

BMS4004B: ADVANCED CELLULAR PATHOLOGY

Effective Term

Semester A 2025/26

Part I Course Overview

Course Title

Advanced Cellular Pathology

Subject Code

BMS - Biomedical Sciences

Course Number

4004B

Academic Unit

Biomedical Sciences (BMS)

College/School

College of Biomedicine (BD)

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.

Learning and Teaching Activities (LTAs)

LTAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lectures	Lectures (case studies, seminars)	1, 2, 3, 4, 5

Assessment Tasks / Activities (ATs)

ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?	
1	In class quiz	1, 2	40	-	No

Continuous Assessment (%)

40

Examination (%)

60

Examination Duration (Hours)

3

Minimum Continuous Assessment Passing Requirement (%)

40

Minimum Examination Passing Requirement (%)

40

Additional Information for ATs

Minimum Passing Requirement: - Continuous assessment: 40%; and - Written examination: 40%.

Assessment Rubrics (AR)

Assessment Task

1. In class quiz

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

Assessment Task

2. 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	Kim Suvarna, Christopher Layton, John Bancroft (2018). Bancroft's Theory and Practice of Histological Techniques. 8th Edition. Elsevier Health Sciences.
2	Geraldine O'Dowd, Sarah Bell and Sylvia Wright. (2023) Wheater's Functional Histology, 7th Edition. Elsevier
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
5	David J Dabbs (2021). Diagnostic Immunohistochemistry: Theranostic and Genomic Applications. 6th Edition. Elsevier
6	William B. Coleman, Gregory J. Tsongalis (2017). Molecular Pathology: The Molecular Basis of Human Disease. 2nd Edition. Academic Press.

Additional Readings

	Title
1	Nil