(For all students in the Program)

Undergraduate Minor Program in Bioengineering

The Minor Program in Bioengineering is designed for undergraduate students interested in applying engineering principles to biological problems. Any undergraduate students at HKUST with a minimum CGA of 2.15 or above may enroll in the Bioengineering Minor Program. The program is designed for students with fundamental knowledge in life science (e.g. LIFS 1901 or LIFS 2040), but also open to other students for enrollment, given that they may be required to take additional course(s) to acquire relevant foundation. Students must declare their intention to enroll in the minor program no earlier than the first regular term of their second year of study but no later than the last day of the add/drop period in the first regular term of their final year of study. Students who wish to withdraw from the minor program should apply before the last day of add/drop period in the last regular term of their study.

Minor Requirements

To graduate with a minor in Bioengineering, students must be enrolled in the minor program, complete a minimum total of 18 credits and all of the minor requirements, as well as the requirements of the major program of study; and have attained an average grade point of at least 2.15 in courses taken within the minor program.

For credit transfer, students can transfer a maximum total of 6 credits to the minor program. Courses accepted for transfer credits must normally be at a level equivalent to HKUST courses of 2000-level or above.

Out of the total credits required by the minor program, at least 9 credits should be single-counted within the minor and are not used to fulfill any other requirements for graduation except the 120-credit degree requirement.

Students may use no more than 6 credits earned from courses offered in self-paced online delivery mode to satisfy the graduation requirements of a degree program. This 6-credit limit does not apply to credits obtained through the credit transfer procedures of the University.

Some courses in the curriculum have been previously coded with CORE-prefix where the special CORE-prefix has been replaced by the domain code of courses starting from Fall 2023-24. Students who have registered with these CORE-coded courses may look up their latest course codes by consulting the conversion table published on the Common Core website.

Required Course(s)

			Credit(s) attained
BIEN/CENG		Note: BIEN 1010 OR CENG 1600	3
BIEN	1010	Introduction to Biomedical Engineering	3
CENG	1600	Biotechnology and Its Business Opportunities	3
BIEN/ELEC/ LIFS		Note: BIEN 2310 OR BIEN 3320 OR BIEN 3410 OR ELEC 4810 OR LIFS 4320	3-4
BIEN	2310	Modeling for Chemical and Biological Engineering	3
BIEN	3320	Data Science for Biology and Medicine	3
BIEN	3410	Introduction to Bioinstrumentation and Bioimaging	3
ELEC	4810	Introduction to Biosensors and Bioinstrumentation	4
LIFS	4320	Data Science for Biology and Medicine	3
BIEN/LIFS		Note: BIEN 2410 OR BIEN 2610 OR LIFS 3040	3
BIEN	2410	Cellular and Systems Physiology for Engineers	3
BIEN	2610	Chemical Biology for Engineers	3
LIFS	3040	Animal Physiology	3

Elective(s)

			Minimum credit(s) required
SENG/LIFS		Bioengineering Electives (3 courses from the specified list, of which at least one course must be at 4000-level)	9
BIEN	4110	Regulatory Affairs in the Healthcare Industry	3
BIEN	4310	Statistical Signal Analysis and Applications in Neural Engineering	3
CENG	2110	Process and Product Design Principles	3
CENG	4620	Bioproducts and Processing	3
CENG	4640	Biomolecular Engineering**	3
CENG	4650	Biomaterials and Drug Delivery	3
CENG	4660**	Introduction to Biomicrosystem	3
CENG	4670	Pharmaceutical Engineering	3
COMP	4211	Machine Learning	3
COMP	4331	Data Mining	3
COMP	4421	Image Processing	3
ELEC	4820	Medical Imaging	3
ELEC	4830	Statistical Signal Analysis and Applications in Neural Engineering	3
ENGG	1300	Design Thinking for Health Innovation	3
ENGG	4930	Design for Global Health	3
LIFS	4370	Human Genetics and Personalized Medicine	3
LIFS	4760	Biochemistry of Diseases	3

***Remarks on course(s):*

- CENG 4640: The course title will be changed to "Synthetic Biology and Biomolecular Engineering" subject to approval.
- CENG 4660: The course was last offered in 2015-16 and was deleted subsequently.