Approved by the 1st Department Curriculum Meeting of academic year 108 second semester, on June 4, 2020 108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(109/06/04)
Approved by the 1st College Curriculum Meeting of academic year 108 second semester, on June 18, 2020 108學年度第二學期第1次資訊電機學院課程會議複審通過(109/06/18)

2020 Academic Four-Year Curriculum of Department of Optoelectronics and Materials Engineering

For 2020 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 (20credits)	Calculus (I)	3	Calculus (II)	3	Engineering Mathematics (I)	3			Engineering English	2	Techonology English Report	2				
	Physics	3	Applied Chemistry	3												
			Basic Circuit Experiments	1												
Core Requred Courses (38credits)	Photoelectric Science	2	Circuit Theory	2	Electronics	3	Electromagnetics (I)	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)	Creativity Engineering (requred)	2	Applications of Office (requred)	2							Ethics of engineering (requred)	2				
Electives Courses (33credits)					Green Energy Materials	3	Optoelectronic Components and Applications	3	Medical Data Analysis and Machine Learning	3	Biomedical Image Processing	3	Employment Ethics	3	Factory Practice	3
					Metallographic Analysis	3	Solar Cell Engineering	3	Optical Glass and Ceramics	3	Light alloy manufacturing technology	3	Manufacturing Practice	3	Business Experience	3
					Semiconductor Processes and Configurations	3	Introduction to Artificial Intelligence★	3	Electromagnetism (II)	3	Energy Saving and Storage Technology	3	Interships	3	Work Ethics	3
					Introduction to Green Technology	3	Engineering Mathematics (II)	3	Optical component packaging technology	3	Material Analysis Techniques	3	physical metallurgy	3	Advanced Display Technology Materials	3
							Database System	3	Laser Principles and Applications	3	Solar cell manufacturing and inspection technology	3	Optical system technology application	3	Human-Machine Interface and Virtual Reality	3
							Engineering drawings	3	Introduction to Robotics Programming	3	Fuel cell	3	Thin Film Engineering	3	Biomedical Signal Processing	3
							Material Thermodynamics	3	Introduction to LED Components and Industry	3						
							Introduction to Micro-Electro-Mechanics	3	Photonics	3						
							Electronics (II)	3	Principle of sensor	3						
							Organic Chemistry	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: 86 credits (including 58 credits of our departmental required, 6 credits of English, and 22 credits of General Education)

Electives credits: 42 credits (including 33 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 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.

6.In order to achieve the "Information Application Ability" in the Basic Competency Index of CHU students, students must take the "Office Software Application" course (with a grade on the transcript), 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.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.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.

11. The core courses are marked with ★ (Matlab Programming is recognized as Introduction to Computing, Basic Programming (Python) is recognized as Introduction to Visual Programming and Logic Design Computing, and Introduction to Artificial Intelligence is recognized as Introduction to Artificial Intelligence).

12.The time sequence of courses for foreign students can be adjusted after the decision of the Department’s Curriculum Planning Committee.