

UC Berkeley Extension
Certificate Program in Integrated Circuit Design and Techniques

Course Comparison

	Semiconductor Devices for Integrated Circuit Design	Advanced Analog Microelectronics	Fundamentals of Analog Integrated Circuit Design Techniques	Advanced Design Techniques for Analog Integrated Circuits	Intro to Microelectronic Theory and Applications	Fundamentals of Integrated Circuit Design	Intro to Physics of Semiconductor Devices	Fundamentals of Analog Microelectronic Techniques	Digital Integrated Circuit Design	Effective SPICE Circuit Simulation Techniques	Fundamentals of Modern Data Converter Design	Design Techniques of High Performance Data Converters
Course Number	X138	X139	X140	X141	X30	X31	X32	X33	X134	X405	X236	X237
Academic Credit Type												
Campus Level	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Campus Department	EECS	EECS	EECS	EECS	EECS	EECS	EECS	EECS	EECS	EE	EECS	EECS
Semester Units	2	2	2	2	1	1	1	1	2	1	1	1
Lower Division (Freshman/Sophomore)					◇	◇	◇	◇				
Upper Division (Junior/Senior)	◇	◇	◇	◇					◇			
Professional Post-Graduate										◇		
Graduate School											◇	◇
Certificate Program												
Required	◇	◇	◇	◇								
Elective					◇	◇	◇	◇	◇	◇	◇	◇
Level (Field)												
Level of Difficulty	★★★	★★★	★★★	★★★★	★	★	★★	★★	★★★	★★★	★★★★	★★★★★
Component Level	◇				◇		◇			◇		
Circuit Level		◇	◇	◇	◇	◇		◇	◇	◇		
System Level											◇	◇
Signal												
Analog Signal		◇	◇	◇	◇	◇		◇		◇		
Digital Signal					◇				◇	◇		
Mixed-Signal											◇	◇
Continuous-Time Signal		◇	◇	◇		◇		◇	◇	◇	◇	◇
Discrete-Time Signal											◇	◇
Technology												
CMOS	◇		◇	◇	◇			◇	◇	◇		
Bipolar	◇		◇	◇	◇		◇	◇	◇	◇		
BiCMOS			◇						◇			
Nanoelectronics	◇											
Career Transformation with Certificate												
Analog IC Design Engineer	◇	◇	◇	◇		◇		◇				
Mixed-Signal IC Designer	◇	◇	◇	◇							◇	◇
SoC Integration Engineer	◇	◇	◇	◇					◇		◇	
Design Automation Engineer	◇	◇	◇	◇						◇	◇	
RF IC Design Engineer	◇	◇	◇	◇				◇			◇	
Accelerated Career Development												
Component/Device Engineer	◇					◇	◇			◇		
Digital IC Designer	◇						◇		◇	◇		
Technical Mgmt (Fab)	◇				◇	◇	◇					
Technical Mgmt (Fabless)	◇		◇			◇			◇			
Technical Mgmt (Vertical integration)	◇				◇	◇			◇			
Course Design & Grading												
Homework Assignments	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Midterm Exam (Take-Home)	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Proctored Final Exam	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Research Project	◇	◇	◇	◇			◇		◇	◇	◇	◇