



DEPARTMENT OF
APPLIED BIOLOGY AND
CHEMICAL TECHNOLOGY
應用生物及化學科技學系

About The Department

The **Department of Applied Biology and Chemical Technology (ABCT)** is a multi-disciplinary department that embraces chemistry, biology, biochemistry, biochemical engineering and materials science. We focus on providing high quality education and building our strength in basic and applied research to meet the needs of the ever-changing world and contribute to the society.

Career Prospects

ABCT programmes offer rigorous training to equip our graduates with the skills to capture a wide range of career options in the industry, business and public sectors. Based on their choices of study, our graduates enjoy promising employment prospects in diversified fields, including civil services, biotechnology industry, pharmaceutical industry, testing and certification, environmental services, etc. Graduates may also choose to further their academic pathway and pursue postgraduate studies in local or overseas universities.

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Alumni Sharing

Mok Ho-kit

Graduate of BSc (Hons) in
Applied Biology with
Biotechnology and PhD

Postdoctoral Research Fellow,
The University of British
Columbia (UBC)



The Applied Biology with Biotechnology (ABB) programme offers various learning opportunities. During my BSc and PhD in ABCT, I travelled to different countries, built connections worldwide, initiated a meaningful social project, and completed a challenging research project. These valuable experiences prepared me for my current role as a Postdoctoral Research Fellow at UBC. Time is your only limit — enjoy the rewarding journey at PolyU before you realize it is over.

Lin Ming-kit, Ivan

Graduate of BSc (Hons) in
Chemical Technology

Research Postgraduate Student,
PolyU



The Chemical Technology (CT) programme equipped me with cutting-edge knowledge and the skills to become a versatile researcher to find solutions and create value. I am grateful for the support and guidance offered by the Department and it is the fantastic learning environment here that encourages me to continue my postgraduate study at PolyU.

Tsang Hon-fung, Tommy

Graduate of BSc (Hons) in
Analytical Sciences for
Testing and Certification



The Analytical Sciences for Testing and Certification (ASTC) programme allowed me to apply academic knowledge to real-life situations and provided numerous laboratory opportunities. After completing the programme, I am well-equipped to start my career in the testing industry. My lecturers offered significant support, especially during my Capstone Project, teaching me to reduce errors and uncertainties and achieve accurate results quickly - essentials in the commercial testing world.

Exchange

- University of New South Wales, Australia
- University of Technology Sydney, Australia
- Fudan University, China
- Rwth Aachen University, Germany
- Technical University of Munich, Germany
- Nanyang Technological University, Singapore
- National University of Singapore, Singapore
- Seoul National University, South Korea
- KTH Royal Institute of Technology, Sweden
- Durham University, UK
- University of Cambridge, UK
- University of Southampton, UK
- University of Warwick, UK

Basil Khan

Current student of
BSc(Hons) in Applied Biology
with Biotechnology (ABB)

Exchange at
University of Warwick, UK



My semester exchange at the University of Warwick was an incredibly enriching experience that has profoundly impacted both my academic and personal growth. Immersing myself in cutting-edge neuroscience courses was the ultimate boost for my graduate studies, offering deep insights that I could not have gained elsewhere. They have provided me with the platform to apply to top neuroscience programmes around the world with the hope to join a high-achieving lab for my doctoral studies.

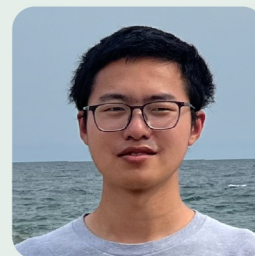
Overseas Internship

- McGill University, Canada
- Kyoto University, Japan
- Osaka University, Japan
- National University of Singapore, Singapore
- Durham University, UK
- Imperial College London, UK
- University of Southampton, UK
- Harvard University, USA
- Purdue University, USA
- University of California, Los Angeles, USA

Zhao Qingsen

Current student of
BSc(Hons) in Chemical
Technology (CT)

Internship at
University of Manitoba, Canada



During my 3-month summer internship in Canada, I quickly taught myself the basics of DFT and how to use AMS, a computational chemistry software, using my previous maths-physics foundation. I also learnt how to use linux commands to submit tasks and how to call the software using shell files. I successfully reproduced the data mentioned in my previous thesis and tried different computational methods based on my project and compared their advantages mathematically. After work, I have made a PowerPoint presentation on what I have learnt about computational chemistry and I hope to contribute to the development of teaching and learning in poly related fields!

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Local Internship

ABB

- Agriculture, Fisheries and Conservation Department
- BGI Health (HK) Company Limited
- Hong Kong Science & Technology Parks Corporation
- Janssen Hong Kong
- Novartis Pharmaceuticals (HK) Limited
- Sanofi Hong Kong Limited

CT

- Ecolab Hong Kong
- GSK Hong Kong
- Merck Limited
- Pfizer Corporation Hong Kong Limited
- SGS Hong Kong Limited
- Water Supply Department

ASTC

- Castco Testing Centre Limited
- Civil Engineering and Development Department
- CMA Testing and Certification Laboratories
- Intertek Testing Services Hong Kong Limited
- The Hong Kong Standards and Testing Centre Limited
- TUV Rheinland Hong Kong Limited
- WuXi AppTec (Hong Kong) Limited
- WuXi Biologics Co., Ltd.



Bachelor's Degree Programmes

BSc (Hons) Scheme in Biotechnology and Chemical Technology (JS3011)

The following two programmes are offered under the above scheme:

BSc (Hons) in Applied Biology with Biotechnology (ABB)[#]

Launched in 1993, this programme was the first biotechnology-related programme in Hong Kong. It aims to groom competent professionals with a balance of generic skills and broadbased knowledge in applied biology and biotechnology. The programme is accredited by the Royal Society of Biology (RSB) and graduates are qualified for membership of RSB. Degree accreditation by the RSB acknowledges academic excellence in the biosciences, and highlights degrees that educate the research and development leaders and innovators of the future.

An option in Clinical Laboratory Science Module is available to students of the BSc (Hons) in Applied Biology with Biotechnology.



BSc (Hons) in Chemical Technology (CT)

Our programme emphasizes the applied, technological, and commercial aspects of chemistry, including pharmaceutical advancements, functional materials design, molecular architecture development, and the integration of environmental, social, and corporate governance (ESG). It offers a broad and rigorous education in contemporary chemistry, encompassing modern materials science, environmental concerns, and training in laboratory practices. Graduates of this programme are qualified for membership in the Hong Kong Chemical Society (HKCS) and the Royal Society of Chemistry (RSC).



ACCREDITED
DEGREE

BSc (Hons) in Analytical Sciences for Testing and Certification (ASTC) (12456)

(Articulation Programme for Local Senior Year Admissions)

Designed for holders of Associate Degree/ Higher Diploma in science disciplines, this articulation programme aims to nurture competent professionals for chemical analysis as well as accreditation officers, which are currently in strong demand in the local testing and certification industry.



Website

 <https://polyu.hk/sMjtM>

Enquiry

enquiry.abct@polyu.edu.hk

Taught Master's Degree Programmes

After obtaining a Bachelor's Degree, graduates can continue to strive for further study in our Master's Degree Programmes:

MSc in Sustainable Technology for Carbon Neutrality (12060), Mixed-mode (1 yr Full-time/ 2 yr Part-time)

As the first master's level programme in Hong Kong specializing in the science and technology for carbon management and mitigation, this programme is a 1-year full-time or 2-year part-time taught postgraduate programme.

This programme aims to provide a systematic hands-on training to tackle challenging and dynamic global issues related to carbon auditing, green financing, carbon management and sustainable/ renewable energy. Such training will enable graduates to meet the increasing local and national demand for qualified professionals in the field of carbon neutrality.

Recognition

The syllabi for subjects related to carbon auditing, carbon footprint assessment, GHG inventory, GHG reporting, and other relevant topics are based on the latest ISO standards. Students can earn three professional certificates in GHG management:

1. SGS Certificate of ISO 14064 Quantification and Reporting of Greenhouse Gas Emissions and Removals at Organization Level Implementation Training Course
2. SGS Certificate of ISO 14067 Quantification and Reporting of Carbon Footprint of Products (Goods & Services) Training Course
3. SGS Certificate of Principles and Methodologies for Carbon Neutrality

Graduates will meet the academic, work experience, training, and examination requirements for registration as Registered GHG Carbon Auditors with the Hong Kong Institution of Certified Auditors (HKICA).



Prospects

Graduates of the programme have excellent job prospects, with potential careers in the areas of corporate sustainability management, ESG consultancy and green finance in the finance sector. They may hold titles such as Compliance Officer, Sustainability Manager/ Executive, and Sustainability Consultant/ Analyst/ Specialist.

MSc in Biopharmaceutical Development and Commercialization (12062), Mixed-mode (1 yr Full-time / 2 yr Part-time)

The biopharmaceutical industry is at the forefront of medical innovation, offering transformative therapies for unmet medical needs. As this sector rapidly evolves, there is a pressing demand for professionals skilled in biopharmaceutical development and commercialization. This programme aims to bridge the current educational gap, providing a comprehensive curriculum that merges scientific, business, regulatory, and ethical aspects of the biopharmaceutical landscape.

Prospects

Graduates of the programme have potential career opportunities in the biopharmaceutical field. Hong Kong is fostering a vibrant ecosystem for biotech startups, offering significant funding and growth prospects. This is an opportune moment to enter the biopharmaceutical industry. Graduates are well-equipped for roles in research, regulatory affairs, quality control, and business development, making them versatile and highly employable in this expanding field.



Website

 <https://www.polyu.edu.hk/abct/>



Programme Details

 <https://polyu.hk/BnDjy>

Enquiry

(12060) msc.carbonneutrality@polyu.edu.hk
(12062) msc.bdc@polyu.edu.hk