MUST Curriculum Guide for Undergraduate Students for Academic Years 2020-2023, Department of Electro-Optical Engineering

Year I (2020)					
	Course title	1st semester		2nd semester	
		Cr.	hr.	Cr.	hr.
	◎Physical Education	1	2	1	2
	☆All-out Defense Education Military Training(I)(II)	0	2	0	1
	◎Chinese Reading and Expressions (I)(II)	2	2	2	2
	◎English (I)(II)	2	2	2	2
C	△Physics(Ⅰ)(Ⅱ)	2	2	2	2
	△Chemistry and Laboratory	2	3		
	△Calculus(Ⅰ)(Ⅱ)	3	3	3	3
	△Physics Laboratory(Ⅰ)(Ⅱ)	1	2	1	2
	△Introduction to programming	2	3		
	△Introduction and application of artificial intelligence	2	2		
	※Optics			2	2
	※Basic Electronics			3	3
	※Vector Analysis			3	3
	※Electronics Lab(I)			1	3
	Summation	17	23	20	25
	Introduction to Optoelectric Industry	2	2		
	Basic Circuit Theory	2	2		
	■Photoelectric Drawing and modeling			2	2
	Electronic Circuit and License Counseling			2	2
E					

Year II (2021)					
	Course title	1st semester		2nd semester	
		Cr.	hr.	Cr.	hr.
	◎Physical Education	1	2		
	◎Classified General Education	2	2	2	2
	◎The Theory of History and Civilization			2	2
	◎Technical English(I)(II)	2	2	2	2
C	◎Chinese Reading and Expressions (III)			1	1
	※Electromagnetic(I)(II)	3	3	2	2
	※Engineering Mathematics(I)(II)	3	3	3	3
	※Applied Electronics	3	3		
	※Electronics Lab(II)	1	3		
	※Mechanism of Optoelectronic System	2	2		
	※Introduction to Modern Physics	3	3		
	※Geometrical Optics			2	2
	※Optoelectric Lab(I)			2	3
	Summation	20	23	16	17
	■Programming Language	2	2		
	Vacuum Technology	2	2		
	■Certification of Solid Design CAD			2	2
	■ CAD of Solid Design			2	2
	Material Science and Engineering			2	2
	Introduction to Bio-Medicine			2	2
E					

Year III (2022)					
	Course title	1st semester		2nd semester	
		Cr.	hr.	Cr.	hr.
	◎General Education Courses	2	2	2	2
	◎Law, Politics and Society	2	2		
	◎Ethics for Engineers			1	1
	◎English Proficiency Training			1	1
C	※Wave Optics	2	2		
	※Optoelectronic Material & Device Physics	2	2		
	※Optoelectric Lab(II)(III)	2	3	2	3
	※Laser Engineering			2	2
	※Project of Optoelectronics-capstone			1	2
	Summation	10	11	9	11
	■Certification of Solid Design CAD and License Counseling	2	2		
	■Computer-aided Optical System Design	2	2		
	■Graphical Programming Language Design	2	2		
	■Practice of Digital Circuits	2	2		
	■Green Energy Photoelectric Laboratory	2	2		
	Optical Fiber Engineering	2	2		
E	Thin Film Technology	2	2		
	Solid State Lighting and License Counseling	2	2		
	■Computer-aided Illumination System Design			2	2
	■Applied Circuits in Optoelectronics			2	2
	Flat Panel Display			3	3
	Optoelectronic Device and Application			2	2
	Chromatics			2	2
	Optoelectronic Semiconductor Manufacturing Technology			2	2
	Semiconductor Manufacturing Technology			2	2
	Optical Thin Film and Coating Technology			2	2
	Common Course of Kernel Career Competencies			3	3
	Optoelectronic Detection Engineering			2	2
	Introduction to Optical Microelectromechanical System			2	2

Year IV (2023)					
	Course title	1st semester		2nd semester	
		Cr.	hr.	Cr.	hr.
C	※Project of Optoelectronics	1	2	1	2
	Summation	1	2	1	2
	■Design and Operation of TFT-LCD Panels	3	3		
	■Creative Design in Optoelectronics	3	3		
	Liquid Crystal Materials and Optic	3	3		
	Solar Photovoltaic Technology	3	3		
	Computer-Assisted Design of Optical Thin Films	3	3		
	The Measurement of Semiconductors	3	3		
E	Micro Opto Electro Mechanical Device and System	3	3		
	■Lab of Property Practice(I) (II)	9	9	9	9
	■Sloar-Cell-Driven LED Display			3	3
	Technology Management			3	3
	Semiconductor Material Analysis			3	3
	Nano Bio-photonics			3	3
	Technology of Organic Light-Emitting Diode display			3	3
	Projection Display Technology			3	3

Item	Cr.	hr.
◎General Education Courses	30	33
△ Basic Professional Courses (required by school)	18	22
※Required Professional Courses	46	56
Elective Professional Courses	34	34
☆All-out Defense Education Military Training	0	3
Total	128	148

C/E = Compulsory / Elective

Cr./hr.=Credit/Hour

半導體系課程規劃委員1

半導體與光電科技系 系主任 陳炳茂

半導體學院 院長 張合

Remarks:

1. The university requires students to achieve basic competencies and meet graduation requirements.
2. Students are required to take 4 hours of Service Education courses (0 credit) during their first year.
3. In the first three years, students must take 16-30 credits per semester, and 9-30 credits per semester in the 4th year.
4. Minimum credits required for graduation are 128 credits (94 required credits and at least 34 elective credits). (including the inter-departmental elective credits).
5. No fewer than 22 professional elective credits are required with the exclusion of credits for inter-disciplinary programs.
6. At least 3 professional implementation courses (with ■ symbol) of Inter-departmental elective credits for graduation.
7. An off-campus practicum is taken as an 18-credit elective program. It consists of 2 courses： Lab of Property Practice(I) &Lab of Property Practice(II).
8. Those that do not choose the practicum are not allowed to take any of the 3 courses.
9. Students having graduated from a foreign country, including Hong Kong and Macau, with the equivalent of the second year of high school study of the ROC's high school sophomore level, or with a high school equivalent degree, need to take 140 credits including 94 compulsory credits, and at least 46 elective credits (including inter-departmental elective credits), while elective professional course credits shall not be fewer than 34.The program can be extended up to 3 academic years.
10. The elective courses listed in the tables are subejct to adaptation when necessary.

明新科技大學 財團法人 半導體與光電科技系 MUST