

Department of Electrical and Electronic Engineering

Program of Microelectronics Science and Engineering for Class 2018

I. Introduction

The features of microelectronics include: (1) Frontier and Fundamental Research. The direction of the discipline covers three aspects, including the development of integrated circuit technology; integrated circuit devices and materials research and MEMS / NEMS devices with micro-nanofabrication technology; integrated circuit design. (2) Outstanding application. Applications include low-power logic and memory electronics, smart mobile devices, wireless sensor networks, new thin film materials, green energy, etc.

II. Objectives

The Microelectronic Science and Engineering major aims to provide students not only solid theoretical knowledge in semiconductor materials and devices, but also practical skills to design and manufacture state-of-the-art electronic and optoelectronic devices and systems. Upon graduation, students are expected to write and speak fluent English, use computers proficiently, and apply those skills in interdisciplinary collaborations and innovative research and development (R&D) activities. Our undergraduate students can work in diverse areas, including the design and manufacturing of electronic and optoelectronic devices and integrated circuits and systems, and the R&D of innovative products, technologies and processes. Students can either continue post-graduate education in microelectronics or related fields after graduation, or pursue research, development, education, and management positions at a broad spectrum of enterprises, research institutes, and universities.

III. Study Length and Degree Requirements

Study length: 4 years

Degree conferred: Bachelor of Engineering

The minimum credit requirement for graduation: 135 credits (not including English courses);

IV. Discipline

Major disciplines include Microelectronics Science and Engineering, Opto-electronic Information Science and Engineering .etc.

V. Main Courses

Core courses include Calculus, Linear Algebra, Engineering Mathematics, General Chemistry, General Physics, Engineering Drawing, Solid-State Electronics, Analog Circuits, Digital Circuits, Introduction to Semiconductor Devices, Engineering Electromagnetics, Fundamentals of Optoelectronic Technology, Introduction to MEMS, Introduction to Display and Lighting Technologies, Introduction to VLSI Technology, Integrated Circuit Design .etc.

VI. Practice-Based Courses

Core practical training includes Microelectronic related experiments, and VLSI Technology training, Photovoltaic Technology practice, Microelectronic related innovative experiment, Industrial Practice, Advanced Electronic Science Experiment I (It is a subject elective course. Outstanding students after their junior year, can join research working with their professor), and all sorts of domestic and international academic competitions, like solar energy motor contest .etc.

Major professional experiment includes Analog Circuits experiment, Digital Circuits experiment, Semiconductor Devices experiment, basic Optical experiment, Solar battery manufacturing and System developing experiments, LED manufacturing and system developing, etc..

VII. Course Structure and Credit Requirements

General Education (GE) Required Courses: 51 credits (not including English courses);

General Education (GE) Elective Courses: 10 credits (4 credits for Humanities Module, 4 credits for Social Sciences Module, and 2 credits for Arts Module);

Major Foundational Courses: 22 credits;

Major Core Courses: 15 credits;

Major Elective Courses: 25 credits;

Undergraduate Thesis/Projects, Research Projects and Internship: 12 credits;

The minimum credit requirement for graduation:135 credits (not including English courses).

VIII. Requirements for Science Module of GE Required Courses

Course Cod	Course Name	Credit	Lab Credits	Hours/week	Term	Instruction Language	Prerequisite	Dept
MA101B	Calculus I A	4		4	Spr/ Fall	B/E	NA	MA
MA102B	Calculus II A	4		4	Spr/ Fall	B/E	Calculus I A	MA
MA103A	Linear Algebra I-A	4		4	Spr/ Fall	B/E	NA	MA
PHY103B	General Physics B (I)	4		4	Spr/ Fall	B/E	NA	PHY
PHY105B	General Physics B (II)	4		4	Spr/ Fall	B/E	General Physics B (I)	PHY
CH101B	General Chemistry B	3		3	Spr/ Fall	B/E	NA	CH
BIO102B	Introduction to Life Science	3		3	Spr/ Fall	B/E	NA	BIO
CS102B	Introduction to Computer Programming B	3	1	4	Spr/ Fall	B/E	NA	CS
PHY104B	Experiments of Fundamental Physics	2	2	4	Spr/ Fall	B/E	NA	PHY
Total		31	3	34				

IX. Pre-requisites for Major Declaration

Course Code	Course Name	Notes
EE201-17	Analog Circuits	
EE201-17L	Analog Circuits Laboratory	
EE203	Solid-State Electronics	

X. Course Arrangement

Table 1: Major Required Course (Foundational and Core Courses)

Course Category	Course Code	Course Name	Credits	Lab Credits	Hours/week	Terms	take the course Advised term to	language Instruction	Prerequisite	Dept.
Major Foundational Courses	EE104	Fundamentals of Electric Circuits	2		2	Spr/Fall	1/Spr or Fall	B/E	MA101B MA103A or MA103B	EE
	ME102	CAD and Engineering Drawing	3	1.5	4.5	Spr/Fall	1/Spr or Fall	B/E	NA	ME
	EE201-17	Analog Circuit	3		3	Fall	2/Fall	C	PHY105B EE104	EE
	EE201-17 L	Analog Circuit Laboratory	1	1	2	Fall	2/Fall	B	EE201-17	EE
	EE202-17	Digital Circuits	3		3	Spr/Fall	2/Spr or Fall	B/E	PHY105B	EE
	EE202-17 L	Digital Circuits Laboratory	1	1	2	Spr/Fall	2/Spr or Fall	B/E	EE202-17	EE
	EE203	Solid-State Electronics	3		3	Fall	2/Spr or Fall	B/E	NA	EE
	EE204	Introduction to Semiconductor Devices	3	1	4	Spr	2/Spr	B	EE203	EE
	EE208	Engineering Electromagnetics	3	1	4	Spr	2/Spr	B	MA101B MA103A EE104	EE
	Total		22	5.5	27.5					
Major Core Courses	EE301	Frontier Seminars in Modern Electronic Science and Technology I	1		1	Fall	3/Fall	B	NA	EE
	EE302	Frontier Seminars in Modern Electronic Science and Technology II	1		1	Spr	3/Spr	B	NA	EE
	EE303	Fundamentals of Optoelectronic Technology	3	1	4	Fall	3/Fall	B	PHY105B	EE
	EE304	Integrated Circuit Design	3	2	5	Fall	3/Fall	E	EE202-17 EE204	EE
	EE305	Introduction to VLSI Technology	3	1	4	Fall	3/Fall	E	EE203	EE
	EE306	Introduction to MEMS	3	1	4	Spr	3/Spr	E	PHY105B	EE
	EE401	Frontier Seminars in Modern Electronic Science and Technology III	1		1	Fall	4/Fall	B	NA	EE
	Total		15	5	20					

Practice	EE470	Internship	2	2	16	Smr	3/Smr	NA	NA	EE
	EE480	Research Projects	2	2				NA	NA	EE
	EE490	Undergraduate Thesis/Projects	8	8	8	Fall& Spr	4/Fall& Spr	NA	NA	EE
Total			12	12	24					
Notes: 1. Internship will be approximately 4 to 6 weeks, 14 to 16 hours per week. 2. Students can choose the term most appropriate for the course of Research Projects based on their study plan, so the advised term to take the course is not listed here. The minimum study load for this course is 48 to 64 hours in total.										

Table 2: Major Elective Courses

Course Code	Course Name	Credits	Lab Credits	Hours/week	Terms	take the course Advised term to	language Instruction	Prerequisite	Dept.
EE106	Introduction to Optoelectronic	2		2	Spr	1/Spr	B	NA	EE
EE205	Signals and Systems	3	1	4	Fall	2/Fall	B	NA	EE
EE206	Communication Principles	3	1	4	Spr	2/Spr	E	EE205	EE
EE210	Fundamentals of Optics	3		3	Spr	2/Spr	B	NA	EE
EE307	Antennas and Radio Propagation	3	1	4	Spr	3/Spr	E	EE208 EE104	EE
EE308	Fiber Communication Principles and Techniques	3	1	4	Spr	3/Spr	B	NA	EE
EE309	Introduction to Semiconductor Optics	3		3	Fall	3/Fall	B	NA	EE
EE310	Principles and Technologies of Lasers	3		3	Spr	3/Spr	B	NA	EE
EE311	Optical Design	3	1	4	Fall	3/Fall	C	NA	EE
EE313	Wireless Communications	3	1	4	Fall	3/Fall	E	EE206	EE
EE312	Design of Modern Communication Systems	3	1	4	Spr	3/Spr	B	EE206 EE313	EE
EE316	Microwave Engineering	3	1	4	Fall	3/Fall	E	EE104 EE201-17 EE208	EE
EE317	Advanced Electronic Science Experiment I	1	1	2	Fall	3/Fall	B	NA	EE
EE318	Advanced Electronic Science Experiment II	1	1	2	Spr	3/Spr	B	NA	EE
EE320-15	Integrated Circuit Fabrication	3	1.5	4.5	Spr Fall	3/Spr Fall	B	EE204	EE
EE322	Optoelectronic Devices Fabrication	2	1	3	Spr	3/Spr	B	EE204	EE
EE323	Digital Signal Processing	3	1	4	Fall	3/Fall	E	EE205	EE
EE325	Nonlinear Optimization Techniques for Electrical Engineering	3	1	4	Fall	3/Fall	E	MA102B MA103A	EE
EE326	Digital Image Processing	3	1	4	Spr	3/Spr	E	EE205	EE
EE327	Fundamentals of Information Optics	3	1	4	Fall	3/Fall	B	EE205	EE
EE328	Speech Signal Processing	3	1	4	Spr	3/Spr	B	EE323	EE
EE330	DSP Design and Simulation	1.5	1.5	3	Spr	3/Spr	C	EE323	EE
EE332	Digital System Design	3	1	4	Spr	3/Spr	E	EE202-17	EE
EE334	Advanced integrated circuit design: machine learning on chip	3	1	4	Spr	3/Spr	E	EE202-17	EE
EE335	Liquid crystal optoelectronics	3	1	4	Fall	3/Fall	C	EE210	EE
EE336	Fundamentals of Photovoltaics	3	1	4	Fall	3/Fall	E	EE204	EE
EE337	Analog Integrated Circuit Design	3	1	4	Fall	3/Fall	B	EE201-17 EE204	EE

EE339	Analog IC Layout Design	1	1	2	Fall	3/Fall	B	EE304	EE
EE341	Advanced Integrated Circuit Design: Microprocessor	3	1	4	Fall	3/Fall	B	EE202-17	EE
EE343	Optoelectronic Instrumentation	3	1	4	Fall	3/Fall	B	NA	EE
EE345	Introduction of Wide Bandgap Semiconductors	3		3	Fall	3/Fall	B	EE203 or EE204	EE
EE402	Frontier Seminars in Modern Electronic Science and Technology IV	1		1	Spr	4/Spr	B	NA	EE
EE403	Introduction to Display and Lighting Technologies	2		2	Fall	4/Fall	B	EE204	EE
EE404	Organic Electronics	2		2	Spr	4/Spr	B	NA	EE
EE405	Advanced Electronic Science Experiment III	1	1	2	Fall	4/Fall	B	NA	EE
EE411	Information Theory and Coding	2		2	Fall	4/Fall	B	MA212	EE
EE415	Advances in Micro Energy and Micro Systems	2	1	3	Fall	4/Fall	B	NA	EE
EE417	Communications System Design II	2	2	4	Fall	4/Fall	E	EE316 EE206 EE307	EE
EE423-14	Pattern Recognition	3	1	4	Fall	4/Fall	B	EE323 EE326	EE
EE427	Principles of Remote Sensing	2		2	Fall	4/Fall	B	EE323 EE326	EE
EE431	Bio MEMS and Lab-on-a-Chip	3		3	Fall	4/Fall	E	NA	EE
EE433	Modern Electric Vehicle Technologies	2		2	Fall	4/Fall	B	EE104 EE208	EE
EES101	Brief Introduction of Creative Electronic Design I	1	0.5	6	Smr	1/Smr	C	PHY105B	EE
EES102	DIY Project: Assembling an iphone6	2	2	8	Smr	1/Smr	C	NA	EE
EES201	Brief Introduction of Creative Electronic Design II	0.5	0.5	4	Smr	2/Smr	C	NA	EE
EES202	Design Based on LabVIEW Programming	1	1	8	Smr	2/Smr	C	NA	EE
EES203	Innovation and Entrepreneurship	0.5	0.5	4	Smr	2/Smr	C	NA	EE
EES204	Fiber Sensor Design	1	1	8	Smr	2/Smr	C	NA	EE
EES205	Advanced Technology Forecasting	1.5		6	Smr	2/Smr	E	NA	EE
EES301	Statistical Machine Learning	2		8	Smr	3/Smr	E	MA103A MA212	EE
EES302	2D Materials: Properties and Devices	2		8	Smr	3/Smr	E	NA	EE
EES303	Convex optimization	2		2	Smr	3/Smr	E	MA103A;MA215 or MA212	EE
EES305	Electronic Materials	2		2	Smr	3/Smr	E	NA	EE
MSE102	Frontier Seminars in Materials Science and Engineering	1		1	Spr	1/Spr	B	NA	MSE
MSE308	Energy Materials Science	3	1	4	Spr	3/Spr	B	PHY105B PHY104 MSE201	MSE
MSE320	Introduction to Photovoltaics and Photo-thermal	3		3	Spr	3/Spr	B	PHY105B EE201-17 EE204	MSE
MSE403	Advanced Materials Characterization Techniques	3		3	Spr	4/Spr	E	NA	MSE

MSE413	3D Printing and Laser-based Advanced Manufacturing	3		3	Fall	3/Fall	E	NA	MSE
CH102-17	General Chemistry Laboratory A	1.5	1.5	3	Spr	1/Spr	B	CH101A	CH
CH212-16	Advanced Instrumentation Systems I	4	2	6	Spr	2/Spr	E	CH101A	CH
CH304	Nanomaterials Synthesis and Nanotechnology	2		2	Spr	3/Spr	E	CH202 CH302	CH
CH305-1	Principle of Instrumental Analysis	2		2	Fall	3/Fall	C	CH205 CH207	CH
CH305-2	Practice of Instrumental Analysis	2	2	4	Fall	3/Fall	C	CH205 CH207	CH
CH306	Laboratory for Micro-Nano Synthesis, Technology and Application	2	2	4	Spr	3/Spr	E	CH202 CH302	CH
CH407	Selected Topics in Nanoscience and Nanotechnology	3	1	4	Fall	4/Fall	E	CH202 CH302	CH
ESE212	Environment Monitoring	2		2	Spr	2/Spr	E	NA	ESE
ESE407	Introduction to Numerical Simulation Methods	3		3	Fall	4/Fall	C	NA	ESE
ME310	Fundamentals of Measurement Technology	3		3	Spr	3/Spr	B	EE205 ME307	ME
ME411	New Energy Technology	3	1	4	Fall	4/Fall	B	ME304	ME
CS203B	Data Structures and Algorithm Analysis B	3	1	4	Fall	2/Fall	C	CS102A	CS
CS301	Embedded System and Microcomputer Principle	3	1	4	Fall	3/Fall	B	CS207	CS
CS303B	Artificial Intelligence B	3	1	4	Fall	3/Fall	E	CS102A CS203B MA212	CS
CS305B	Computer Networks B	3	1	4	Fall	3/Fall	E	CS102A	CS
CS401	Intelligent Robots	3	1	4	Fall	4/Fall	B	NA	CS
MAE202	Mechanics of Materials	3		3	Spr	2/Spr	C	MAE203	MAE
MAE303	Fluid Mechanics	4		4	Fall	3/Fall	E	MAE204	MAE
MAE305	Engineering Thermodynamics	3		3	Fall	3/Fall	C	NA	MAE
MAE411	Micro and Nano Mechanics	3		3	Fall	4/Fall	C	NA	MAE
BMEB131	Introduction to Biomedical Engineering	2		2	Spr	1/Spr	C	NA	BMEB
BMEB221	Biomedical Instrumentation	4	2	6	Spr	2/Spr	C	NA	BMEB
BMEB317	Principles of Medical Imaging Systems	3		3	Fall	3/Fall			BMEB
MA110	MATLAB Programming and Application	3	1	4	Spr	1/Spr	B	NA	MA
MA201b	Ordinary Differential Equations B	4		4	Fall	2/Fall	B	MA102B	MA
MA202	Complex Analysis	3		3	Spr	2/Spr	B	MA203A or MA213	MA
MA206	Mathematical Modelling	3	1	4	Spr	2/Spr		MA203A or MA213	MA
MA212	Probability and Statistics	3		3	Spr	2/Spr	B	MA102B or MA102A	MA

MA303	Partial Differential Equations	3		3	Fall	3/Fall	B	MA201A	MA
MA305	Numerical Analysis	3		3	Fall	3/Fall	C	MA203A or MA213	MA
PHY20 6-15	Introduction to Quantum Mechanics	3		3	Spr	2/Spr	C	PHY205-15 PHY203-15	PHY
PHY32 1-15	Introduction to Solid State Physics	4		4	Fall	3/Fall	B	PHY206-15	PHY
PHY32 2	Lectures on selected Research Software	2		2	Spr	3/Spr	C	NA	PHY
PHY42 3-15	Physics of Thin Films	3		3	Fall	4/Fall	E	PHY321-15 PHY204	PHY
PHY4 25	Modern Techniques in Materials Characterization	3	1	4	Fall	4/Fall	B	PHY206-15	PHY
Total		2 3 5. 5	58	33 6.5					

Table 3: Overview of Practice-Based Courses

Course Code	Course Name	Credits	Lab Credits	Hours/week	Terms	take the course Advised term to	language Instruction	Prerequisite	Dept.
ME102	CAD and Engineering Drawing	3	1.5	4.5	Spr/ Fall	1/Spr or Fall	B/E	NA	ME
EE201-1 7L	Analog Circuits Laboratory	1	1	2	Fall	2/Fall	B	EE201-17	EE
EE202-1 7L	Digital Circuits Laboratory	1	1	2	Spr/ Fall	2/Spr or Fall	B/E	EE202-17	EE
EE204	Introduction to Semiconductor Devices	3	1	4	Spr	2/Spr	B	EE203	EE
EE208	Engineering Electromagnetics	3	1	4	Spr	2/Spr	B	MA101B MA103A EE104	EE
EE303	Fundamentals of Optoelectronic Technology	3	1	4	Fall	3/Fall	B	PHY105B	EE
EE304	Integrated Circuit Design	3	2	5	Fall	3/Fall	E	EE202-17 EE204	EE
EE305	Introduction to VLSI technology	3	1	4	Fall	3/Fall	E	EE203	EE
EE306	Introduction to MEMS	3	1	4	Spr	3/Spr	E	PHY105B	EE
EE470	Internship	2	2	16	Smr	3/Smr	NA	NA	EE
EE480	Research Projects	2	2				NA	NA	EE
EE490	Undergraduate Thesis/Projects	8	8	8	Fall & Spr	4/Fall & Spr	NA	NA	EE
EE205	Signals and Systems	3	1	4	Fall	2/Fall	B	NA	EE
EE206	Communication Principles	3	1	4	Spr	2/Spr	E	EE205	EE
EE210	Fundamentals of Optics	3		3	Spr	2/Spr	B	NA	EE
EE307	Antennas and Radio Propagation	3	1	4	Spr	3/Spr	E	EE208 EE104	EE
EE308	Fiber Communication Principles and Techniques	3	1	4	Spr	3/Spr	B	NA	EE
EE311	Optical Design	3	1	4	Fall	3/Fall	C	NA	EE
EE313	Wireless Communications	3	1	4	Fall	3/Fall	E	EE206	EE
EE312	Design of Modern Communication Systems	3	1	4	Spr	3/Spr	B	EE206 EE313	EE
EE316	Microwave Engineering	3	1	4	Fall	3/Fall	E	EE104 EE201-17 EE208	EE
EE317	Advanced Electronic Science Experiment I	1	1	2	Fall	3/Fall	B	NA	EE
EE318	Advanced electronic science experiment II	1	1	2	Spr	3/Spr	B	NA	EE
EE320-1 5	Integrated Circuit Fabrication Laboratory	3	1.5	4.5	Spr Fall	3/Spr Fall	B	EE204	EE
EE322	Optoelectronics Devices	2	1	3	Spr	3/Spr	B	EE204	EE

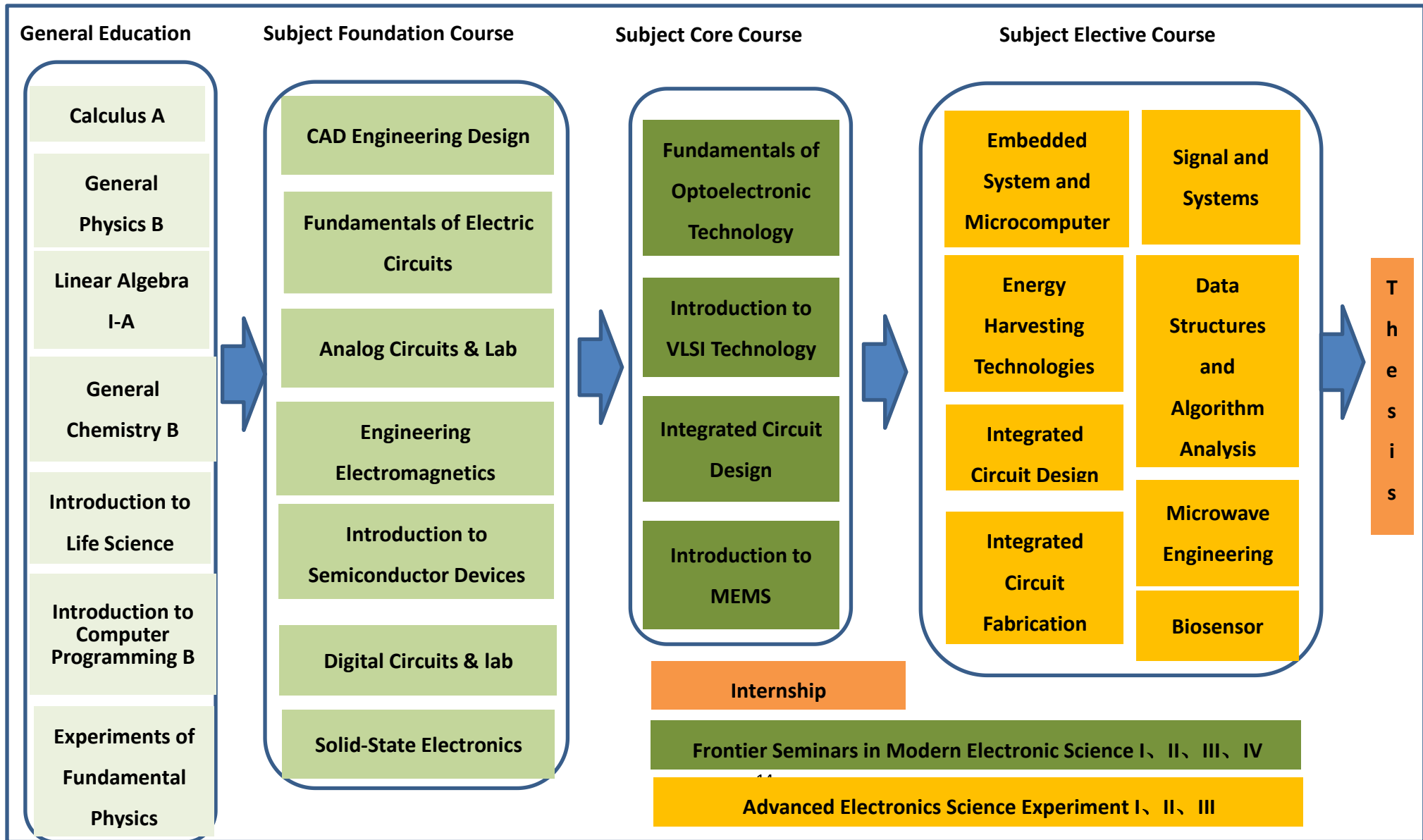
	Fabrication Laboratory								
EE323	Digital Signal Processing	3	1	4	Fall	3/Fall	E	EE205	EE
EE325	Nonlinear Optimization Techniques for Electrical Engineering	3	1	4	Fall	3/Fall	E	MA102B MA103A	EE
EE326	Digital Image Processing	3	1	4	Spr	3/Spr	E	EE205	EE
EE327	Fundamentals of Information Optics	3	1	4	Fall	3/Fall	B	EE205	EE
EE328	Speech Signal Processing	3	1	4	Spr	3/Spr	B	EE323	EE
EE330	DSP Design and Simulation	1.5	1.5	3	Spr	3/Spr	C	EE323	EE
EE332	Digital System Design	3	1	4	Spr	3/Spr	E	EE202-17	EE
EE334	Advanced Integrated Circuit Design: Machine Learning on Chip	3	1	4	Spr	3/Spr	E	EE202-17	EE
EE335	Liquid Crystal Optoelectronics	3	1	4	Fall	3/Fall	C	EE210	EE
EE336	Fundamentals of Photovoltaics	3	1	4	Fall	3/Fall	E	EE204	EE
EE337	Analog Integrated Circuit Design	3	1	4	Fall	3/Fall	B	EE201-17 EE204	EE
EE339	Analog IC Layout Design	1	1	2	Fall	3/Fall	B	EE304	EE
EE341	Advanced Integrated Circuit Design: Microprocessor	3	1	4	Fall	3/Fall	B	EE202-17	EE
EE343	Optoelectronic Instrumentation	3	1	4	Fall	3/Fall	B	NA	EE
EE405	Advanced Electronic Science Experiment III	1	1	2	Fall	4/Fall	B	NA	EE
EE415	Advances in Micro Energy and Micro Systems	2	1	3	Fall	4/Fall	B	NA	EE
EE417	Communications System Design II	2	2	4	Fall	4/Fall	E	EE316 EE206 EE307	EE
EE423-1 4	Pattern Recognition	3	1	4	Fall	4/Fall	B	EE323 EE326	EE
EES101	Brief Introduction of “Creative Electronic Design I”	1	0.5	6	Smr	1/Smr	C	PHY105B	EE
EES102	DIY Project: Assembling an iPhone6	2	2	8	Smr	1/Smr	C	NA	EE
EES201	Brief Introduction of “Creative Electronic Design II”	0.5	0.5	4	Smr	2/Smr	C	NA	EE
EES202	Design based on LabVIEW Programming	1	1	8	Smr	2/Smr	C	NA	EE
EES203	Innovation and Entrepreneurship	0.5	0.5	4	Smr	2/Smr	C	NA	EE
EES204	Fiber Sensor Design	1	1	8	Smr	2/Smr	C	NA	EE
MSE308	Introduction to Energy Materials	3	1	4	Spr	3/Spr	B	PHY105B PHY104 MSE201	MSE
CH102-1 7	General Chemistry Laboratory A	1.5	1.5	3	Spr	1/Spr	B	CH101A	CH
CH212-1 6	Advanced Instrumentation Systems I	4	2	6	Spr	2/Spr	E	CH101A	CH
CH305-2	Practice of Instrumental Analysis	2	2	4	Spr	3/Spr	C	CH205 CH207	CH
CH306	Laboratory for Micro-Nano Synthesis, Technology and	2	2	4	Spr	3/Spr	E	CH202 CH302	CH

	Application								
CH407	selected Topics in Nanoscience and Nanotechnology	3	1	4	Fall	4/Fall	E	CH202 CH302	CH
ME411	New Energy Technology	3	1	4	Fall	4/Fall	B	ME304	ME
CS203B	Data Structures and Algorithm Analysis B	3	1	4	Fall	2/Fall	C	CS102A	CS
CS301	Embedded System and Microcomputer Principle	3	1	4	Fall	3/Fall	B	CS207	CS
CS303B	Artificial Intelligence B	3	1	4	Fall	3/Fall	E	CS102A CS203B MA212	CS
CS305B	Computer Networks B	3	1	4	Fall	3/Fall	E	CS102A	CS
CS401	Intelligent Robots	3	1	4	Fall	4/Fall	B	NA	CS
BMEB22 1	Biomedical Instrumentation	4	2	6	Spr	2/Spr	C	NA	BMEB
MA110	MATLAB Programming and Application	3	1	4	Spr	1/Spr	B	NA	MA
MA206	Mathematical Modeling	3	1	4	Spr	2/Spr		MA203A or MA213	MA
PHY425	Modern Techniques in Materials Characterization	3	1	4	Fall	4/Fall	B	PHY206-15	PHY
Total		165	82.5	272					

Table 4: Overview of Course Hours and Credits

Course Category	Total Course Hours	Total Credits	Credit Requirements
General Education (GE) Required Courses (not including English courses)	800	51	51
General Education (GE) Elective Courses		10	10
Major Foundational Courses	440	22	22
Major Core Courses	320	15	15
Major Elective Courses	5384	235.5	25
Research Projects, Internship and Undergraduate Thesis/Projects	380	12	12
Total (not including English courses)	7324	345.5	135

Curriculum Structure of Microelectronics Science and Engineering



Note: The Subject Elective course lists include only part of the courses, see more in Program.