Approved by the 1st Department Curriculum Meeting of academic year 111 second semester, on March 14, 2023 111學年度第二學期第1次光電與材料工程學系課程規劃委員會議通過(112/03/14)
Approved at the 3rd College Curriculum Meeting of academic year 111, on May 31, 2023 111學年度第3次資電學院課程規劃委員會議通過(112/05/31)
Approved at the 4rd University Curriculum Meeting of academic year 111, on June 14, 2023 111學年度第4次校級課程規劃委員會會議通過(112/06/14)

2023 Academic Four-Year Curriculum of Department of Optoelectronics and Materials Engineering

For 2023 enrolled students

grade	freshman grade				sophomore grade				junior grade				senior grade			
semester	first semester		second semester		first semester		second semester		first semester		second semester		first semester		second semester	
Basic Requred Courses (17credits)	Calculus (I)★	3	Calculus(II)★	3	Engineering Mathematics★	3			Techonology English Report	2						
	Physics	3	Applied Chemistry	2												
			Basic Circuit Experiments	1												
Core Requred Courses (38credits)	Photoelectric Science	2	Circuit Theory	2	Electronics	3	Electromagnetics	3	Senior Projects (I)★	1	Senior Projects (II)★	1				
	Materials Science and Engineering (I)	3	Materials Science and Engineering (II)	3	Optics	3	Introduction of Micro-processor	3	Optical and Materials Experiments (I)	1	Optical and Materials Experiments (II)	1				
			Basic Programming (Python)	3	Matlab Programming	3	Optical Design	3								
							Opto-electronical Materials	3								
Required Elective Courses (6credits)	Applied Artificial Intelligence★ (requred)	2			Creativity Engineering (requred)	2					Ethics of Engineering and Information (requred)	2				
Electives Courses (36credits)					Introduction to Green Technology	3	Database System	3	IoT Applications	3	Human-Machine Interface and Virtual Reality	3	Employment Ethics	3	Factory Practice★	3
							Optical system technology application	3	Deep Learning Applications★	3	Biomedical Image Processing	3	Manufacturing Practice	3	Business Experience★	3
							Metallographic Analysis	3	Medical Data Analysis and Machine Learning	3	Biomedical Signal Processing	3	Interships★	3	Work Ethics	3
							Semiconductor Process Technology	3	Optoelectronic and Semiconductor Components and Package Technology	3	Biomedical Data and Software Applications	3	Optoelectronics and Semiconductor Industry Development	3		
									Principle of sensor	3	Solar cell manufacturing and inspection technology	3				
									Programming verification(Python)★	3	Laser Principle and Applications	3				
School Requred Courses (28credits) (include general education courses 22credits)	English(I)	2	English(II)	2	English (III)	1	English（Ⅳ）	1	Workplace English	0						
	physical education (I)	0	physical education(II)	0												

Qualifications for graduation from our department

Required credits: 83 credits (including 55 credits of our departmental required, 6 credits of English, and 22 credits of General Education)

Electives credits: 45 credits (including 36 credits of our departmental electives and 9 credits of other departments (General Education, Physical Education, and Mlitary Training are not included in the calculation))

Minimum graduation credits: 128 credits ◎Intercollegiate electives must be requested and approved in advance if they are to be counted for graduation credit.

School and College Common required Notes

1.Students in our Department must complete the required credits of English and General Education courses in accordance with the "Regulations for English Courses at Chung Hua University" and "Regulations for General Education Courses at Chung Hua University" within the graduation period to be eligible for graduation.

2.Students must complete the required credits of physical education courses in accordance with the "Regulations for Physical Education Courses at Chung Hua University" within the period of study to be eligible for graduation.

3.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.

4.In order to achieve the "Social Care Ability" in the basic competency index of CHU students, students of this department must complete the required 18 hours of service according to the "Implementation Guidelines for CHU Volunteer Campus Culture Promotion" within the term of study in order to be eligible for graduation.

5.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 tests in accordance with the "Regulations for Physical Education Courses at CHU" within the period of study to be eligible for graduation.

6.In order to achieve the "Information Application Ability" in the Basic Competency Index of CHU students, students must take the "Basic Programming (Python)" course, and the "Matlab Programming" course, 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.

7.In order to achieve the "Innovation and Creativity" in the basic competency index of CHU students, students must pass the assessment criteria and take the "Creative Engineering" course (with a grade on the transcript) and the "Senior Projects (1)" and " Senior Projects (2)" courses, which are required for the department's major, within the period of study. The student is eligible for graduation.

8.In order to achieve the "Basic Literacy" in the basic competency index for students in the college of Computer Science and Electrical Engineering of Chung Hua University, students must take and pass "Emotion Management and Interpersonal Communication" or a course recognized by the department in the General Education Studies 22 credit within the period of study.

9.Required elective course: defined as a course that must be taken within the period of study (withdrawal for the second time during the semester is considered not taken), and a grade in the subject on the transcript is recognized as an elective in the department's major field, and is eligible for graduation.

10.The core courses are marked with ★ ("Matlab Programming" is recognized as Introduction to Computer Science, "Basic Programming (Python)" and "Programming Validation (Python)" are recognized as Programming, "Introduction to Artificial Intelligence" and "Deep Learning Applications" are recognized as Artificial Intelligence, "Calculus (I)", "Calculus (II)", "Engineering Mathematics" are recognized as Mathematics; "Senior Project (I)" and " Senior Project (2)" are recognized as projects, and "Corporate Internship", "Corporate Experience" and "Factory Practice" are recognized as internships.)

11.In order to develop students' independent learning ability and understanding of SDGs issues, students are required to complete the "School-level Independent Study Course" in freshman year, and the credits earned can be recognized as 9 credits in outside the department required.

12.In order to educate and enhance students' ability to apply the latest technology in AI and Metaverse, and equip freshmen with the latest technical knowledge, students of our school are required to complete the "AI Experience Fun 2.0 Course" in freshman year. The credits obtained are listed in outside the department required.