BMS2008: HEMATOLOGY I

Effective Term
Semester A 2025/26

Part I Course Overview

Course Title
Hematology I

Subject Code
BMS - Biomedical Sciences
Course Number
2008

Academic Unit
Biomedical Sciences (BMS)

College/School
College of Biomedicine (BD)

Course Duration
One Semester

Credit Units
3

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

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Nil

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract
This course integrates advanced theory of hemotology, including normal erythropoiesis, thrombosis and leucocyte, practical application, technical performance and evaluation of hematological and procedures. Students will learn how to

identify various types of blood cells and develop ability in hematological techniques conducted in hematology laboratories, including blood collection procedures, complete blood count, blood grouping, blood films, differential count, and staining methods for microscopy.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Demonstrate a working knowledge of the theories and techniques utilized in standard laboratory procedures performed in Hematology		x		
2	Differentiate various hematological procedures and the use of basic equipment required to working in Clinical Hematology Laboratory			x	
3	Evaluate test results with normal abnormal physiologic circumstances			x	
4	Identify the various components of blood, their functions, and roles in normal states			x	
5	Develop the ability to communicate with medical laboratory specialists			x	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 and tutorials		1, 2, 3, 4, 5	
2	Laboratory sessions	Laboratory sessions will allow the students to develop practical skills	1, 2, 3, 4, 5	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Laboratory Exercises and Paper presentation etc.	1, 2, 3, 4, 5	40	-	Yes

Continuous Assessment (%)

40

Examination (%)

60

Examination Duration (Hours)

2-3

Minimum Continuous Assessment Passing Requirement (%)

40

Minimum Examination Passing Requirement (%)

40

Additional Information for ATs

Practical Examination: 30% Written Examination: 30% Examination total: 60% Minimum Passing Requirement: - Continuous assessment: 40%; and - Written examination: 40%; and - Practical examination: 40%. Please note that attendance in all practical sessions is mandatory for the completion of the course. Practical sessions are an integral part of the curriculum, providing hands-on learning experiences and essential for medical laboratory science training. Failure to attend practical sessions (an unauthorized absence and/or lateness) may result in a deduction of marks or, in extreme cases, may lead to failure in the course.

Assessment Rubrics (AR)

Assessment Task

1. Practical laboratory performance

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. 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

- Hematopoiesis
  (Origin of erythrocytes, leukocytes and platelets Cell maturation processes)
- Routine Hematology Testing
  (CBC parameters (WBC, RBC, HGB, HCT, RBC Indices, PLT)
- Erythrocytes
- Leukocytes
- Platelets
- Special Hematology Testing
- Molecular diagnosis methods and practical skills
- Red Blood Cell disorders

Reading List

Compulsory Readings

	Title
1	A. Victor Hoffbrand, Paul A. H. Moss. (2024) Hoffbrand's Essential Haematology, 9th Edition. Wiley-Blackwell
2	Rodak, B.F., Fritsma, G.A. & Keohane, E. (2020) Hematology: Clinical principles and applications, 6th Edition. Elsevier Saunders.
3	Rodak, B.F. & Carr, J.H. (2020) Clinical Hematology Atlas, 6th Editon. Elsevier Saunders. eBook ISBN: 9780323778015
4	Barbara J. Bain, Imelda Bates and Michael A. Laffan, (2017) Dacie and Lewis Practical Haematology, 12th Edition. Elsevier Saunders.
5	McKenzie, Shirlyn B. (2020) Clinical Laboratory Hematology, 4th Edition. Pearson Education, ISBN-13: 9780134709369.
6	Jon C. Aster & H. Franklin Bunn. (2016) Pathophysiology of Blood Disorders, 2nd Edition. McGraw Hill.

Additional Readings

	Title
1	British Journal of Haematology
2	Blood - American Society of Haematology