Champion Behind the
Covid-19 Battle

DO YOU KNOW about our champion behind the scenes, who is fighting the battle against the COVID-19? It's the unsung hero – the biomedical engineer.

Saving lives – a few million at a time

Millions of lives have been saved from the Covid-19 virus in recent years thanks to the efforts of biomedical engineers. They have been working around the clock to develop biotechnology solutions to fight the battle of the Covid-19 pandemic. Their innovative efforts have resulted in the design of many life-saving devices: manufacturing a high-resolution microscope, creating the rapid antigen test and the development of lipid nanoparticles to ensure the safe delivery of the active ingredients of the Covid-19 vaccine – to name just a few of their success stories.

If you haven't heard about how BOLD biomedical engineers are, let's explore!

What is Biomedical Engineering?
This field merges biology and engineering to solve medical and biological problems. Technology is playing an increasingly important role in the area of medicine, and biomedical engineering involves integrating the technical applications of science and engineering principles into the medical sector. It combines the design and problem-solving skills of engineering with medical and biological sciences in order to enhance human health through improved healthcare diagnosis, monitoring and therapy.

CityU is the first local university introducing MRI to undergraduate curriculum. It lets students gain hands-on experience and in-depth training in medical imaging and instrumentation in preparation for work in hospitals or in the manufacturing field.

Did You Know that the World is in Need of Biomedical Engineers?

Biomedical engineering is one of the fastest-growing fields in the world. With the increasing demand for better health, the demand for skilled biomedical engineers is rising as well. Here in Hong Kong, the government is proactively promoting the development of the biomedical industry to develop Hong Kong into a biotech hub. With this support, there will be more and more job opportunities for biomedical engineering graduates. Specialist opportunities for graduates include biomaterial development, biomedical equipment, research and development, biomedical business management consulting services and biomedical scientists and researchers. Moreover, due to the interdisciplinary nature of biomedical engineering, graduates can also find opportunities in the fields of mechanical engineering, electronic engineering, software engineering and healthcare engineering.

The overall aim of biomedical engineers is to apply their interdisciplinary skills of engineering and life sciences to address all health-related matters which will improve the quality of human life. In this fast-developing field, biomedical engineers have in recent years developed bioimaging equipment such as ultrasonic, CT and MRIs. They have also developed specific molecular analysis instruments to diagnose conditions including Covid-19, AIDS and H5N1. Some other ground-breaking healthcare devices are biomedical sensors for measurement; personal devices for point-of-care at home; orthopaedic implants; biomaterials for tissue regeneration and software to run medical equipment and read medical images. These are just a few of the contributions biomedical engineers have made to the quality of human life, and it is an area that will continue to create life-changing and life-saving devices.
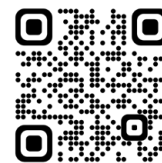
Take a look at the innovative designs which CityU students showcased at the Arab Health 2020, Dubai, UAE.

Be **BOLD**, Be a Biomedical Engineer, Contribute to the World!

If you excel in maths, physics, chemistry or biology, you can make a difference in the world! Be a biomedical engineer and you could improve the quality of life for millions of people!

CityU Bachelor of Engineering in Biomedical Engineering

(JUPAS code: JS1211 BEng Biomedical Engineering)