

Oyama College		Year	2022	Course Title	Control Engineering
Course Information					
Course Code	0095		Course Category	Specialized / Elective	
Class Format	Lecture		Credits	School Credit: 2	
Department	Department of Mechanical Engineering		Student Grade	5th	
Term	Year-round		Classes per Week	2	
Textbook and/or Teaching Materials					
Instructor	MD ABDUS SAMAD KAMAL				
Course Objectives					
Rubric					
	Ideal Level		Standard Level		Unacceptable Level
Achievement 1					
Achievement 2					
Achievement 3					
Assigned Department Objectives					
学習・教育到達度目標 ③ JABEE (c) JABEE (C)					
Teaching Method					
Outline					
Style					
Notice					
Characteristics of Class / Division in Learning					
<input type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
Course Plan					
			Theme	Goals	
1st Semester	1st Quarter	1st	Introduction to control engineering		
		2nd	Introduction to the mathematical modeling		
		3rd	Transfer function model of basic elements		
		4th	Block diagram and the reduction techniques		
		5th	Basic response of dynamical systems		
		6th	Characteristics of transient response		
		7th	Poles of the transfer function and stability of the system		
		8th	Midterm test		
	2nd Quarter	9th	Exam commentary		
		10th	Steady state performance of control system.		
		11th	PID controller design		
		12th	Control system design - root locus, compensator		
		13th	Frequency response		
		14th	Bode plot design		
		15th	Nyquist Stability Criteria		
		16th	The first-term exam		
2nd Semester	3rd Quarter	1st	Exam commentary and review of classical control		
		2nd	Introduction to modern control system		
		3rd	States space equations of dynamical systems		
		4th	Relationship of state-space and transfer function		
		5th	Basic solution of a state-space equation		
		6th	Complete solution of a state-space equation		
		7th	Stability of state-space model		
		8th	Midterm test		
	4th Quarter	9th	Exam commentary		
		10th	Controllability and state feedback control		
		11th	Feedback control design for Regulator		
		12th	Observability and observer design		
		13th	Observer and output feedback control		
		14th	Tracking control with state feedback		
		15th	Optimal Regulator		
		16th	The second term exam		
Evaluation Method and Weight (%)					

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	0	0	0	0	0	0	0
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	0	0	0	0	0	0	0
Cross Area Proficiency	0	0	0	0	0	0	0