Course Specification
Student Version

Course Title:	Biochemistry
Course Code:	BIOC 211
Department:	Basic Medical Sciences
Program:	Bachelor of General Nursing
College:	Vision College in Riyadh
Institution:	Vision College in Riyadh
Revised:	JULY 2025

A. Course Identification

1. Credit hours: 4 (3+1+0)
2. Level/year at which this course is offered: Level 3/Year 2
3. Pre-requisites for this course (if any): CHE 101
4. Co-requisites for this course (if any): None

B. Teaching Methods

1	Lecture
2	Practical Session
3	Seminar

C. Course Description and Objectives

1. Course Description

- The course introduces biochemistry for nursing students focusing on carbohydrates, proteins, fats, vitamins and minerals; it also deals with biological compounds and their metabolism and major aspects of enzymology.

2. Course Main Objective

The main objectives of this course aim to demonstrate and understanding of basic chemical concepts with particular reference to chemical process found within human being, and understand the effects of inborn errors of metabolism and other diseased states resulting from molecular imbalances.

3. Course Objectives

By the end of this course, students should be able to:

- Recognize the structure, classification and inhibition of enzymes.
- Discuss the role of enzyme in clinical diagnosis of diseases.
- Differentiate between DNA and RNA.
- Explain gene expression.
- Explain normality and abnormality in digestion, absorption and transport of proteins, carbohydrates and lipids.
- Describe the common metabolic pathways for proteins, carbohydrates and lipids.
- Explain function of each vitamin.
- Discuss diseases resulted from deficiency of each vitamin.
- Explain toxicity symptoms for some vitamins.
- Explain function and deficiency symptoms of some minerals.

D. Course Content

No	List of Topics
1	Chemical and biological foundations of biochemistry
2	Gene expression and the synthesis of proteins
3	Metabolism-energy generation
4	Protein structure, synthesis and degradation
5	Nitrogen metabolism
6	Carbohydrate metabolism
7	Lipid metabolism
8	Enzymes and clinical enzymology
9	Control of chemical process-signal molecules
10	Specialty functions (vitamins and minerals)

E. Assessment Tools

#	Assessment task	Percentage of Total Assessment Score
1	Seminar Evaluation Using Rubrics	10%
2	Quizzes	10%
3	Midterm Exam	20%
4	Final Practical Exam	20%
5	Final Written Exam	40%
	Total	**100%**

F. Learning Resources

Essential References	Champe, P. C., Harvey, R. A. and Ferrier, D. R., 2005. Biochemistry "Lippincott's Illustrated Reviews", 5th or 6th Edition.
Supportive References	Vasudevan, D. M., Sreekumari, S., and Kannan, V.., 2011. Textbook of biochemistry for medical students, 6th Edition.
Electronic Materials	https://drive.google.com/drive/folders/1j-iTDW7Nx0mDpwUVDhQWBO-o2En0G_fI?usp=sharing
Other Learning Materials	None