Science and Engineering (LSE)

Living Learning Center Interdisciplinary Minor in Science and Engineering

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Science and Engineering (LSE)

Since scientists and engineers increasingly work together in industry, government, and higher education, Stony Brook offers an interdisciplinary minor in Science and Engineering. The interdisciplinary minor in Science and Engineering is designed to give students an appreciation of the many fields in science and engineering and of the relationships of these fields to each other and to society. Through the minor, students receive broad exposure to several science and engineering disciplines represented at Stony Brook. This minor will also provide students with opportunities to study issues that scientists and engineers face today and to learn about future trends and research that will change the face of science and engineering in the 21st century. Technical writing and oral presentation skills are an integral part of the upper-level courses in the minor.

Requirements for the Minor in Science and Engineering (LSE)

Before declaring the Science and Engineering minor, each student should plan his or her program in consultation with the director of the minor. All courses for the minor must be passed with a letter grade of C or higher.

Completion of the minor requires 19 credits.

1. All of the following minor courses:
   - LSE 201 Opportunities in Science and Engineering
   - LSE 310 Current issues in Science and Engineering
   - LSE 320 Future Trends in Science and Engineering
2. Two introductory science courses from the list of department designators below. Courses must not be from the same department. (See notes 2 and 4.)
   - Astronomy (AST)
   - Atmospheric Sciences (ATM)
   - Biology (BIO)
   - Chemistry (CHE)
   - Geosciences (GEO)
   - Marine Sciences (MAR)
   - Physics (PHY)
3. One introductory engineering or applied science course from the list of department designators below. (See notes 3 and 4)
   - Biomedical Engineering (BME)
   - Chemical and Molecular Engineering (CME)
   - Computer Science and Information Systems (CSE/ISE)
   - Electrical and Computer Engineering (ESE)
   - Engineering Science (ESG)
   - Materials Science (ESM)
   - Mechanical Engineering (MEC)
4. Any 300-level 3 credit EST course or ARS 208.

Notes:

1. Some courses in science, engineering, and applied science require pre-calculus or one semester of calculus or a specific math placement level. Please review course prerequisites carefully or consult with the minor advisor before registration.
2. Students majoring in AST, ATM, BIO, CHE, GEO, or PHY may not use courses in their own major department to fulfill requirement 2.
3. Students majoring in BME, CME, CSE, ESE, ESM, ISE, or MEC may not use courses in their own major department to fulfill requirement 3.
4. A list of acceptable courses for science and engineering is available from the minor advisor. Students who wish to register for courses in science and engineering not on the list should consult with the minor advisor for approval before registration.

Declaration of the Minor

Students must declare the interdisciplinary Science and Engineering minor no later than the middle of their third year, at which time they consult with the director of the minor and plan their course of study for fulfillment of the requirements. Students must be in a declared major from a specific department by the time of completion of this minor.
LSE

Living/Learning Center: Science and Engineering

LSE 201: Opportunities in Science and Engineering
A survey of the various science and engineering disciplines. Guest speakers describe their respective fields of research and study and the opportunities for students entering the field today. Other topics include ethics, intellectual property and entrepreneurship. The interdisciplinary nature of science and technology is emphasized.
1 credit

LSE 310 - H: Current Issues in Science and Engineering
A study of the issues and events that confront scientists and engineers today. Student presentations and student-led discussions cover such topics as ethics, social responsibilities, the environmental impact of technology, and the economics of research and technology.
3 credits

LSE 320 - H: Future Trends in Science and Engineering
A study of forecasts for developments in science and engineering in the 21st century and their predicted effects on society. Predictions about science and engineering from the early 20th century and their accuracy today. Readings and student-led discussion on essays written by leading scientists and engineers concerning predictions in their fields during the next century. Includes several presentations made by science and engineering faculty on their current research, focusing on the long-term effects of their research on their discipline and on society. Several research papers by students will be required.
Prerequisites: U3 or U4 standing; one course in science or engineering
3 credits

LSE 475: Undergraduate Teaching Practicum
Students work with the instructor in an LSE course in leading discussion sections, helping students improve research skills, or assisting with the educational program presented as part of coursework. Students meet regularly with the supervising instructor.
Prerequisites: U3 or U4 standing; permission of instructor and director of the minor
3 credits, S/U grading