THE UNIVERSITY OF HONG KONG

FACULTY OF SCIENCE

Programme Learning Outcomes –Major in Mathematics (Intensive)

1. University Educational Aims

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 understanding 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 Mathematics (Intensive)

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

(1) describe and present a variety of concepts and theories in mathematics (by means of coursework and learning activities in the curriculum)
(2) apply mathematical theory and techniques to handle research-style questions, scrutinize problems, and appraise the related ethical issues (by means of coursework and learning activities in the curriculum)
(3) communicate in mathematical language, and present mathematical ideas and scientific arguments (by means of coursework, seminars, guided studies and projects)
(4) collaborate and work with other students in an effective manner (by means of guided studies, projects and seminars)
(5) appreciate the beauty and power of mathematics (by means of guided studies, projects and seminars)

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 Mathematics (Intensive)	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:	To enable our students to develop their capabilities in:
(1) describe and present a variety of concepts and theories in mathematics (2) apply mathematical theory and techniques to handle research-style questions, scrutinize problems, and appraise the related ethical issues (5) appreciate the beauty and power of mathematics	(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	(1) pursuit of academic /professional excellence, critical intellectual enquiry and life-long learning
(2) apply mathematical theory and techniques to handle research-style questions, scrutinize problems, and appraise the related ethical issues (5) appreciate the beauty and power of mathematics	(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	(2) tackling novel situations and ill- defined problems
(2) apply mathematical theory and techniques to handle research-style questions, scrutinize problems, and appraise the related ethical issues	(5) analyze scientific aspects of complex issues, and recognize and appraise moral and ethical issues within the sciences and related disciplines	(3) critical self- reflection, greater understanding of others, and upholding personal and professional ethics
*	*	(4) intercultural understanding and global citizenship
(3) communicate in mathematical language, and present mathematical ideas and scientific arguments (4) collaborate and work with other students in an effective manner	(4) effectively communicate within and across the science disciplines	(5) communication and collaboration
(2) apply mathematical theory and techniques to handle research-style questions, scrutinize problems, and	(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

appraise the related ethical issues (5) appreciate the beauty and power of mathematics (by means of guided studies, projects and seminars)		

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