

Programme Learning Outcomes - Major in Biochemistry

1. University Educational Aims

Benchmarked against the highest international standards, the 4-year undergraduate curriculum at HKU is designed to enable our students to develop their capabilities in:

- (1) pursuit of academic/professional excellence, critical intellectual enquiry and life-long learning
- (2) tackling novel situations and ill-defined problems
- (3) critical self-reflection, greater understanding of others, and upholding personal and professional ethics
- (4) intercultural communication and global citizenship
- (5) communication and collaboration
- (6) leadership and advocacy for the improvement of the human condition

2. Faculty Learning Outcomes

Students completing the BSc curriculum should be able to:

- (1) explain the basic scientific principles and methods
- (2) comprehend fundamental concepts in mathematics and the physical, chemical, biological and earth sciences, and understand the interconnectivity among the sciences and other disciplines
- (3) apply scientific processes and knowledge in a wide variety of careers and professions
- (4) effectively communicate within and across the science disciplines
- (5) analyze scientific aspects of complex issues, and recognize and appraise moral and ethical issues within the sciences and related disciplines
- (6) integrate acquired discipline-specific knowledge in a science for professional and further academic pursuit in that discipline

3. Programme Learning Outcomes - Major in Biochemistry

By the end of this programme, students should be able to:

- (1) describe the principles of biomolecular structure, metabolism, molecular interactions, molecular processes and their regulation, genetics and systems biology critical to contemporary biochemistry and molecular biology
(by means of coursework and experiential learning)
- (2) apply biochemical, bioinformatics and molecular genetics technologies for new observations, measurements and analyses; and to design experiments that bring discovery and insight into the unknown
(by means of laboratory-based and research project-based learning)
- (3) interpret and communicate scientific data and literature using appropriate scientific language
(by means of literature-based coursework and debate)
- (4) work effectively as a team and synergize with their colleagues in a supportive manner
(by means of group-based learning and by group-based problem solving)
- (5) recognize the interconnections of biochemistry with other disciplines in science, medicine and engineering, humanities and ethics, which are relevant for diverse working environment in the society
(by means of multidisciplinary-based research projects, internship and debate)

4. Mapping of Programme Learning Outcomes to Faculty Learning Outcomes to University Educational Aims

Due to the richness and diversity of the Major, multiple Programme and/or Faculty Learning Outcomes may be used to satisfy the Faculty Learning Outcomes and/or University Educational Aims.

Programme Learning Outcomes – Major in Biochemistry	Faculty Learning Outcomes – BSc programme	University Educational Aims
By the end of this programme, students should be able to:	Students completing the BSc curriculum should be able to:	Benchmarked against the highest international standards, the 4-year undergraduate curriculum at HKU is designed to enable our students to develop their capabilities in:
<ul style="list-style-type: none"> (1) describe the principles of biomolecular structure, metabolism, molecular interactions, molecular processes and their regulation, genetics and systems biology critical to contemporary biochemistry and molecular biology (2) apply biochemical, bioinformatics and molecular genetics technologies for new observations, measurements and analyses; and to design experiments that bring discovery and insight into the unknown (3) interpret and communicate scientific data and literature using appropriate scientific language (5) recognize the interconnections of biochemistry with other disciplines in science, medicine and engineering, humanities and ethics, which are relevant for diverse working environment in the society 	<ul style="list-style-type: none"> (1) explain the basic scientific principles and methods (2) comprehend fundamental concepts in mathematics and the physical, chemical, biological and earth sciences, and understand the interconnectivity among the sciences and other disciplines (3) apply scientific processes and knowledge in a wide variety of careers and professions (5) analyze scientific aspects of complex issues, and recognize and appraise moral and ethical issues within the sciences and related disciplines (6) integrate acquired discipline-specific knowledge in a science for professional and further academic pursuit in that discipline 	<ul style="list-style-type: none"> (1) pursuit of academic/professional excellence, critical intellectual enquiry and life-long learning
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<ul style="list-style-type: none"> (5) recognize the interconnections of biochemistry with other disciplines in science, medicine and engineering, humanities and ethics, which are relevant for diverse working environment in the society 	<ul style="list-style-type: none"> (5) analyze scientific aspects of complex issues, and recognize and appraise moral and ethical issues within the sciences and related disciplines 	<ul style="list-style-type: none"> (3) critical self-reflection, greater understanding of others, and upholding personal and professional ethics

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*	*	(4) intercultural communication and global citizenship
(3) interpret and communicate scientific data and literature using appropriate scientific language (4) work effectively as a team and synergize with their colleagues in a supportive manner	(4) effectively communicate within and across the science disciplines	(5) communication and collaboration
(5) recognize the interconnections of biochemistry with other disciplines in science, medicine and engineering, humanities and ethics, which are relevant for diverse working environment in the society	(3) apply scientific processes and knowledge in a wide variety of careers and professions	(6) leadership and advocacy for the improvement of the human condition

* This will be fulfilled by other components of the University curriculum such as the Common Core Curriculum, Internships, Service Learning, Exchange Studies, etc.