Course Structure for Ph. D Program
Graduate Institute of Electro-optical Engineering
National Taiwan Normal University

Adaptive to Class of	Required Credit(s)	Elective Credit(s)	Free Elective Credit(s)	Minimum Total Credits for Graduation
114	0.0 0.0	18.0 18.0	0.0 0.0	18.0 18.0

Note: The first alphabet "E" on the course name refers to the course in English as a medium of instruction

I. Required Courses: 0.0 credit is required

II. Elective Courses: 0.0 credit is required

III. Courses Offered to Students in Different Divisions

A-1. Required Course for , 0.0 credit is required

A-2. Elective Course for , 18.0 credits are required

Course Code	Course Name	Credit(s)	Credit Unit		Note
			Lecture Hour	Lab/Practice Hour	
OEC8159	1 E Seminar	2.0	2.0	0.0	This course can be retaken
OEC8012	2 E Laser Engineering	3.0	3.0	0.0	
OEC8100	3 Special Topics in Optical Fiber Network	3.0	3.0	0.0	
OEC8101	4 Thin-film Technologies (I)	3.0	3.0	0.0	
OEC8102	5 Thin-film Technologies (II)	3.0	3.0	0.0	
OEC8103	6 Introduction to Optical Information	3.0	3.0	0.0	
OEC8104	7 Near-field Optics	3.0	3.0	0.0	
OEC8105	8 Introduction to Optical Fiber Communication	3.0	3.0	0.0	
OEC8106	9 Integrated Optics	3.0	3.0	0.0	
OEC8107	10 Optical Fiber Devices	3.0	3.0	0.0	
OEC8108	11 Design of Optical Communication Systems	3.0	3.0	0.0	
OEC8109	12 Integrated Electro-optic Devices	3.0	3.0	0.0	
OEC8110	13 Fiber-optic Sensors	3.0	3.0	0.0	
OEC8111	14 Nonlinear Optics	3.0	3.0	0.0	
OEC8112	15 E Principles And Applications of Ultrafast Optics	3.0	3.0	0.0	
OEC8113	16 Image Diagnosis	3.0	3.0	0.0	
OEC8114	17 Principles And Applications of Magnetic Resonance Images	3.0	3.0	0.0	
OEC8115	18 Electro-optical Signals in Physiology	3.0	3.0	0.0	
OEC8116	19 Physics and Applications of Nano-Magnetism (I)	3.0	3.0	0.0	
OEC8117	20 E Physics and Applications of Nano-Magnetism (II)	3.0	3.0	0.0	
OEC8118	21 Optics of Liquid Crystal Display	3.0	3.0	0.0	
OEC8121	22 Liquid crystal devices and applications	3.0	3.0	0.0	
OEC8122	23 Advanced Photonics in Solid State	3.0	3.0	0.0	
OEC8123	24 Advanced Photonic Engineering	3.0	3.0	0.0	
OEC8124	25 E Optical Pattern Processing	3.0	3.0	0.0	
OEC8125	26 Optical Detectors	3.0	3.0	0.0	
OEC8126	27 Biomagnetism	3.0	3.0	0.0	
OEC8127	28 Optical Tomography	3.0	3.0	0.0	
OEC8128	29 Special Topics on Holographic Optical Element	3.0	3.0	0.0	
OEC8129	30 E Special Topics on Electro-optical System Measurement	3.0	3.0	0.0	
OEC8131	31 Flexible Electronics and Display	3.0	3.0	0.0	
OEC8132	32 Thin Film Photovoltaic Energy	3.0	3.0	0.0	
OEC8133	33 Laser Biomedical Applications	3.0	3.0	0.0	
OEC8134	34 E Technology and Electronics for Next-Transistor	3.0	3.0	0.0	
OEC8135	35 Design and Applications of Virtual Instruments	3.0	3.0	0.0	
OEC8136	36 Training of Innovation and Entrepreneurship: Orientation of Interdisciplinary Biotechnology Industry (I)	3.0	3.0	0.0	
OEC8137	37 Training of Innovation and Entrepreneurship: Orientation of Interdisciplinary Biotechnology Industry (II)	3.0	3.0	0.0	
OEC8138	38 Optical System Design and Simulation	3.0	3.0	0.0	
OEC8139	39 E Modern Holography	3.0	3.0	0.0	
OEC8140	40 Computation and Simulation on Photonic Devices (I)	3.0	3.0	0.0	
OEC8141	41 Computation and Simulation on Photonic Devices (II)	3.0	3.0	0.0	
OEC8142	42 Photodetector Theory and Application	3.0	3.0	0.0	
OEC8143	43 Introduction to Scientific Reports and Presentations	3.0	3.0	0.0	
OEC8144	44 E Fourier Optics	3.0	3.0	0.0	
OEC8145	45 Experimental Optics	3.0	3.0	0.0	

Course Code	Course Name	Credit(s)	Credit Unit		Note
			Lecture Hour	Lab/Practice Hour	
OEC8147	46　Photonic Crystal	3.0	3.0	0.0	
OEC8148	47　Optical Holography and Applications	3.0	3.0	0.0	
OEC8149	48　Nanophotonics	3.0	3.0	0.0	
OEC8150	49　Optical Display Technology	3.0	3.0	0.0	
OEC8151	50　Bio-Sensors	3.0	3.0	0.0	
OEC8152	51　The Devices Physics and Applications for Organic Led	3.0	3.0	0.0	
OEC8153	52　Nano-Optics and Near-Field Optical Microscopy	3.0	3.0	0.0	
OEC8154	53　Waveguide Optics	3.0	3.0	0.0	
OEC8155	54 E Bio-Chips Manufacturing Technology	3.0	3.0	0.0	
OEC8156	55　Inspection Science of Brain Wave	3.0	3.0	0.0	
OEC8157	56　TCAD Simulation of Advanced Devices	3.0	3.0	0.0	
OEC8158	57　TCAD Simulation of Semiconductor Process	3.0	3.0	0.0	
OEC8160	58　Optics (II)	3.0	3.0	0.0	
OEC8161	59　Optics (I)	3.0	3.0	0.0	
OEC8162	60 E Electromagnetism in Electro-Optics	3.0	3.0	0.0	
OEC8163	61 E Optical Electronics	3.0	3.0	0.0	
OEC8013	62 E Introduction to Optoelectronic Devices	3.0	3.0	0.0	
OEC8014	63　Photovoltaic Components Testing Technology	3.0	3.0	0.0	
OEC8164	64 E Optical Properties of Solids	3.0	3.0	0.0	
OEC8165	65　Principles and Applications of Plasmonics	3.0	3.0	0.0	
OEC8166	66　Introduction to Nanolithography Techniques	3.0	3.0	0.0	
OEC8167	67　Generative AI for Vision and Digital Twin Applications	3.0	3.0	0.0	
OEC8168	68 E Fundamentals of Photoelectrochemistry	3.0	3.0	0.0	

B-1. Required Course for , 0.0 credit is required

B-2. Elective Course for , 18.0 credits are required

Course Code	Course Name	Credit(s)	Credit Unit		Note
			Lecture Hour	Lab/Practice Hour	
OEC8159	1 E Seminar	2.0	2.0	0.0	This course can be retaken
OEC8012	2 E Laser Engineering	3.0	3.0	0.0	
OEC8112	3 E Principles And Applications of Ultrafast Optics	3.0	3.0	0.0	
OEC8117	4 E Physics and Applications of Nano-Magnetism (II)	3.0	3.0	0.0	
OEC8129	5 E Special Topics on Electro-optical System Measurement	3.0	3.0	0.0	
OEC8134	6 E Technology and Electronics for Next-Transistor	3.0	3.0	0.0	
OEC8139	7 E Modern Holography	3.0	3.0	0.0	
OEC8144	8 E Fourier Optics	3.0	3.0	0.0	
OEC8155	9 E Bio-Chips Manufacturing Technology	3.0	3.0	0.0	
OEC8162	10 E Electromagnetism in Electro-Optics	3.0	3.0	0.0	
OEC8163	11 E Optical Electronics	3.0	3.0	0.0	
OEC8164	12 E Optical Properties of Solids	3.0	3.0	0.0	
OEC8013	13 E Introduction to Optoelectronic Devices	3.0	3.0	0.0	
OEC8124	14 E Optical Pattern Processing	3.0	3.0	0.0	
OEC8168	15 E Fundamentals of Photoelectrochemistry	3.0	3.0	0.0	

IV. Free Elective Credits

A Free Elective Credit for , 0.0 credit is required

B Free Elective Credit for , 0.0 credit is required