MODULE DESCRIPTION FORM

Module Information					
Module Title	BIOCHEMISTRY				
Module Type	Basic	☒ Theory ☒Lecture ☐ Lab ☐ Tutorial ☐Practical ☐ Semina			
Module Code	Zu-Sc-CRBOCHE				
ECTS Credits	8				
SWL (hr/sem)	200				
Module Level	2		Semester of Delivery	3	
Administering Department	MPHY		College	College of Science	
Module Leader	Lec. Dr. Ameer Mohammed Abbas		e-mail	ameeralhilali25@gmail.com	
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	PhD in Biochemistry	
Module Tutor			e-mail		
Peer Reviewer Name			e-mail		
Scientific Committee Approval Date	2/3/2026		Version Number	1.0	

Relation with other Modules			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
Module Objectives	1. Define learning objectives for students. 2. Emphasize essential topics and skills. 3. Motivate students by clarifying relevance. 4. Provide benchmarks to measure success. 5. Foster critical thinking and practical skill development.
Module Learning Outcomes	1. Knowledge: Understanding core concepts and principles (e.g., understanding cell structure or enzyme kinetics). 2. Skills: Developing practical, analytical, and problem-solving abilities (e.g., performing biochemical experiments or analyzing protein structures). 3. Application: Applying knowledge to real-world scenarios or further studies. 4. Behavioral Competencies: Building teamwork, communication, or critical thinking skills.
Indicative Contents	1. principles of biochemistry, albert L. Lehninger 2. Harper's Illustrated Biochemistry 3. Medical Biochemistry…Author: John W. Baynes, Marek H. Dominiczak 4. Lippincott's Illustrated Reviews: Biochemistry 5. Principles of Medical Biochemistry…Author: Daniel H Simmons, Gerhard Meisenberg

Learning and Teaching Strategies	
Strategies	1. 1.Active Learning: Engage students with group work, case studies, and discussions. 2. Visual Learning: Use diagrams, animations, and concept maps to visualize processes. 3. Technology Integration: Incorporate modeling software, simulations, and online quizzes. 4. Problem-Based Learning (PBL): Present real-world problems to encourage critical thinking. 5. Inquiry-Based Learning: Encourage students to explore and ask questions. 6. Interdisciplinary Approach: Relate biochemistry to fields like molecular biology and pharmacology. 7. Fluency-Based Approach: Have students explain concepts in their own words. 8. 8. Formative Assessment: Use frequent quizzes and assignments for feedback.

Student Workload (SWL)			
Structured SWL (h/sem)	65	Structured SWL (h/w)	4.3
Unstructured SWL (h/sem)	135	Unstructured SWL (h/w)	9
Total SWL (h/sem)	200		

Module Evaluation

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	4	10% (10)	2, 5, 10, 12	LO #1, 2, 10 and 11
	Assignments	6	10% (10)	Continuous	All
	Projects / Lab.	-	-	-	-
	Report	8	10% (10)	Continuous	All
	Seminar	1	10% (10)	Continuous	All
Summative assessment	**Midterm Exam**	2 hr	10% (10)	14	LO # 1-13
	Final Exam	5hr	50% (50)	15	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	**Cell Structure**
Week 2	**Carbohydrates**
Week 3	**Glycolysis**
Week 4	**Krebs Cycle**
Week 5	**Amino Acids and Peptides**
Week 6	**Fatty Acid Metabolism**
Week 7	**Fatty Acid Synthesis**
Week 8	**Midterm Exam**
Week 9	**Proteins**
Week 10	**Protein Metabolism**
Week 11	**Urea Cycle**
Week 12	**Protein Synthesis**
Week 13	**Nucleic Acids**
Week 14	**Nucleic Acid Synthesis and Their Role in the Body**
Week 15	**Enzymes**
Week 16	**Final Exam**

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	Principles of biochemistry, albert L. Lehninger	YES
	Medical Biochemistry...Author: John W. Baynes, Marek H. Dominiczak	No
Recommended Texts	Harper's Illustrated Biochemistry	YES
Websites		

Grading Scheme			
Group	Grade	Marks %	Definition
Success Group (50 - 100)	A - Excellent	90 - 100	Outstanding Performance
	B - Very Good	80 - 89	Above average with some errors
	C - Good	70 - 79	Sound work with notable errors
	D - Satisfactory	60 - 69	Fair but with major shortcomings
	E - Sufficient	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	(45-49)	More work required but credit awarded
	F – Fail	(0-44)	Considerable amount of work required

Note: NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

Name of the Instructor:

Dr. Ameer Mohammed Abbas Alhilali