

# BMS3002B: CELLULAR PATHOLOGY

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## Effective Term

Semester A 2022/23

## Part I Course Overview

### Course Title

Cellular Pathology

### Subject Code

BMS - Biomedical Sciences

### Course Number

3002B

### 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 or equivalent

### Precursors

Nil

### Equivalent Courses

Nil

### Exclusive Courses

Nil

### Additional Information

Note: BMS3002B does not contain any practical component, and has a credit unit value of 2.

## Part II Course Details

### Abstract

Cellular Pathology examines a wide range of either tissues or fluids. These include small samples taken for diagnostic purpose from a wide range of body sites. This course aims to provide students with a comprehensive overview of the key concepts, techniques and current laboratory practice used in cellular pathology (histopathology and cytopathology). Mechanisms of disease process will be studied with reference to the different causes and mechanisms of disease.

### Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if DEC-A1 DEC-A2 DEC-A3 app.)			
1	Recognize the differences between normal and diseased cells, differentiate cell degeneration and death, and how the cells adapt to an altered extracellular environment at the cellular and gross anatomical level		x		
2	Demonstrate the procedures generally used in diagnostic pathology			x	x
3	Identify the cellular changes in various states, such as genetic disorders, inflammation, immunopathology and neoplasia			x	
4	Describe how cells respond to different types of injury/wounds			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 deliver subject-specific knowledge	1, 2, 3, 4

### Assessment Tasks / Activities (ATs)

ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Mid-term quiz (or quizzes)	1, 2, 3, 4	20

### Continuous Assessment (%)

**Examination (%)**

80

**Examination Duration (Hours)**

3

**Additional Information for ATs**

Minimum Passing Requirement: A minimum of 40% in both continuous assessment and examination.

**Assessment Rubrics (AR)**

**Assessment Task**

1. Course assignments (written reports)

**Criterion**

Demonstrate the ability to explain the methodology and procedure

**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**

2. End-of-term 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

- Cell and tissue stabilization
- Preparative processes in cellular pathology
- Microscopy in cellular pathology
- Role of the electron microscope
- The theory of stain action
- Lipids and proteins including enzyme
- Immunocytochemistry
- Molecular biology in cellular pathology
- Molecular Diagnosis method and practical skills
- Quantitation: quality control in cellular pathology
- Infection by selected micro-organisms
- Cytopathology in diagnosis and as a screening process
- Systemic pathology

### Reading List

#### Compulsory Readings

Title	
1	Allen DC, Cameron RI. Histopathology specimens: clinical, pathological and laboratory Aspects. Springer-Verlag London Ltd, 2008. ISBN-10 1852335971
2	Kierszenbaum A. Histology and cell biology: an introduction to pathology. 2nd edn. Mosby, 2006. ISBN-10: 0323045278
3	Kumar V, Abbas AK, Fausto N. Robbins & Cotran pathologic basis of disease. 7th edn. Saunders, 2004. ISBN-10: 0721601871
4	Underwood JCE. General and systematic pathology. 4th edn. Churchill Livingstone, 2004. ISBN-10: 0443073341
5	IBMS: Indicative syllabus - Institute of Biomedical Science

#### Additional Readings

Title	
1	Nil