香港城市大學
City University of Hong Kong
專業 創新 胸懷全球
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Curriculum Information Record for a Taught Postgraduate Programme

Department of Biomedical Sciences
Effective from Semester A 2024/25
For Students Admitted with Catalogue Term
Semester A 2023/24 only

This form is for completion by the ***Programme Leader***. The information provided on this form is the official record of the Programme. It will be used for City University's database, various City University publications (including websites) and documentation for students and others as required.

In specifying the curriculum for a Programme, "catalogue term" is used to determine the set of curriculum requirements that a student is following. By mapping the student record and the version of curriculum rules applicable, the graduation requirements of individual students will be evaluated accordingly. The catalogue terms of curriculum requirements that students will follow are summarized below.

Prepared / Last Updated by

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Part I Programme Overview

Programme Title	(in English)	:	Master of Science in Health Sciences and Management
	(in Chinese)	:	理學碩士 (健康科學與管理)
Award Title[#]	(in English)	:	Master of Science in Health Sciences and Management
	(in Chinese)	:	理學碩士 (健康科學與管理)

 # Please make reference to the "Guidelines on Award Titles" approved by the Senate when proposing new award titles or changes to existing award titles (Senate/86/A5R).

1. Normal and Maximum Period of Study

	Years (full-time)	**Years (part-time/combined mode)**
Normal period of study	1 year	2 years
Maximum period of study	2.5 years	5 years

2. Number of Credit Units Required for the Award:

30 credit units

3. Programme Aims

a. To provide a professional education in the discipline of health sciences and management;
b. To upgrade existing biomedical studies' graduates with the knowledge in health sciences;
c. To prepare students with academic knowledge to become managers and engineers of pharmaceutical companies and health related organisations, and scientists or technicians in different research areas in life sciences and health related fields.

4. Programme Intended Learning Outcomes (PILOs)

(Please state what the student is expected to be able to do on completion of the programme according to a given standard of performance.)

Upon successful completion of this Programme, students should be able to:

No.	*PILOs*	*Discovery-enriched curriculum related learning outcomes (please tick where appropriate)*		
		A1	*A2*	*A3*
1.	Acquire essential concepts and knowledge of advanced health sciences and management as well as across the boundaries of interdisciplinary disciplines	*√*	*√*	
2.	Develop empathy and social responsibility, moral sensibility, critical thinking, sustained interest and management skills in healthcare and management, such as ageing, chronic diseases, etc.	*√*	*√*	
3.	Apply specialized knowledge to manage and/or solve problems that are critical to future growth of industry, business and social service in government-oriented and non-government organizations		*√*	*√*
4.	Manage skillfully and work effectively with people possessing diverse educational and experiential backgrounds	*√*	*√*	*√*
5.	Apply interdisciplinary knowledge to develop abilities for the increasingly competitive and dynamically changing world market		*√*	*√*

A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments
Demonstrate accomplishments of discovery/innovation/creativity through producing/constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Part II Programme Requirement

Core Courses (16 credit units)

Course Code	Course Title	Level	Credit Units	Remarks
BMS5001A	Common Diseases and Genomic Medicine	P5	2	
BMS5007	Pharmacology Principles in Drug Discovery and Development	P5	3	
BMS5008	Fundamental and Advanced Multi-omics Research	P5	3	
BMS8102	Frontiers in Biomedical Research	P8	2	
BMS8105	Biotherapy and Nanomedicine	P8	3	
MS5411	Healthcare Management	P5	3	

Electives* (14 credit units)

Course Code	Course Title	Level	Credit Units	Remarks
BIOS5800	Probability	P5	3	Maximum: 5 quotas
BIOS5801	Statistical Computing	P5	3	Maximum: 5 quotas
BIOS6900	Time Series Analysis	P6	3	Maximum: 5 quotas
BMS5002	Infectious Disease Management	P5	3	Maximum: 35 quotas
BMS5004	Project Study in Management	P5	5	One Semester (Semester A or B) OR Maximum: Two Semesters (Semester A & B **OR** Semester B & Summer Semester)
BMS5006	Research Project Study in Biomedical Sciences and Life Sciences	P5	8	Semester A + B OR Semester B + Summer Term
BMS5009	Ageing and the Science of Human Longevity	P5	3	
BMS5010	Artificial Intelligence in Health Science Research and Management	P5	3	
BMS5011	Wearable technologies and Health Science Research	P5	3	
BMS8103	Cell and Molecular Biology Research	P8	3	
BMS8106	Stem Cell and Regenerative Medicine	P8	3	Maximum: 25 quotas
BMS8107	Cancer Biology and Precision Medicine	P8	3	Maximum: 25 quotas
BMS8107A	Cancer Biology and Precision Medicine	P8	2	

BMS8110	Genomics and Bioinformatics	P8	3	not open for students who have taken BMS5008 already
BMS8111	Immunology and Infectious Diseases	P8	3	not open for students who have taken BMS5002 already
BMS8111A	Immunology and Infectious Diseases	P8	2	not open for students who have taken BMS5002 already
MS5216	Decision Analytics	P5	3	Maximum: 5 quotas
MS5217	Statistical Data Analysis	P5	3	Maximum: 5 quotas
SYE5006	Operations Management	P5	3	Maximum: 5 quotas
SYE5010	Engineering Management Principles and Concepts	P5	3	Maximum: 5 quotas
SYE6009	Project Management	P6	3	Maximum: 5 quotas
SYE6012	Technological Innovation and Entrepreneurship	P6	3	
SYE6037	Managing Strategic Quality	P6	3	

*Remarks:

- Elective courses will be offered subject to sufficient enrolment.
- Courses offered by different departments might have timetable conflicts, please plan ahead for the courses to register.

Part III Accreditation by Professional / Statutory Bodies

Not applicable

Part IV Additional Information

Not applicable

Part V Curriculum Map

(The curriculum map shows the mapping between courses and the PILOs. It should cover all courses designed specifically for the programme.)

			PILOs					DEC		
Code	**Title**	**Credit**	**P1**	**P2**	**P3**	**P4**	**P5**	**A1**	**A2**	**A3**
Core Courses										
BMS5001A	Common Diseases and Genomic Medicine	2	√	√	√	√		√	√	
BMS5007	Pharmacology Principles in Drug Discovery and Development	3	√	√	√	√		√	√	
BMS5008	Fundamental and Advanced Multi-omics Research	3	√	√	√	√		√	√	
BMS8102	Frontiers in Biomedical Research	2	√				√	√	√	
BMS8105	Biotherapy and Nanomedicine	3	√				√	√	√	
MS5411	Healthcare Management	3	√	√	√	√	√		√	√
Elective Courses										
BIOS5800	Probability	3	√	√	√	√		√	√	√
BIOS5801	Statistical Computing	3	√		√	√	√		√	√
BIOS6900	Time Series Analysis	3	√		√	√	√		√	√
BMS5002	Infectious Disease Management	3	√	√	√	√		√	√	√
BMS5004	Project Study in Management	5			√		√		√	√
BMS5006	Research Project Study in Biomedical Sciences and Life Sciences	8			√		√		√	√
BMS5009	Ageing and the Science of Human Longevity	3	√	√	√	√		√	√	√
BMS5010	Artificial Intelligence in Health Science Research and Management	3	√	√	√	√		√	√	√
BMS5011	Wearable technologies and Health Science Research	3	√	√	√	√		√	√	√
BMS8103	Cell and Molecular Biology Research	3	√		√		√	√	√	
BMS8106	Stem Cell and Regenerative Medicine	3			√		√	√	√	
BMS8107	Cancer Biology and Precision Medicine	3	√		√			√	√	
BMS8107A	Cancer Biology and Precision Medicine	2	√		√			√	√	
BMS8110	Genomics and Bioinformatics	3			√		√	√	√	
BMS8111	Immunology and Infectious Diseases	3			√		√	√	√	
BMS8111A	Immunology and Infectious Diseases	2			√		√	√	√	
MS5216	Decision Analytics	3	√		√	√			√	√
MS5217	Statistical Data Analysis	3	√		√	√	√		√	√

SYE5006	Operations Management	3	√	√	√		√		√	√
SYE5010	Engineering Management Principles and Concepts	3	√		√	√		√	√	
SYE6009	Project Management	3	√		√	√	√	√	√	
SYE6012	Technological Innovation and Entrepreneurship	3	√		√	√	√	√	√	√
SYE6037	Managing Strategic Quality	3		√	√	√	√	√	√	√

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A2: *Ability*
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A3: *Accomplishments*
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Part VI Research Elements in Programme Design

(A description on how research elements are embedded in the proposed programme design for ALL students as guided by the 2016-19 Academic Development Proposal (ADP) should be included. Research elements need to be incorporated into core or compulsory course(s) in order that all students can be benefited from the learning experience.)

Description on how research elements are embedded in the programme design:

We have embedded a 2-credit compulsory course, BMS8102 Frontiers in Biomedical Research, into the MSc programme.

This is an advanced course on a variety of topics in biomedical sciences, with examples including cutting edge scientific discoveries and advanced techniques for modern biomedical sciences research. Advanced seminars will be given by a group of lecturers. The topics will be announced in advance when this course is offered. It will cover a broad range of topics and serve as a useful supplement to the specialized advanced courses existing in the programme.

This course aims to enable the students to achieve the following objects:

- Identify and explain, to an appropriate extent, the real-world and technological importance/relevance of the subject matters;
- Describe the selected experimental and theoretical principles of Biomedical Sciences and its applied ramifications;
- Apply such principles to phenotypical and analytical studies in Biomedical Sciences; and
- Compare and relate the selected topics and generate conceptual links between different research fields, in order to establish a broader perspective on these foundational topics.

Core/Compulsory Courses

Course Code	Course Title	Level	Credit Units	Information on research elements in the course design*
BMS8102	Frontiers in Biomedical Research	P8	2	Students will be expected to participate in the class activities that are made up of lectures and tutorials. The latter is used as platform for reflective and interactive learning among the students and the instructors or research supervisors. Activities include in-class discussion, group discussion and final reports.

**indicative of planned teaching and learning activities / assessment tasks incorporating research elements*

Besides, we have also embedded BMS5004 Project Study in Management (5 CUs) OR BMS5006 Research Project Study in Biomedical Sciences and Life Sciences (8CUs) as elective course into the MSc programme. The course will provide an opportunity for the students to apply the acquired knowledge in other theoretical subjects to a practical project. Through the project study, students are expected to develop critical thinking, analytical and evaluative skills.

Upon completion of the subject, students will be able to:

a. To pursue an in-depth study of a professional issue which is relevant to a chosen area of specialisation,
b. To develop critical thinking, analytical and evaluative skills through the conduct of the project, and
c. To develop the ability to write and present in a scientific context.

The student may choose to perform project work in an area related to the chosen field of specialisation. The course leader will approve the topic of each project. The supervisor will ensure that there will be sufficient resources to support the project.

- an in-depth exploration of a controversial professional or academic issue,
- development of health administration strategy
- social science studies examining behavioural changes that occur in people with health-related professions,
- research project related to health sciences and management.

The chosen project may be related to one of the current research activities of proposing departments or the workplace of the student.
The project report may take any form subject to the approval of the course leader. Some examples are

- a manuscript that may subsequently be submitted to a professional journal. This may be the appropriate form if the project is a conventional research study.
- a treatise which is an in-depth exploration of professional knowledge
- a business plan if the project involves management strategy development

The project report will be assessed to determine if a student has fulfilled the learning outcomes of project study. The specific assessment criteria of a report may vary in different cases depending on the nature of the project. The criteria for project assessment will be agreed between the course leader and the supervisor prior to the examination. The following list show the potential project range.

- Experimental project with submission of a manuscript - presentation, research design, credibility, implementation, analysis, potential to be published
- Treatise - presentation, depth and breadth of knowledge demonstrated, analysis, insight into the issue, conclusions/recommendations
- Technical report - presentation, method, implementation, analysis, recommendations for users

Business plan - presentation, justification and feasibility of the idea, market analysis, management and implementation, financial plan, analysis
Students will be expected to gather information which will be relevant to their project work. They will be provided with appropriate reading resources by the supervisor if necessary.