

Semiconductor Science and Engineering: Semiconductor Devices Minor

The transcript-recognized undergraduate academic minor in Semiconductor Science and Engineering must be completed in conjunction with an undergraduate degree at The University of Texas at Austin in one of the following majors: electrical and computer engineering, mechanical engineering, chemical engineering, physics, or chemistry.

For more information regarding the requirements for achieving a minor, including a comprehensive list of minors, please visit the [Minors and Certificate Programs section of the Undergraduate Catalog](#).

Total Hours Required: 15 Requirements

Requirements are listed in the table below. Additional requirements may follow the table, so be sure to read the entire page. Some required courses listed below may also satisfy [General Education](#) requirements, including [Core Curriculum](#). Students should also review the [University's Undergraduate Minor and Certificate Requirements and Policies](#).

Code	Title	Hours
SSE 360	Introduction to Semiconductor Science and Engineering	3
ECE 302	Introduction to Electrical Engineering	3
ECE 311	Circuit Theory	3
or SSE 310	Circuit Theory	
ECE 339	Solid-State Electronic Devices	3
Hours chosen from:		3
CH 354	Quantum Chemistry and Spectroscopy	
CH 354M	Introduction to Computational Methods in Chemistry	
CH 354S	Elements of Spectroscopy	
CH 455	Fundamentals of Analytical Chemistry	
CH 367C	Materials Chemistry	
ECE 325	Electromagnetic Engineering	
ECE 334K	Quantum Theory of Electronic Materials	
ECE 339S	Solar Energy Conversion Devices	
ECE 347	Modern Optics	
ECE 379K	Topics in Electrical Engineering (any topic)	
ECE 348	Laser and Optical Engineering	
ECE 440	Integrated Circuit Nanomanufacturing Techniques	
PHY 362K	Quantum Physics II: Atoms and Molecules	
PHY 369	Thermodynamics and Statistical Mechanics	
PHY 373	Quantum Physics I: Foundations	
PHY 375S	Introductory Solid-State Physics	
Total Hours		15

Additional Requirements and Policy:

- It is expected that students will start the minor in the second semester of their sophomore year.

- Academic course requirements include a three-hour gateway course and 12 additional hours from one of four tracks, for a total of 15 semester credit hours. Students may select from one of four tracks: semiconductor manufacturing, circuits and systems, heterogeneous integration, or semiconductor devices.
- All students must take Gateway class SSE 360.
- Students with credit for ECE 302 or M E 340 or PHY 338K will take 12 semester credit hours in their chosen track. Students who have not taken ECE 302 or M E 340 or PHY 338K are required to take ECE 302 as preparation for semiconductors-relevant courses in areas outside of their declared major and 9 semester credit hours in one of the four tracks.
- At least nine of the hours required for the minor must include coursework not used to satisfy the requirements of the student's major.
- All courses must be taken on a letter-grade basis, with a combined grade point average of at least 2.00.