Course Structure for Ph. D Program
Department of Mechatronic Technology
National Taiwan Normal University

Adaptive to Class of	Required Credit(s)	Elective Credit(s)	Free Elective Credit(s)	Minimum Total Credits for Graduation
111	4.0 4.0	9.0 9.0	9.0 9.0	22.0 22.0

Note: The first alphabet "E" on the course name refers to the course in English as a medium of instruction

I. Required Courses: 4.0 credits are required

The credits of Seminar(I), (II), (III), (IV)

Course Code	Course Name	Credit(s)	Credit Unit		Note
			Lecture Hour	Lab/Practice Hour	
MTC8016	1 E Seminar (I)	1.0	1.0	0.0	
MTC8017	2 E Seminar (II)	1.0	1.0	0.0	
MTC8018	3 E Seminar (III)	1.0	1.0	0.0	
MTC8019	4 E Seminar (IV)	1.0	1.0	0.0	

II. Elective Courses: 0.0 credit is required

III. Courses Offered to Students in Different Divisions

A-1. Required Course for , 0.0 credit is required

A-2. Elective Course for , 9.0 credits are required

Course Code	Course Name	Credit(s)	Credit Unit		Note
			Lecture Hour	Lab/Practice Hour	
MTC7001	1 E Precision Micro Manufacturing Engineering	3.0	3.0	0.0	
MTC8001	2 Advanced Thermodynamics	3.0	3.0	0.0	
MTC8002	3 Nonlinear Control Systems	3.0	3.0	0.0	
MTC8003	4 Advanced Engineering Mathematics	3.0	3.0	0.0	
MTC8004	5 Advanced Vibration Engineering	3.0	3.0	0.0	
MTC8005	6 Optimization	3.0	3.0	0.0	
MTC8006	7 Experimental Design Method	3.0	3.0	0.0	
MTC8008	8 Advanced Mechanical Dynamics	3.0	3.0	0.0	
MTC8010	9 Microprocessor Controlled Systems	3.0	3.0	0.0	
MTC8011	10 Advanced Heat Transfer	3.0	3.0	0.0	
MTC8013	11 Convection Heat Transfer	3.0	3.0	0.0	
MTC8014	12 E Adaptive Control	3.0	3.0	0.0	
MTC8015	13 Engineering Statistics	3.0	3.0	0.0	
MTC9009	14 E Micro-Joining Engineering	3.0	3.0	0.0	

B-1. Required Course for , 0.0 credit is required

B-2. Elective Course for , 9.0 credits are required

Course Code	Course Name	Credit(s)	Credit Unit		Note
			Lecture Hour	Lab/Practice Hour	
MTC7001	1 E Precision Micro Manufacturing Engineering	3.0	3.0	0.0	
MTC9009	2 E Micro-Joining Engineering	3.0	3.0	0.0	
MTC8014	3 E Adaptive Control	3.0	3.0	0.0	

IV. Free Elective Credits

A Free Elective Credit for , 9.0 credits are required

B Free Elective Credit for , 9.0 credits are required