

SSE - Semiconductor Science and Engineering

Semiconductor Science and Engineering: SSE

Lower-Division Courses

Upper-Division Courses

SSE 360. Introduction to Semiconductor Science and Engineering.

Restricted to students pursuing the semiconductor science and engineering minor. Introduction to semiconductor science and engineering. Three lecture hours a week for one semester Offered on the letter-grade basis only.

SSE 360S. Advanced Packaging Manufacturing.

Three lecture hours a week for one semester. Offered on the letter-grade basis only.

SSE 377K. Projects in Semiconductor Science and Engineering.

Restricted to students pursuing the semiconductor science and engineering minor. Produce an independent project carried out under the supervision of a faculty member in semiconductor science and engineering. Prepare a project proposal and a final report, each of which is evaluated by the faculty committee on individual projects. The equivalent of four-and-a-half laboratory hours a week for one semester. May be repeated for credit. Offered on the letter-grade basis only.

Graduate Courses

SSE 380. Introduction to Semiconductors.

Restricted to semiconductor science and engineering students. Survey fundamental and important areas in semiconductor science and engineering including semiconductor device design, semiconductor manufacturing techniques, metrology and process control. Three lecture hours a week for one semester. Prerequisite: Graduate standing.

SSE 380C. Topics in Semiconductor Science and Engineering.

Three lecture hours a week for one semester. May be repeated for credit when the topics vary. Prerequisite: Graduate standing.

SSE 381. Semiconductor Processes.

Restricted to semiconductor science and engineering students. Explore a theoretical and practical introduction to contemporary fabrication techniques and methods. Three lecture hours a week for one semester. Prerequisite: Graduate standing.

SSE 382. Semiconductor Devices.

Restricted to semiconductor science and engineering students. Examine the design and physics underlying modern semiconductor devices. Three lecture hours a week for one semester. Prerequisite: Graduate standing.

SSE 383. Topics in Semiconductor Manufacturing.

Three lecture hours a week for one semester May be repeated for credit when the topics vary. Prerequisite: Graduate Standing.

SSE 384. Topics in Semiconductor Circuits and Systems.

Three lecture hours a week for one semester. May be repeated for credit when the topics vary. Prerequisite: Graduate standing.

SSE 385. Topics in Heterogeneous Integration and Advanced Packaging.

Three lecture hours a week for one semester. May be repeated for credit when the topics vary. Prerequisite: Graduate standing.

SSE 386. Topics in Semiconductor Devices.

Three lecture hours a week for one semester. May be repeated for credit when the topics vary. Prerequisite: Graduate standing.

SSE 390. Semiconductor Manufacturing Laboratory.

Restricted to semiconductor science and engineering students. Explore how to operate fabrication tools in the cleanroom. One lecture hour and three laboratory hours a week for one semester. Prerequisite: Graduate standing.

SSE 391. Semiconductor Metrology and Characterization Laboratory.

Restricted to semiconductor science and engineering students. Explore various different metrology techniques for analyzing materials and structures. One lecture hour and three laboratory hours a week for one semester. Prerequisite: Graduate standing.

SSE 395. Research.

Restricted to semiconductor science and engineering students. Prepare for an independent research project in semiconductor science and engineering through developing literature review and technical writing skills. Three lecture hours a week for one semester. Prerequisite: Graduate standing.

SSE 397P. Projects in Semiconductor Science and Engineering.

Produce an independent project carried out under the supervision of a semiconductor science and engineering faculty member. The equivalent of four-and-a-half laboratory hours a week for one semester. May be repeated for credit. Offered on the letter-grade basis only. Prerequisite: Graduate standing and consent of instructor and the graduate advisor.

SSE 398R. Master's Report.

Restricted to semiconductor science and engineering students. Prepare a report to fulfill the requirement for the master's degree. Three lecture hours a week for one semester. Prerequisite: Graduate standing.

Professional Courses