

MSEE Track Course Guide

Conditional admit may require additional course work to fulfill program requirements. Please refer to the chart on the back.

Course Offered Key ★ = Likely Offered a = Tentatively Offered • = Not Offered

Course	VLSI & Electronics	Hours	Pre-requisite	FA	SP	SU
EE 6440/L	Electronic Integrated Systems	4	Undergraduate EE Education	a	•	•
EE 6540/L	VLSI Design	4	Undergraduate EE Education	★	a	•
EE 6620/L	Digital Integrated Circuit Design (FPGA)	4	Undergraduate EE Education	a	★	a
EE 7410/L	Power Electronics I	4	Undergraduate EE Education	★	•	•
EE 7420/L	Power Electronics II	4	Undergraduate EE Education	•	★	•
EE 7430/L	High Frequency Magnetic Components	4	Undergraduate EE Education	★	•	•
EE 7440/L	RF Power Amplifiers	4	Undergraduate EE Education	•	★	•
EE 7510/L	Digital Wideband Receiver	4	EE 6000, EE 6620	•	•	a
EE 7520/L	Low Power VLSI System Design	4	EE 6540/L	•	a	•
EE 7530/L	VLSI Design Synthesis Optimization	4	EE 6620/L	a	•	•
EE 7540/L	VLSI Testing & Design for Testability	4	EE 6540/L	•	•	a
EE 7550	Trust in Integrated Circuit Design	3	EE 6620/L	•	a	•
EE 7580/L	CMOS Mixed Signal IC Design	4	EE 6540/L	•	a	•
EE 7590/L	CMOS Radio Frequency Integrated Circuit Design	4	EE 7580/L	a	•	•
Course	Controls	Hours	Pre-requisite	FA	SP	SU
EE 6120/L	Industrial Controls Automation	4	Undergraduate EE Education	★	•	•
EE 6130/L	Continuous Control Systems	4	Undergraduate EE Education	★	a	•
EE 6170/L	Digital Control Systems	4	Undergraduate EE Education	•	★	•
EE 6190/L	Intro. Intelligent Control Systems	4	Undergraduate EE Education	★	•	•
EE 6560/L	Introduction to Robotics	4	Undergraduate EE Education	★	•	•
EE 6600/L	Autonomous UAV Flight Control	4	EE 6130/L	•	•	•
EE 7020	Modern Control I	3	EE 6130/L	a	•	•
EE 7200	Modern Control II	3	EE 7020	•	a	•
EE 7260	Autonomous Unmanned Systems	3	EE 7020	•	•	a
EE 7270	Adaptive Control	3	EE 7020	•	a	•
EE 7280	Intelligent Control	3	EE 7020	•	a	•
EE 7560/L	Advanced Robotics	4	EE 6560	•	a	•
Course	Signal Processing & Communication	Hours	Pre-requisite	FA	SP	SU
EE 6210/L	Digital Communication	4	Undergraduate EE Education	a	★	•
EE 6360	Digital Signal Processing	3	Undergraduate EE Education	★	•	•
EE 6730/L	Wireless Communication	4	EE 6210	•	★	•
EE 6750	Introduction to Radar Systems	3	Undergraduate EE Education	a	•	•
EE 6840	Introduction to Machine Learning	3	Undergraduate EE Education	•	•	•
EE 7010	Linear Systems	3	Undergraduate EE Education	a	•	•
EE 7150	Digital Image Processing	3	Undergraduate EE Education	a	•	•
EE 7160	Multisensor and Information Fusion	3	EE 7610	•	•	•
EE 7170	Target Tracking and Data Association	3	EE 7610	•	•	•

EE 7330	Modern Radar Theory	3	EE 6750	•	a	•
EE 7350	Wireless Communication Techniques	3	EE 7610 and EE 6210	a	•	•
EE 7360	Advanced Wireless Communication Techniques	3	EE 7350	•	a	•
EE 7370	Advanced Electronic Warfare	3	EE 6210/L, EE 5260	a	•	•
EE 7400	Information Theory	3	Undergraduate EE Education	•	•	•
EE 7610	Random Processes	3	Undergraduate EE Education	a	•	•
EE 7620	Detection, Estimation, and Optimal Filter Theory	3	EE 7610	•	a	•
EE 7630	Stochastic Signal Processing	3	EE 7610			
EE 7820	Pattern Recognition (CEG 7570)	3	Undergraduate Education			
EE 7830	Machine Learning (CEG 7830)	3	CS 6850			
EE 7840	Computer Vision (CEG 7550)	3	Undergraduate Education			
Course	RF & Microwave	Hours	Pre-requisite	FA	SP	SU
EE 6100	Nano-fabrication of Integrated Solid State Devices	3	Undergraduate EE Education	★	•	•
EE 6400	Nanoscience and Nanotechnology	3	Undergraduate EE Education	•	•	•
EE 6420/L	Microwave Engineering I - Passive	4	Undergraduate EE Education	•	★	•
EE 6460/L	Microwave Engineering II - Active	4	Undergraduate EE Education	a	•	•
EE 6470/L	Antenna Theory and Design	4	EE 6420/L	a	•	•
EE 6480	Remote Sensing Detectors and Systems	4	EE 5450	•	a	•
EE 6700/L	Introduction to MEMS	4	EE 6100	•	a	•
EE 7080	Advanced MEMS	3	Undergraduate EE Education	•	•	a
EE 7430/L	High Frequency Magnetic Components	4	Undergraduate EE Education	★	•	•
EE 7440/L	RF Power Amplifiers	4	Undergraduate EE Education	•	★	•
EE 7460	Advanced Electromagnetics Engineering	3	EE 5450 or PHY 6330	a	•	•
EE 7470	Electromagnetic Simulation Methods	3	EE 5450 & MTH 5330 or MTH 6810 or PHY 6730	•	a	•
EE 7480	Advanced Microwave Engineering	3	EE 6420/L	a	•	•
EE 7490	Antenna Theory and Design	3	EE 6420/L	a	•	•

Guidelines for track pre-requisites R=Required N=Needed/Recommended

Track Choice	Mathematics & Science	EE 2000/L	EE 2010/L	EE 3210	EE 3260/L	EE 3310/L	EE 3450/L	EE 4000	EE 4130/L	EE 4210/L
VSLI & Electronics	R (MTH 1280)	N	N	R		R				
Controls	R (MTH 2310, MTH 2350)		N	R					R	
Signals Processing & Communication	R (MTH 2310)		N	R	R			R		R
RF Power & Microwave	R (PHY 2400/L)		N	R		R	R			