

SEMICONDUCTOR MANUFACTURING AND MICROELECTRONICS, CERTIFICATE

Requirements for an undergraduate certificate may be completed at any campus location offering the specified courses for the certificate.

Program Description

This certificate program is designed to prepare students for careers in the semiconductor industry. Course material will focus on the nanofabrication and manufacturing of semiconductor materials and devices, and packaging. This certificate program will help to bridge the gap between academic research and large-scale manufacturing. Students will experience hands-on training on semiconductor manufacturing and packaging and meet with industry leaders to discuss current topics and trends in semiconductor technology. To complete this certificate, a minimum of 13 credits is required, including at least 7 credits of semiconductor laboratory coursework.

Program Requirements

To earn an undergraduate certificate in Semiconductor Manufacturing and Microelectronics, a minimum of 13 credits is required.

Code	Title	Credits
Prescribed Courses		
EE 340	Introduction to Nanoelectronics	4
Additional Courses		
Select one or more of the following courses which have a laboratory component:		3-9
EE 410	Linear Electronic Design	
EE 413	Power Electronics	
EE 441	Semiconductor Integrated Circuit Technology	
Supporting Courses and Related Areas		
Select additional elective courses as needed to reach a minimum of 13 credits:		0-6
EE 416	Digital Integrated Circuits	
EE 442	Solid State Devices	
ESC 445	Semiconductor Optoelectronic Devices	
ESC 481	Elements of Nano/Micro-electromechanical Systems Processing and Design	
IE 458	Manufacturing and Design of Nano Devices	
MATSE 402	Materials Process Kinetics	
MATSE 412	Thermal Properties of Materials	
MATSE 415	Introduction to Glass Science	
MATSE 417	Electrical and Magnetic Properties	
MATSE 450	Synthesis and Processing of Electronic and Photonic Materials	