هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

T-104
2022

Course Specification

Course Title:	**Biochemistry**
Course Code:	**213NUR-2**
Program:	**Nursing**
Department:	**Nursing**
College:	**College of Nursing**
Institution:	**Jazan University**
Version:	**2023**
Last Revision Date:	**January 2023**

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A. General information about the course:

Course Identification					
1. Credit hours:	2 hours				
2. Course type					
a.	University ☐	College ☐	Department✓	Track☐	Others☐
b.	Required ☐	Elective✓			
3. Level/year at which this course is offered: 4th Level/2nd year					
4. Course general Description: Biochemistry is crucial for nursing career as it helps in understanding how human body functions in diseased as well as normal conditions. It makes them understand how energy is produced in the body and discuss the functions of amino acids, proteins, enzymes, carbohydrates, nucleic acids, lipids, blood components and hormones in human body. This subject makes nurses well versed in understanding acute and critical illness, trauma conditions, surgery related issues, cardiac arrest situations and problems, fever, infection, hyperglycemia, starvation of the patients etc.					
5. Pre-requirements for this course (if any): 105CHEM-4					
6. Co- requirements for this course (if any): None					
7. Course Main Objective(s): The main purpose of the course is to provide the basic understanding of various molecules necessary for life and to make all the nurses acquainted with it. It explains how these molecules are essential and their deviations from normal ranges are harmful. It also provides information regarding the metabolism and biochemical principles of the molecules like proteins, fats, carbohydrates etc. Further, it makes the nursing students aware of various diseases, their root cause and also gives information how to lead a happy and healthy life.					

1. Teaching mode (**mark all that apply)**

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	2X10	100
2.	E-learning		
3.	Hybrid		

No	Mode of Instruction	Contact Hours	Percentage
	• Traditional classroom • E-learning		
4.	Distance learning		

2. Contact Hours **(based on the academic semester)**

No	Activity	Contact Hours
1.	Lectures	20
2.	Laboratory/Studio	--
3.	Field	--
4.	Tutorial	--
5.	Others (specify)	--
	Total	20

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Demonstrate scientific knowledge related to theories, concepts, and terminology in biochemistry to guide nursing practices.	K1	1. Lecture 2. Discussion 3. Problem-Based Learning 4. Student activities 5. Data presentation 6. E-Videos	Quizzes Written Exams Case studies/Assignment
1.2	Describe importance, chemical structure, and classification of carbohydrates, lipids, proteins, enzymes, hormones, vitamins and steroids.	K1	1. Lecture 2. Discussion 3. Problem-Based Learning 4. Student activities 5. Data presentation 6. E-Videos	Quizzes Written Exams Case studies/Assignment
1.3	Describe nucleotides, nucleic acids and genetic concepts.	K1	1. Lecture 2. Discussion 3. Problem-Based Learning 4. Student activities 5. Data presentation 6. E-Videos	Quizzes Written Exams Case studies/Assignment
2.0	Skills			
2.1	Apply biochemistry knowledge to guide nursing practice.	S1	1. Lecture 2. Discussion 3. Problem-Based Learning 4. Student activities 5. Data presentation 6. E-Videos 7. Case studies and presentations 8. Questioning	Quizzes Written Exams Case studies/Assignment
2.2	Correlate causes, mechanisms and effect of diseases based on knowledge of carbohydrates, lipids, proteins, enzymes, hormones, vitamins and steroids.	S1	1. Lecture 2. Discussion 3. Problem-Based Learning 4. Student activities 5. Data presentation 6. E-Videos 7. Case studies	Quizzes Written Exams Case studies/Assignment

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
			and presentations 8. Questioning	
…				
3.0	Values, autonomy, and responsibility			
3.1	Comply to academic values, standard, and ethical code of conduct.	V1	Group discussion Problem-Based Learning Student activities	Continuous assessment

C. Course Content

No	List of Topics	Contact Hours
1.	Meaning and importance of biochemistry	2
2.	Carbohydrates: nomenclature structure, chemistry, and metabolism (ex; glycolysis, glycogenesis, glycogenolysis).	2
3.	Amino acids and protein chemistry, structure, and classification.	2
4.	Lipids: chemistry and significance of fatty acids, steroids, triglycerides, phospholipids, lipoproteins and associated diseases.	2
5.	Enzymes and its classification, regulation, and role in clinical diagnosis.	2
6.	Water soluble vitamins (chemistry, function and deficiency disorders).	2
7.	Fat soluble vitamins (chemistry, function and deficiency disorders).	2
8.	Hormones: Structure and function.	2
9.	Cholesterol and other steroids.	2
10.	Nucleic Acids, nucleotides, and genetic information.	2
Total		20

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Short assessment	2nd Week	10%
2.	Midterm exam	4th Week	25%
3.	Assignment	5th Week	10%
4.	Attendance & participation	--	5%
5.	Final Theory Exam	--	50%
…			

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	1. Lehninger Principles of Biochemistry Seventh Edition By David L. Nelson.
Supportive References	
Electronic Materials	
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classroom with 60 student capacity, equipped with traditional and smart resources.
Technology equipment (projector, smart board, software)	Computer lab. Blackboard software, Online connection, etc. Smart Board with ICT software and internet connection in the classrooms; audio speakers for voice amplification and audio streaming; lapel and handheld microphones for teacher and students.
Other equipment (depending on the nature of the specialty)	Biochemistry textbooks and learning resources Digital library

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Indirect (survey)
Effectiveness of students assessment	Faculty member	Direct
Quality of learning resources	Student	Indirect (survey)
The extent to which CLOs have been achieved	Students	Indirect (survey)
Other	Students	Indirect (survey)

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	

REFERENCE NO.	
DATE	