City University of Hong Kong
Course Syllabus

offered by Department of Biomedical Sciences
with effect from Semester B 2017/2018

Part I Course Overview

Course Title:	**Biotherapy and Nanomedicine**
Course Code:	**BMS8105**
Course Duration:	**One semester**
Credit Units:	**3**
Level:	**R8**
Proposed Area: *(for GE courses only)*	☐ Arts and Humanities ☐ Study of Societies, Social and Business Organisations ☐ Science and Technology
Medium of Instruction:	**English**
Medium of Assessment:	**English**
Prerequisites: *(Course Code and Title)*	**Nil**
Precursors: *(Course Code and Title)*	**Nil**
Equivalent Courses: *(Course Code and Title)*	**Nil**
Exclusive Courses: *(Course Code and Title)*	**Nil**

Part II Course Details

1. Abstract

The course aims to explore advanced and innovative methods and techniques for disease therapy. Biotherapy and nanomedicine are the focus of this course, which take advantage of recent advances in molecular biology, biochemistry, cell biology, biotechnology and nanotechnology. Classification system, basic principles, molecular mechanisms, therapeutic outcome and safety and ethical concerns of the new medicines will be discussed.

2. Course Intended Learning Outcomes (CILOs)

No.	CILOs[#]	Weighting * (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	*A2*	*A3*
1.	Apply the concepts of molecular biology, biochemistry, cell biology, biotechnology and nanotechnology to advanced therapeutic approaches.	30%	✓	✓	✓
2.	Justify the selection of an advanced therapeutic approach for a certain disease.	30%		✓	✓
3.	Critically evaluate the outcomes and concerns of modern therapeutic techniques and medicines.	25%	✓	✓	✓
4.	Related biotherapy and nanomedicine concepts to postgraduate research projects.	15%	✓	✓	✓
** If weighting is assigned to CILOs, they should add up to 100%.*		100%			

[#] Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.

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 self-life problems.

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

3. Teaching and Learning Activities (TLAs)

TLA	Brief Description	CILO No.				Hours/week (if applicable)
		1	2	3	4	
Lecture	To examine various principles, application and methodologies of biotherapy and nanomedicine; To explain the selection of biotherapy and nanomedicine for a certain disease.	✓	✓	✓		
Tutorial	To give an oral presentation on a certain topic in biotherapy and nanomedicine.			✓	✓	

4. Assessment Tasks/Activities (ATs)

Assessment Tasks/Activities	CILO No.				Weighting*	Remarks
	1	2	3	4		
Continuous Assessment: 50%						
Oral Presentation	✓	✓	✓	✓	30%	
Attendance					20%	
Examination: 50% (duration: 2 hours)						
** The weightings should add up to 100%.*					100%	

5. Assessment Rubrics

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
Oral Presentation	Ability to analyse and criticise the therapeutic approaches	Outstanding performance on all CILOs. Strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior grasp of subject matter; evidence of extensive knowledge base.	Substantial performance on all CILOS. Evidence of grasp of subject, some evidence of critical capacity and analytic ability; reasonable understanding of issues; evidence of familiarity with literature.	Satisfactory performance on the majority of CILOS possibly with a few weaknesses. Being able to profit from the course experience; understanding of the subject; ability to develop solutions to simple problems in the material.	Barely satisfactory performance on a number of CILOS. Sufficient familiarity with the subject matter to enable the student to progress without repeating the course.	Unsatisfactory performance on a number of CILOS. Failure to meet specified assessment requirements, little evidence of familiarity with the subject matter; weakness in critical and analytic skills; limited or irrelevant use of literature
Examination	Ability to analyse, state and apply the principles and subject matter learnt in the course					

Part III Other Information (more details can be provided separately in the teaching plan)

1. Keyword Syllabus

i) Biotherapy
ii) Antibody therapy
iii) Recombinant protein
iv) Immunotherapy
v) Gene therapy
vi) Gene editing
vii) Nanotechnology
viii) Photodynamic Therapy
ix) Nanoparticle delivery system

2. Reading List

2.1 Compulsory Readings

Nil

2.2 Additional Readings

Nil