

Degree Programs

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○ Undergraduate

The Department of Bio and Brain Engineering offers a transdisciplinary undergraduate program that combines mathematics, physics, chemistry, biology, computer science, and traditional engineering disciplines. The program is designed to foster creative talents for the 21st century. Under the department's systematic curriculum, students will mature into experts in bio and brain engineering. After acquiring basic knowledge and skills through fundamental biology and engineering courses in their sophomore and junior years, they can choose from a variety of intensive courses in their senior year. The mandatory courses include BiS200 Bioengineering Fundamentals, which covers basic knowledge on bio and brain engineering, BiS222 Molecular & Cellular Biology, which enhances understanding of biology, as well as BiS301 Bioengineering Laboratory I and BiS301 Bioengineering Laboratory II, which expose students to researches in related fields. The senior-level courses include Bioinformatics, Bio-Data Engineering, BioNano Engineering, Biomedical Imaging, Cognitive Neuroscience. The department's strength lies in its balanced curriculum of engineering and biology, and students can pursue different areas of specialization depending on their research interests.

○ Graduate (Master's/PhD)

The graduate program seeks to nurture transdisciplinary talents who possess the necessary knowledge, research experience, and communication skills to solve real-world bioengineering problems. The curriculum can be largely divided into four areas: biology and medicine, bioinformatics and systems biology, bioelectronics and bioimaging, and bio-nanotechnology. Students are required to earn at least three credits in two (Master's) or three (PhD) different areas. Weekly department seminar and student seminar series (Biofusion Seminar) provide opportunities for students to familiarize themselves with various research topics in bio and brain engineering.