona	al Inf	ormatio	on							
1. Course descript	tion:	 Stability of continuous robust control systems 2) Robust Stability of interval polynomials, Kharitonov theorem and extensions, 4) Argoun's theorem and its applications. 5) Edge theorem for robustness of bilinear systems. 6) Robustness of systems described in State Space, 7) Stability of interval matrices, 8) measures of robustness, 9)Applications of robustness to Aerospace Systems. 10) Diagonal Dominance Design. a) Knowledge and Understanding 								
						onal Dominance I	Design.			
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3. Contents

Торіс	Total hours	Lectures hours	Tutorial/ Practical hours
1) Modeling and Stability consideration in linear control system, Stability of continuous robust control systems, 2) Modeling of perturbations of Flight and Space systems	3	2	1
3) Formulation of the problem of robust stability,4) Robust Stability of interval polynomials . 3)Kharitonov theorem and extensions,	6	4	2
5) Argoun's theorem and its applications.	1 6	4	2

4. Teaching and Learning Methods	3 6 6 3 6 45 ures (24) s Activity (6) rning () Week 5 Every other we N/A N/A 7	2 4 4 2 4 30 Practical Training/ Laboratory (15) Case Study (-) Assignments /Homework (15)	1 2 2 1 2 15 Seminar/Workshop (-) Projects (-) Other:				
8) Robust Control of Linear Systems 9) Stability of interval matrices, Parel, Toda and Yedavalli's methods 10) Measures of robustness, Application of classical control methods to perturbed systems. 11)Applications of robustness to Aerospace Systems. 10) Diagonal Dominance Design. Total Hours 4. Teaching and Learning Methods E-lear 5. Student Assessment Methods • Assessment Schedule -Assessment 1: Class test - Assessment 2: Class assignments (Homework) -Assessment 4; Presentations -Assessment 5; Midterm Exam -Assessment 6; Final Exam • Weighting of Assessments -Mid-Term Examination -Final-term Examination -Final-term Examination	6 6 3 6 45 ures (24) s Activity (6) rning () Week 5 Every other wo N/A N/A	4 4 2 4 30 Practical Training/ Laboratory (15) Case Study (-) Assignments /Homework (15)	2 2 1 2 15 Seminar/Workshop (-) Projects (-)				
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 -Assessment 6; Final Exam Weighting of Assessments -Mid-Term Examination -Final-term Examination -Class assignments (Homework) 	7		N/A				
Weighting of Assessments -Mid-Term Examination -Final-term Examination -Class assignments (Homework)	7						
-Mid-Term Examination -Final-term Examination -Class assignments (Homework)	End of semester						
-Final-term Examination -Class assignments (Homework)							
-Class assignments (Homework)	15%						
	60%						
	15% 10%						
-Presentation	N/A						
-Total	100%						
6. List of References	1						
1- Papers by Argoun. Hollot, Barmish, Yedavalli and other	s.						
2-							
3-							
7. Facilities Required for Teaching and Learning							
Projector							
Course Coordinator: Prof. Mohamed Bahey Argou	l						
Head of Department: Prof. Ayman Hamdy Kassem							