Department of Mechanical Engineering

Curriculum Requirements for Enrollees in the Academic Year 111 (Fall 2022)

Program	Four-year technical college program of the Day Division	
Group	Precision Design and Manufacturing Group	
Class Type	Regular Class	
Special Program	None	
Curriculum Committee	Department Curriculum	114.04.09
	College Curriculum	114.05.16
	University Curriculum	114.06.09
	Academic 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 and Elective	Credits	Subject Category	Credits
Required	76 Credits	General Education	16 Credits
		Major Required	60 Credits
		College Major	0 Credits
Elective	52 Credits	General Education	8 Credits
		Major Elective	44 Credits
Other Regulations			
Remarks	"Computer Course" means computer access is required (computer and internet usage fee).		

First Semester, First Year					Second Semester, First Year				
Course	Course	Course Name	Credits / Hours	Notes	Course	Course	Course Name	Credits / Hours	Notes
General Education	404001	Chinese (1)	2/2		General Education	404011	Chinese (2)	2/2	
General Education	400E00	English(I)	2/2		General Education	400F00	English(II)	2/2	
General Education	404102	Community Service & Learning(1)	0/1		General Education	404103	Community Service & Learning(2)	0/1	
General Education	400A00	physical education (1)	1/2		General Education	400B00	physical education (2)	1/2	
General Education	300A00		2/2		General Education	300B00	General Courses (II)	2/2	
Major Required	404H01	Calculus(1)	3/3		Major Required	404064	Human Rights and Legal Education	2/2	
Major Required	404H02	Physics(1)	3/3		Major Required	404H05	Calculus(II)	3/3	
Major Required	404H03	Chemistry	3/3		Major Required	404H06	Physics(2)	3/3	
Major Required	404H04	Mechanical Workshop Practice	2/4		Major Required	404H07	Laboratory of Physics	1/2	
Major Required	404079	Computational Thinking and Creative Programming	2/3	Computer Course	Major Required	404H08	Statics	3/3	
Major Required	404056	Labor education (1)	0/1		Major Required	404H09	Mechanical Engineering Drawing and Practice	2/4	
					Major Required	404057	Labor education (2)	0/1	

20 Credits, 26 Hours					21 Credits, 27 Hours				
First Semester, Second Year					Second Semester, Second Year				
Course	Course	Course Name	Credits / Hours	Notes	Course	Course	Course Name	Credits / Hours	Notes
General Education	400G00	English(III)	2/2		General Education	400H00	English (IV)	2/2	
General Education	400C00	Physical Education (III)	1/2		General Education	400D00	physical education (4)	1/2	
General Education	300C00		2/2		General Education	300D00	General Courses (IV)	2/2	
Major Required	404068	Contemporary Taiwan and Modern World	2/2		Major Required	404065	Practical Chinese	2/2	
Major Required	404H10	Programming Language	2/3	Computer Course	Major Required	404H16	Mechanics of Materials (2)	2/2	
Major Required	404H11	Engineering Mathematics(1)	3/3		Major Required	404H17	Computer-Aided Manufacturing and Practice	2/4	
Major Required	404H12	Dynamics	3/3		Major Required	404H20	Pneumatic Control and Practice	2/4	
Major Required	404H13	Mechanics of Materials (1)	2/2		Major Elective	404W04	Thermodynamics	2/2	
Major Required	404H14	Numerical Control Machining and Practice	2/4		Major Elective	404W05	Applied Electronics and Practice	2/3	
Major Required	404H15	Computer-aided Drawing and Practice	2/4	Computer Course	Major Elective	404W06	Engineering Mathematics(2)	3/3	
Major Elective	404W01	Proficiency Assessment of Mechanical and Mechatronic Technology	2/3		Major Elective	404W50	Application of Metal Cutting Theory	2/3	
Major Elective	404W02	Originality Creative Training	2/2		Major Elective	404W53	Engineering Material Testing and Practice	2/4	
Major Elective	404W52	Introduction to Intelligent Machinery.	2/2		Major Elective	404W54	Mechanical Component Designand Practice	2/4	
Major Elective	404W62	Engineering Material	2/2		Major Elective	404W63	Mechanism of Machines	2/2	

29 Credits, 36 Hours					28 Credits, 39 Hours				
First Semester, Third Year					Second Semester, Third Year				
Course	Course	Course Name	Credits / Hours	Notes	Course	Course	Course Name	Credits / Hours	Notes
Major Required	404H21	Computer-aided Mechanism Design and Practice	2/4	Computer Course	Major Required	404H27	Special Topics	2/4	
Major Required	404H23	Precision Measurement and Inspection Practice	2/4		Major Elective	404W17	Non-Destructive Inspection	2/2	
Major Elective	404W07	Manufacturing Engineering	2/2		Major Elective	404W18	Sensor Theory & Applications	2/2	
Major Elective	404W08	Heat Treatment	2/2		Major Elective	404W19	Computer-Aided Control System Analysis and Design	3/3	
Major Elective	404W10	Vibration Theory and Applications	2/2		Major Elective	404W20	Thermodynamicsand Practice	2/2	
Major Elective	404W11	Fluid Dynamics and Practice	2/2		Major Elective	404W21	Career Guidance and Counseling	2/2	
Major Elective	404W12	Control System Engineering	3/3		Major Elective	404W22	Automation System Engineering and Practice	2/4	
Major Elective	404W13	Microcomputer Interfacing Practice	2/3		Major Elective	404W23	Machining technology and practice of CNC tool machine (1)	2/3	

Major Elective	404W14	Personal Character and Professional Ethics	2/2		Major Elective	404W24	Ultra Precision Machining	2/3	
Major Elective	404W16	Design and Manufacturing for Precision Optical Component	2/3		Major Elective	404W49	Intelligent Manufacturing Technology	3/3	
Major Elective	404W30	Precision Machining Technology and Practice	2/4		Major Elective	404W57	Multi-axialNumerical Control Machining and Practice	2/4	
Major Elective	404W47	Manufacturing Network Integration Technology	3/3		Major Elective	404W58	Adjustive and Corrective Technique for CNC Machine	2/4	
Major Elective	404W55	Programmable Logic Controller Application and Practice	2/4		Major Elective	404W59	Reverse Engineering and Practice	2/4	
Major Elective	404W56	Kinematics of Machines	2/2		Major Elective	404W65	Five-axis Numerical Control Machining and Practice	2/4	
Major Elective	404W67	Five-axis machining principle and practice	2/4						
32 Credits, 44 Hours					30 Credits, 44 Hours				
First Semester, Fourth Year					Second Semester, 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	404W25	Semester off-campus internship (1)	9/9		College Major Required	40TNF1	Interdisciplinary Micro Course Program for Engineering Digital Technology	0/1	
Major Elective	404W26	Non-traditional Manufacturing	2/2		Major Required	404H30	Proficiency Assessment of Mechanical and Mechatronic Technology	3/3	
Major Elective	404W27	Welding Engineering and Practice	2/2		Major Elective	404W36	Semester off-campus internship (21)	9/9	
Major Elective	404W28	Introduction to Semiconductor Manufacturing Technology	2/2		Major Elective	404W37	Opto-Mechatronic System	2/2	
Major Elective	404W29	Computer-Aided Engineering Analysis	3/3	Computer Course	Major Elective	404W38	Plastic Working	2/2	
Major Elective	404W31	Principles of Electro-Motor and Application	2/2		Major Elective	404W39	Engineering Statistics and Quality Management	2/2	
Major Elective	404W32	Heat Engine Engineering and Application	2/2		Major Elective	404W40	Nano Engineering and Applications	2/2	
Major Elective	404W33	Industrial Management	2/2		Major Elective	404W41	CNC Machine Design and Analysis	2/2	
Major Elective	404W34	Graphics Program Design and Virtual Instrumentation	3/3		Major Elective	404W42	Mechatronics	2/2	
Major Elective	404W35	Machining technology and practice of CNC tool machine (2)	2/3		Major Elective	404W43	Refrigeration and Air-Conditioned Engineering	2/2	
Major Elective	404W48	Intelligent Manufacturing Topics	2/3		Major Elective	404W44	Introduction of Electronics Cooling Technology	2/2	
Major Elective	404W60	Principles and Application of Robotic Arm	2/2		Major Elective	404W45	English for Engineering	2/2	

Major Elective	404W64	Summer off-campus internship	3/3		Major Elective	404W46	Machining technology and practice of CNC tool machine (3)	2/3	
Major Elective	404W66	Five-axis Compound Machining and Practice	2/4		Major Elective	404W61	Semester Off-campus Internship	9/9	
					Major Elective	404W71	Cyber-Physical Systems	3/3	
					Major Elective	404W72	Big data analytics and machine learning	3/3	
38 Credits, 44 Hours					47 Credits, 50 Hours				