Curriculum for the Department of Mechanical Engineering(Aviation Technology Divison), Chung Hua University

Apply for 110 class

Approved at the 2nd College Curriculum Meeting of academic year 109, on Jun 9, 2021

	Freshman				Sophomore				Junior				Senior			
	Fall		Spring		Fall		Spring		Fall		Spring		Fall		Spring	
Common Required Courses (6 credits)	Physical Education	0/2	Physical Education	0/2												
	Freshman English(I)	2/2	Freshman English(II)	2/2	Freshman English(III)	1/2	Freshman English(IV)	1/2								
General Education Courses (22 credits)	Core course	2/2	Core course	2/2	Core course	2/2	Elective course	2/2	Elective course	2/2	Elective course	2/2				
	Core course	2/2	Core course	2/2	Core course	2/2	Elective course	2/2	Elective course	2/2						
Required Courses (59 credits)	Engineering Graphics & Computer Practice	1/3	Mechanism Design and Drawing & Practice	1/3	Mechanical Material and Manufacture	3/3	Mechanical and Electrical Project Experiment	1/3	Machine Design	3/3	Mechanical and Electrical Conformity	3/3				
	Experimental Physics (I)	1/3	Statics and Mechanics of Materials	3/3	Engineering Dynamics	2/2	Introduction to Unmanned Aerial Vehicles	3/3	Project of Precision Machines	3/3	Senior Projects	1/3				
	Programming Language	3/3	Experimental Physics (II)	1/3	Electrical Engineering	3/3	Thermal and Fluid Engineering (I)	2/2	Thermal and Fluid Engineering (II)	2/2						
			Calculus	4/4	Programmable Logic Controller	2/2	Engineering statistics	3/3								
			Physics	3/3	Theory of Mechanisms	2/2										
					Engineering Mathematics	3/3										
Required Elective Courses (4 credits)	Creativity Engineering	2/2					Introduction to Aeronautical Engineering	2/2								
	3D Printer Technology	3/3														
Division Required Elective Courses (at least 3 courses)									Flight Principle and Flight Simulator Implementation	2/2	Structure and Processing of Composite Material	2/2				
									Sensor Principle and Application	2/2	Aircraft Engines and Gas Turbines	2/2				
											Design of Opto-Mechatronic Systems	2/2				
Professional Elective Courses (Adjustments will be made based on the actual start of classes)							Introduction of Micro-processor	3/3	Aerodynamics	3/3	Drones Geoinfomatics of Application	3/3	Tolerance Design	2/2	Lasers and Their Applications	3/3
							Introduction to Smart Automation	2/2	Avionics	2/2	Servo Motor Control	3/3	Computer Numerical Control Machine Tools	3/3	Non-Destructive Test	3/3
							Introduction of Machining Tools	3/3	Automatic Control Systems	2/2	Computer Aided Engineering Analysis	3/3	Non-traditional Machinning	2/2	Quality Control and Reliability Engineering	3/3
							Introduction of precision machines	2/2	Industrial Hygiene	2/2	Introduction to Aviation Maintenance	2/2	Navigation and Global Positioning System	3/3	Business Experience	3/3
									Computer-Aided Manufacturing	3/3	Aviation quality Assurance	3/3	Manufacturing Practice	3/3	Factory Practice	3/3
									Precision Machining	2/2	Intelligent Robot	2/2	Business Ethics	3/3	Work Ethics	3/3
											Precision Measurement	2/2	Internships	3/3	Overseas Professional Internship	2/2

Required Credits：81 (including 53 credits of professional required courses, 6 credits of English course, 22 credits of general education courses which include 12 credits of core general education courses and 10 credits of elective general education courses.)
Elective Credits: 47 (including 7 credits of department required courses, 6 credits of division required courses, 25 credits of department elective course and 9 credits in other Department)
Graduation Credits: 128 credits

Compulsory notices for schools and colleges：

1. Students of this department eligible for graduation must study and pass English and multiple general education courses (GEC) according to "Chung Hua University (CHU) English courses", "internal and external certification exam", and "workplace English coursework essentials" and " CHU GEC regulations".
There are 22 credits of GEC required in the regulation.
(1) 12 credits of core GEC divided into three categories, such as "social care" (containing "humanistic cultivation" and "social observation"), "innovation and creativity" (containing "artistic perception" and "scientific inquiry"), and "health promotion" (containing "self-exploration" and "biomedicine and health care"), at least passing two core GEC of each category & contain at lease 4 dimensions.
(2) 10 credits of multiple elective courses.

2.In order to achieve the "Communication and Expression Ability" in the Basic Competency Index of CHU students, students of this department must complete and pass the English language test and the Chinese language test in accordance with the "Regulations for the Implementation of the English Language Test for CHU Students" within the period of study to be eligible for graduation.

3.In order to achieve the "Information Application Ability" in the Basic Competency Index of CHU students, in accordance with the "Regulations for the Implementation of Information Application Ability Testing at CHU", and complete the required credits. The course is designed for students who have completed the required credits and passed the information application test.

4.In order to achieve the "Innovation and Creativity" in the basic competency index of CUH students, students must pass the assessment criteria and take the "Creativity Engineering" course and the "Senior Projects" courses, which are required for the department's major, within the period of study. The student is eligible for graduation.

5.In order to achieve the "Social Care Ability" in the basic competency index of CHU students, students of this department must complete the required hours of service according to the "Implementation Guidelines for CUH Volunteer Campus Culture Promotion" within the term of study in order to be eligible for graduation.

6.In order to achieve the "Health and Fitness Ability" in the Basic Competency Index of CHU students, students must complete the required credits and pass the swimming ability and physical fitness tests in accordance with the "Regulations for Physical Education Courses at CHU" within the period of study to be eligible for graduation.

7. The elective credits for graduation from this department must be 9 credits from other departments, including "Exploring the Science Park" and "AI Experience 2.0",(Transfer students and foreign students are exempt from taking the course) but excluding general education.

8. Total 6 elective courses are related to enterprise practice in this department: "Employment Ethics","Manufacturing Practice", "Internships", "Factory Practice", "Business Experience", and "Work Ethics", according to "Implementation measures for off-campus internships in the department of Mechanical Engineering".

9.Description for Microcredit Course ：In order to enable students to understand the curriculum characteristics of different colleges in our school, and to achieve the concept of interdisciplinary teaching in their freshman year, students are required to complete the "Intercollege Micro Programs " in their freshman year, and the credits earned can be recognized as 9 credits in outside the department required.

10.The core curriculum of the institute is to ★ be noted. ("3D Printer Technology" is recognized as an introduction to computers, "Programming Language" is recognized as programming, "Introduction to Smart Automation" and "Intelligent robot" are recognized as an introduction to artificial intelligence, "Calculus", "Engineering Mathematics", and "Engineering Statistics" are recognized as mathematics", "Senior Projects" is recognized as a topic, and "Internships", "Business Experience", and "Factory Practice" are recognized as an internship).