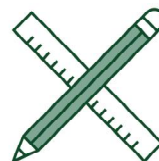


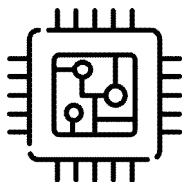
# 2022

## GRADUATE COURSE COURSE CATALOG



# Graduate School of Semiconductor Materials and Devices Engineering [반도체소재 · 부품대학원]

## ■ Department Introduction [학과소개]



The Graduate School of Semiconductor Materials and Devices Engineering is a highly interdisciplinary graduate program at Ulsan National Institute of Science and Technology (UNIST) aiming at educating talents in semiconductor materials, devices, processing and equipments. As internationally recognized, UNIST has shown top-tier research capabilities in materials science and engineering, so this new graduate program will be bringing additional academic curriculum and research activities to the campus and offer the world-class research programs in the fields of 1) Next-generation semiconductor materials, 2) Future display materials, and 3) Characterization of semiconductor materials/devices.

## 1. Graduation Requirement [졸업 이수요건]

Major	Program	Course Credit	Research Credit	Total Credits
Semiconductor Materials and Devices Engineering 반도체소재 · 부품공학	Masters Program	At least 18 credits	At least 10 credits	At least 28 credits
	Doctoral Program	At least 12 credits	At least 48 credits	At least 60 credits
	Combined Master's-Doctoral Program	At least 24 credits	At least 36 credits	At least 60 credits

## 2. Curriculum [반도체소재부품대학원 교육과정]

Category	Course code	Classification	Course Title	Course Title (Kor.)	Cred. -Lect. -Exp.
Required	SE590	Research	The Seminar I	세미나	1-1-0
	SE690		Master's Research	석사논문연구	1-3
	SE890		Doctoral Research	박사논문연구	3-9
	SE510	Lecture	Field Experience based Semiconductor Process	반도체 실무 공정	3-3-0
	SE511		Semiconductor Processing and Device Lab	반도체 소자 실험/실습	3-0-6
Elective	SE520	Lecture	Semiconductor Materials Properties	반도체재료물성	3-3-0
	SE521		VLSI Processing Technology	VLSI공정기술	3-3-0
	SE522		Analytical Instrument for Semiconductor Materials	반도체소재분석기기학	3-3-0
	SE523		Synchrotron Radiation Science and Technology	방사광과학과기술	3-3-0
	SE530		Nano Semiconductor Materials	나노반도체소재	3-3-0
	SE531		Nanoscale Electronic Materials	나노전자재료	3-3-0
	SE532		Materials for Magnetic Memory Devices	자성메모리소재	3-3-0
	SE533		Intelligent Materials and Applications	지능형전자기소재	3-3-0
	SE534		Materials for Organic Electronics : Display Materials	유기전자재료:디스플레이	3-3-0
	SE535		Special Topics in Polymer	고분자물리특론	3-3-0
	SE536		Advanced Optical Materials and Devices	고급광학소재및소자	3-3-0
	SE537		Nanomaterials for QLED	양자점디스플레이소재	3-3-0
	SE538		Advanced Polymer Chemistry Experiment in Semiconductor Device Analysis	고급고분자화학	3-3-0
	SE620		Experiment in Semiconductor Device Analysis	반도체소자분석	3-1-4
	SE622		X-ray Techniques of Material Analysis	X-선소재분석학	3-1-4
	SE623		Advanced Mass Spectrometry	고급질량분석학	3-3-0
	SE624		Experimental Mass Spectrometry	질량분석학	3-1-4
	SE630		Memory and Neuromorphic Device	메모리와뉴로모픽소자	3-3-0
	SE631		Semiconductor Device Physics	반도체소자물리	3-3-0

Category	Course code	Classification	Course Title	Course Title (Kor.)	Cred. -Lect. -Exp.
Elective	SE632	Lecture	X-ray Techniques of Material Analysis	나노반도체소자	3-3-0
	SE633		Special Topics on Lithography	리소그래피특론	3-3-0
	SE634		Thin Film Technology	박막공학	3-3-0
	SE635		Interface Physics of Electronic Devices	전자소자계면물리	3-3-0
	SE636		Introduction to Spintronics	스핀트로닉스	3-3-0
	SE637		Organic Optoelectric Materials and Devices	유기광전자재료및디바이스	3-3-0
	SE638		Wearable Displays	웨어러블디스플레이	3-3-0
	SE639		Surface and Interface Science of Nanomaterials	나노재료표면및계면	3-3-0
	SE640		Simulation of Microstructures using Monte Carlo Method	미세구조 전산모사	3-3-0
	SE641		Semiconductor Epitaxy (Experimental Methods in Applied Physics)	반도체에피택시	3-3-0
	SE642		Nanochemistry for Semiconductor	반도체나노화학	3-3-0

### 3. Curriculum Change [교육과정 변경사항]

2021	→	2022
SE511 Semiconductor Processing and Characterization Laboratory 반도체 소자 실험/실습	→	SE511 Semiconductor Processing and Device Lab 반도체 소자 실험/실습