

# BMS4004B: ADVANCED CELLULAR PATHOLOGY

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## Effective Term

Semester A 2022/23

## Part I Course Overview

### Course Title

Advanced Cellular Pathology

### Subject Code

BMS - Biomedical Sciences

### Course Number

4004B

### Academic Unit

Biomedical Sciences (BMS)

### College/School

Jockey Club College of Veterinary Medicine and Life Sciences (VM)

### Course Duration

One Semester

### Credit Units

2

### Level

B1, B2, B3, B4 - Bachelor's Degree

### Medium of Instruction

English

### Medium of Assessment

English

### Prerequisites

BMS2002 Pathophysiology AND BMS3002 Cellular Pathology or equivalent or BMS3002B Cellular Pathology or equivalent

### Precursors

Nil

### Equivalent Courses

Nil

### Exclusive Courses

Nil

### Additional Information

Note: BMS4004B does not contain any practical component, and has a credit unit value of 2.

## Part II Course Details

### Abstract

This course aims to provide students with knowledge and principles in normal histology, general pathology and molecular pathology at the advanced level than those in prerequisite courses, and further train the students to master skills of routine laboratory procedures in histopathology, cytology laboratory, as well as organizations of their operations. Students are also provided with basic concepts and analysis tools in clinical bioinformatics.

### Course Intended Learning Outcomes (CILOs)

CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Explain the basic concepts of pathology and define related diseases in human.		x	
2	Evaluate the principles of clinical procedures in histopathology and cytopathology laboratories, and reflect on human diseases		x	
3	Analyze and discuss the results after the practice in laboratory and learn the principles, and quality assurance and quality control of routine and special procedures.	x	x	
4	Employ adequate clinical skills and knowledge in the organization of anatomical pathology laboratory.		x	
5	Explain the basic concepts in clinical bioinformatics, and discuss general next-generation sequencing data format and common analysis tools.		x	

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

### Teaching and Learning Activities (TLAs)

TLAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lectures	Lectures (case studies, seminars)	1, 2, 3, 4
2	Laboratory sessions [BMS4004B requires dry-lab only]	Laboratory sessions will allow the students to develop practical skills	1, 2, 3, 4

**Assessment Tasks / Activities (ATs)**

ATs		CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Participation in scheduled activities/ lab sessions	1, 2, 3, 4	10	BMS4004B requires dry-lab only.
2	Laboratory log-books, lab reports and group projects	3, 4	20	BMS4004B requires dry-lab only.
3	In-class quizzes	1, 2	10	

**Continuous Assessment (%)**

40

**Examination (%)**

60

**Examination Duration (Hours)**

3

**Additional Information for ATs**

Minimum Passing Requirement:

- Continuous assessment: 40%; and
- Written examination: 40%.

**Assessment Rubrics (AR)****Assessment Task**

1. Participation in scheduled activities/ lab sessions

**Criterion**

Demonstrate the ability to apply what has been taught in lectures/tutorials into practice

**Excellent (A+, A, A-)**

High

**Good (B+, B, B-)**

Significant

**Fair (C+, C, C-)**

Moderate

**Marginal (D)**

Basic

**Failure (F)**

Not even reaching marginal levels

**Assessment Task**

2. Laboratory log-books, lab reports and group projects

**Criterion**

Practical reports are based on specific their knowledge and demonstrate subject-specific skills in carrying out experimental work and data analysis

**Excellent (A+, A, A-)**

High

**Good (B+, B, B-)**

Significant

**Fair (C+, C, C-)**

Moderate

**Marginal (D)**

Basic

**Failure (F)**

Not even reaching marginal levels

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**Assessment Task**

3. Online/ In-class quizzes

**Criterion**

Quiz score will be used to verify the state of students' learning progress

**Excellent (A+, A, A-)**

High

**Good (B+, B, B-)**

Significant

**Fair (C+, C, C-)**

Moderate

**Marginal (D)**

Basic

**Failure (F)**

Not even reaching marginal levels

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**Assessment Task**

4. Final examination

**Criterion**

To test students' application of material taught in class and evaluate their performance based on their performance on the exam

**Excellent (A+, A, A-)**

High

**Good (B+, B, B-)**

Significant

**Fair (C+, C, C-)**

Moderate

**Marginal (D)**

Basic

**Failure (F)**

Not even reaching marginal levels

## Part III Other Information

**Keyword Syllabus**

- Histopathology
- Cytopathology
- Molecular pathology
- Organization of anatomical pathology laboratory
- Immunohistochemistry
- Clinical bioinformatics

**Reading List****Compulsory Readings**

Title	
1	Bancroft, J.D., Gamble, M., (2013). Theory and Practice of Histological Techniques. 7th edition. Churchill Livingstone
2	B.Young. (2013). Wheater' s Functional Histol1. Bancroft, J.D., Gamble, M., (2013). Theory and Practice of Histological Techniques. 7th edition. Churchill Livingstone2.B.Young. (2013). Wheater' s Functional Histology: A Text & Color Atlas. 6th edition. Churchill Livingstone3. Marluce Bibbo, David Wilbur. (2014). Comprehensive Cytopathology, 4th edition. Philadelphia, PA: Saunders/Elsevier4.Muir' s Textbook of Pathology. 15th edition. Herrington. CRC Pressogy: A Text & Color Atlas. 6th edition. Churchill Livingstone.
3	Marluce Bibbo, David Wilbur. (2014). Comprehensive Cytopathology, 4th edition. Philadelphia, PA: Saunders/ Elsevier.
4	Muir' s Textbook of Pathology. 15th edition. Herrington. CRC Press

**Additional Readings**

Title	
1	Nil