Department of Mechanical Engineering

Curriculum Requirements for Enrollees in the Academic Year 113 (Fall 2024)

Prog	gram	Four-year technical co	llege	progr	am of the I	Day Divisio	n				
Group		None									
Class Type		Regular Class									
Special	Program	None									
		Department Curriculum 114.04.09									
Curriculum Committee		College Curriculum	114. 05. 16								
		University Curriculum	114. 06. 09								
		Academic Affairs	ademic Affairs 114.06.09								
Graduation Credits /Study Duration		At least 128 credits required (normally 4 years).									
Credit Load per Semester		Students in Grades 1 and 2 must take no fewer than 16 credits and no more than 28 credits per semester. Students in Grades 3 and 4 must take no fewer than 9 credits and no more than 25 credits per semester.									
Required an	nd Elective	Credits	Sul	oject	Category	Credits					
		General E 82 Credits Major Ro College			Education 19 Credits						
Requ	ired				equired 63 Credits						
					Major		0 Credits				
F1	4:	46. Caralita	General E		Education	ucation 8 Credits					
Elec	tive	46 Credits	Major Ele		ective 38 Credits						
Other Reg	gulations										
Rema	arks	"Computer Course" mear	is com	puter	access is r	required (c	omputer and internet us	sage f	ee).		
First S		Semester, First Year			Second Semester, First Year						
Course	Course	Course Name	Credits / Hours	Notes	Course	Course	Course Name	Credits / Hours	Notes		
General Education	496804	Literary Appreciation and Expression	2/2		General Education	496904	Practical Chinese	2/2			
General Education	492001		2/2		General Education	492002	English (II)	2/2			
General Education	4912C0	Physical Education(1)	2/2		General Education	4912D0	Physical Education(2)	2/2			
General Education	490304	Community Service & Learning(1)	0.5/1		General Education	490404	Community Service & Learning(2)	0.5/1			
General Education	497A00		2/2		General Education	497B00		2/2			
Major Required	404I01	Computational Thinking and Creative Programming	3/3	Compu ter Cours e	Major Required	404106	Calculus(2)	3/3			
Major Required	404102	Calculus(1)	3/3		Major Required	404107	Physics(2)	3/3			
Major Required	404103	Physics(1)	3/3		Major Required	404108	Laboratory of Physics	2/2			
Major Required	404104	Chemistry	3/3		Major Required	404109	Statics	3/3			
Major Required	404105	Mechanical Workshop Practice	3/3		Major Required	404I10	Mechanical Engineering Drawing and Practice	3/3			
	23. 5	Credits, 24 Hours				22. 5	Credits, 23 Hours				
First Semester, Second Year							emester, Second Year				

Course	Course	Course Name	Credits / Hours	Notes	Course	Course	Course Name	Credits / Hours	Notes
General Education	496404	Contemporary Taiwan and Moder World	2/2		General Education	496704	Human Rights and Legal	2/2	
General Education	492003	English(III)	2/2		General Education	497D00		2/2	
General Education	497C00		2/2		Major Required	404115	Mechanics of Materials	3/3	
Major Required	404111	Programming Language	3/3	Compu ter Cours e	Major Required	404I16	Design of Machine Elements	2/2	
Major Required	404I12	Engineering Mathematics(1)	3/3		Major Required	404I18	Pneumatic Control and Practice	3/3	
Major Required	404I13	Dynamics	3/3		Major Required	404123	Artificial Intelligence	3/3	
Major Required	404114	Computer aided drawing and Practice	3/3	Compu ter Cours e	Major Elective	404P06	Computer-aided Manufacturing and Practice	3/3	Compu ter Cours e
Major Elective	404P01	Numerical Control Machining and Practice	3/3		Major Elective	404P07	Thermodynamics	2/2	
Major Elective	404P02	Electric Circuits and Practice	3/3		Major Elective	404P08	Applied Electronics and Practice	3/3	
Major Elective	404P03	Creative Training	2/2		Major Elective	404P09	Engineering Mathematics(1)	3/3	
Major Elective	404P04	Introduction to Intelligent Machinery.	2/2		Major Elective	404P10	Material Science and Laboratory	3/3	
Major Elective	404P05	Material Science amd Engineering	2/2		Major Elective	404P11	Mechanism of Machines	2/2	
					Major Elective	404P12	Introduction of CNC Machine Design	2/2	
					Major Elective	404P61	Graphics Program Design and Virtual Instrumentation	3/3	
					Major Elective	404P67	Introduction of CNC Machine Design	3/3	
	20	0 114 00 H				20 4	20 H		
		Credits, 30 Hours Semester, Third Year					Credits, 39 Hours Semester, Third Year		
Course	riist	· T	Credits	Notes	0	1	Course Name		
i course	Course	Course Name	Credits		Lourse	Lourse		Credits	Notes
Course Major Required	Course 404I19	Course Name Computer-Aided Design and Practice	Hours 3/3	Compu ter	Course Major Required	Course 404I21	Special Topics	Credits / Hours 2/2	Notes
Major Required Major		Computer-Aided Design and Practice Control System	/ Hours	Compu	Major Required Major			Hours	Notes
Major Required	404I19	Computer-Aided Design and Practice Control System Engineering Precision Measurement and Inspection	Hours 3/3	Compu ter Cours	Major Required	404121	Special Topics Mechatronics Five-axis Numerical Control Machining and	Hours 2/2	Notes
Major Required Major Required	404I19 404I20	Computer-Aided Design and Practice Control System Engineering Precision Measurement and Inspection Practice Five-axis machining principle and	3/3 3/3	Compu ter Cours	Major Required Major Elective Major	404I21 404P25	Special Topics Mechatronics Five-axis Numerical Control Machining and Practice Adjustive and Corrective Technique	Hours 2/2 3/2	Notes
Major Required Major Required Major Elective	404I19 404I20 404P13	Computer-Aided Design and Practice Control System Engineering Precision Measurement and Inspection Practice Five-axis machining	3/3 3/3 3/3	Compu ter Cours	Major Required Major Elective Major Elective	404I21 404P25 404P26	Special Topics Mechatronics Five-axis Numerical Control Machining and Practice Adjustive and	3/2 3/3	Notes
Major Required Major Required Major Elective Major Elective	404I19 404I20 404P13 404P14	Computer-Aided Design and Practice Control System Engineering Precision Measurement and Inspection Practice Five-axis machining principle and practice Programming Controller Application and	3/3 3/3 3/3 3/3	Compu ter Cours	Major Required Major Elective Major Elective Major	404I21 404P25 404P26 404P27	Special Topics Mechatronics Five-axis Numerical Control Machining and Practice Adjustive and Corrective Technique for CNC Machine Reverse Engineering	3/2 3/3 3/3	Notes
Major Required Major Required Major Elective Major Elective Major Elective	404I19 404I20 404P13 404P14 404P15	Computer-Aided Design and Practice Control System Engineering Precision Measurement and Inspection Practice Five-axis machining principle and practice Programming Controller Application and Practice Manufacturing Network Integration	3/3 3/3 3/3 3/3	Compu ter Cours	Major Required Major Elective Major Elective Major Elective Major Elective	404I21 404P25 404P26 404P27 404P28	Special Topics Mechatronics Five-axis Numerical Control Machining and Practice Adjustive and Corrective Technique for CNC Machine Reverse Engineering and Practice Intelligent Manufacturing	3/2 3/3 3/3 3/3	Notes
Major Required Major Required Major Elective Major Elective Major Elective	404I19 404I20 404P13 404P14 404P15	Computer-Aided Design and Practice Control System Engineering Precision Measurement and Inspection Practice Five-axis machining principle and practice Programming Controller Application and Practice Manufacturing Network Integration Technology Technology of CNC	3/3 3/3 3/3 3/3 3/3 3/3	Compu ter Cours	Major Required Major Elective Major Elective Major Elective Major Elective Major Elective	404I21 404P25 404P26 404P27 404P28 404P29	Special Topics Mechatronics Five-axis Numerical Control Machining and Practice Adjustive and Corrective Technique for CNC Machine Reverse Engineering and Practice Intelligent Manufacturing Technology Sensor Theory &	3/2 3/3 3/3 3/3 3/3	Notes Computer Cours e

Major Elective	404P20	Heat Treatment	2/2		Major Elective	404P33	Professional Counseling	2/2	
Major Elective	404P21	Vibration Theory and Applications	2/2		Major Elective	404P34	Microcomputer Interfacing Practice	3/3	
Major Elective	404P22	Fluid Dynamics and Practice	2/2		Major Elective	404P35	Non-Destructive Inspection	2/2	
Major Elective	404P23	Personal and Professional Ethics	2/2		Major Elective	404P36	Machining technology and practice of CNC tool machine (1)	2/2	
Major Elective	404P24	Design and Manufacturing for Precision Optical Component	3/3		Major Elective	404P62	Engineering Reliability	3/3	
					Major Elective	404P68	Ultra Precision Machining	3/3	
	35 (Credits, 35 Hours				39 (Credits, 38 Hours		
	First Se	emester, Fourth Year				Second S	emester, Fourth Year		
Course	Course	Course Name	Credits / Hours	Notes	Course	Course	Course Name	Credits / Hours	Notes
General Education	404039	English Proficiency qualification	0/2		College Major	40TND9	Interdisciplinary program learning	0/1	
Major Elective	404P37	Summer Off-campus Internship	3/3		College Major Required	40TNF1	Interdisciplinary Micro Course Program for Engineering Digital Technology	0/1	
Major Elective	404P38	Semester off-campus internship (1)	9/9		Major Required	404122	Proficiency Assessment of Mechanical and Mechatronic Technology	3/3	
Major Elective	404P39	Five-axis Compound Machining and Practice	3/3		Major Elective	404P50	Semester off-campus internship (2)	9/9	
Major Elective	404P40	Non-traditional Manufacturing	2/2		Major Elective	404P51	Opto-Mechatronics Systems	2/2	
Major Elective	404P41	Welding Engineering and Practice	2/2		Major Elective	404P52	Plastic Working	2/2	
Major Elective	404P42	Introduction to Semiconductor Manufacturing Technology	2/2		Major Elective	404P53	Engineering Statistics and Quality Management	2/2	
Major Elective	404P43	Computer-Aided Engineering Analysis	3/3	Compu ter Cours e	Major Elective	404P54	Nano Engineering and Applications	2/2	
Major Elective	404P44	Principles of Electro-Motor and Applications	2/2		Major Elective	404P55	CNC Machine Design and Analysis	2/2	
Major Elective	404P45	Heat Engine Engineering and Applications	2/2		Major Elective	404P56	Air-Conditioned Engineering	2/2	
Major Elective	404P46	Industrial Management			Major Elective	404P57	Introduction of Electronics Cooling Technology	2/2	
Major Elective	404P47	Intelligent Manufacturing Topics	3/3		Major Elective	404P58	English for Engineering	2/2	
Major Elective	404P48	Principles and Application of Robotic Arm	2/2		Major Elective	404P59	Dynamic System Feedback Control Analysis	3/3	
Major Elective	404P49	Machining technology and practice of CNC tool machine (2)	2/2		Major Elective	404P60	Machining technology and practice of CNC tool machine (3)	2/2	
Major Elective	404P63	Numerical Analysis	3/3		Major Elective	404P65	Cyber-Physical Systems	3/3	
		Digital Signal	3/3		Major	404P66	Big data analytics	3/3	

43 Credits, 45 Hours 39 Credits, 41 Hours