



Academic Course Specification Form

استمارة توصيف المقرر الأكاديمي

القسم الخاص بالطالب Section Concerning the Student

1. Course Code:	BIOLS 300	1. رمز المقرر:
2. Course Title	Cell Biology	2. اسم المقرر:
3. College:	Science	3. الكلية:
4. Department:	Biology	4. القسم:
5. Academic Program:	Bachelor of Science in Biology	5. البرنامج الأكاديمي:
6. Course Credits:	2-2-3	6. عدد الساعات المعتمدة:
7. Course NQF Level:	7	7. مستوى المقرر وفقاً للإطار الوطني للمؤهلات:
8. Notional Hours:	124	8. عدد الساعات الافتراضية:
9. NQF Credits:	12	9. عدد الساعات المعتمدة للمقرر وفقاً للإطار الوطني للمؤهلات:
10. European Credit Transfer System (ECTS) credits	6	10. عدد الساعات للمقرر بالنظام الأوروبي
11. Prerequisite:	BIOLS 102	11. المتطلب السابق للمقرر:
12. Lectures Timing & Location:		12. وقت المحاضرة ومكانها:

13. General Mode of Teaching and Learning	Traditional تقليدي	13. النمط العام للتعليم والتعلم:
14. Course Coordinator:		14. منسق المقرر:
15. Course Instructor:		15. مدرّس المقرر:
16. Office Hours and Location:		16. الساعات المكتبية ومكانها:
17. Instructor's Email:		17. البريد الإلكتروني لمدرّس المقرر:
18. Academic Year:		18. السنة الأكاديمية:
19. Semester:		19. الفصل الدراسي:
20. Textbook(s):	20. الكتب الدراسية للمقرر:	
Karp's Cell and Molecular Biology (9th edition) or latest by Gerald Karp, Wiley (2019).		
21. References:	21. المراجع:	
Karp's Cell and Molecular Biology, 9th Edition (2019). Gerald Karp, Janet Iwasa, Wallace Marshall. ISBN: 978-1-119-59816-9		
22. Other Learning Resources Used (e.g. e-learning, field visits, periodicals, software, etc.):	22. مصادر التعلم الأخرى (مثال: التعلم الإلكتروني، زيارات ميدانية، دوريات، برمجيات، إلخ....)	
Other learning resources used (e.g. e-Learning, periodicals, software, etc.): Handout and PowerPoint presentation will be provided through blackboard/MS Teams. Lab manual/handouts will be provided through blackboard/MS Teams		
23. Course Description (as published in the College Catalogue):	23. توصيف المقرر (حسب ما ورد في دليل الكلية):	
Structural and chemical basis of cell functions, including energy and matter conversion; transport across cell membranes, excitability, contractility, internal membrane of cytoskeleton.		
24. Course Intended Learning Outcomes (3 to 5 CILOs):	24. مخرجات التعلم للمقرر (CILOs) (3 إلى 5 مخرجات تعليمية):	
1. Relate cell functions to their biochemical and physical structure.		
2. Distinguish energy and matter transfer in living organisms.		
3. Differentiate between the mechanisms involved materials transport across biological membranes in cell excitability		
4. Identify the components of endomembrane system as a coordinated unit.		
5. Exhibit independent learning skills related to aspects common to cell biology .		

25. Course Assessment Percentages (as per Regulations of Study and Examination at the University of Bahrain):		25. أساليب التقييم ونسبها المئوية (بحسب نظام الدراسة والامتحانات في جامعة البحرين):	
Assessment التقييم	Type النوع	Percentage النسبة	Assessment Date تاريخ التقييم
<i>Test I</i>	Individual فردى	10%	
<i>Test II</i>	Individual فردى	30%	
Test III	Individual فردى	10%	
<i>Final Exam</i>	Individual فردى	40%	
<i>Lab Quiz</i>	Individual فردى	5%	
<i>Lab Report</i>	Individual فردى	10%	
<i>Lab Exam</i>	Individual فردى	15%	
Total	100%		
26. Description of Topics Covered		26. وصف الموضوعات التي ينبغي تناولها:	
Topic Title (e.g. chapter/experiment title) الموضوع		Description التفصيل	
Chapter 1: Introduction to Cell Biology		Overview and review of basic concepts in cell biology: Cell Theory; Basic properties of cells; Comparison: Prokaryotic & Eukaryotic cells.	
Chapter 2: The Structure and Functions of Biological Molecules		Structure and functions of the four types of biological molecules: Carbohydrates, Lipids, Proteins, & Nucleic Acids.	
Chapter 8: Cellular Membranes		An Overview of Membrane Functions; A Brief History of Studies on Plasma Membrane Structure; The Chemical Composition of Membranes; The Structure and Functions of Membrane Proteins; Membrane Lipids and Membrane Fluidity; The Dynamic Nature of the Plasma Membrane; The Movement of Substances Across Cell Membranes.	
Chapter 12: Cellular Organelles and Membrane Trafficking		Overview of the Endomembrane System; Study of Cytomembranes; The Endoplasmic Reticulum; The Golgi Complex; Types of Vesicle Transport and Their Functions; Lysosomes; Plant Cell Vacuoles; The Endocytic Pathway: Moving Membrane and Materials into the Cell Interior.	
Chapter 11: The Extracellular Matrix and Cell Interactions		Extracellular space; Interactions of Cells with Extracellular Materials; Interaction of	

			Cells with Other Cells; Tight Junctions: Sealing the Extracellular Space; Gap Junctions and Plasmodesmata: Mediating Intercellular Communication; Cell Walls.	
Chapter 3: Bioenergetics			Covered topics include: Energy, the first and second laws of thermodynamics, free energy, free-energy changes in chemical reactions; coupling endergonic and exergonic reactions.	
Chapter 9: Mitochondrial Structure and Function			Mitochondrial Structure and Function; Oxidative Metabolism in the Mitochondrion; The Role of Mitochondria in the Formation of ATP; Translocation of Protons and the Establishment of a Proton-Motive Force; The Machinery for ATP Formation.	
Chapter 13: The Cytoskeleton			Overview of the Major Functions of the Cytoskeleton; Study of the Cytoskeleton; Microtubules; Intermediate Filaments; Microfilaments.	
27. Weekly Schedule			27. الجدول الأسبوعي	
Week الأسبوع	Date التاريخ	Topics Covered الموضوعات المتناولة	CILOs مخرجات التعلم للمقرر (CILOs)	Teaching/Assessment Mode and Method منهجية ونمط التدريس/التقييم
1		Cell Theory; Basic properties of cells (Chapter 1)	1	Traditional تقليدي
2		Comparison: Prokaryotic & Eukaryotic cells. (Chapter 1)	1	Traditional تقليدي
3		Structure and functions of the four types of biological molecules: Carbohydrates+ Proteins (Chapter 2)	1	Traditional تقليدي
4		Structure and functions of the four types of biological molecules: Lipids & Nucleic Acid (Chapter 2)	1	Traditional تقليدي
5		Covered topics include: Energy, the first and second laws	1,2	Traditional تقليدي

		of thermodynamics, free energy, free-energy changes in chemical reactions; coupling endergonic and exergonic reactions. (chapter 3)		
6		Covered topics include Energy, the first and second laws of thermodynamics, free energy, free-energy changes in chemical reactions; coupling endergonic and exergonic reactions. (chapter 3)	1,2	Tranditional تقليدي
7		Mitochondrial Structure and Function; Oxidative Metabolism in the Mitochondrion; The Role of Mitochondria in the Formation of ATP; Translocation of Protons and the Establishment of a Proton-Motive Force; The Machinery for ATP Formation. (Chapter 9)	1,2	
8		Mitochondrial Structure and Function; Oxidative Metabolism in the Mitochondrion; The Role of Mitochondria in the Formation of ATP; Translocation of Protons and the Establishment of a Proton-Motive Force; The Machinery for ATP Formation. (Chapter 9)	1,2	
9		Extracellular space; Interactions of Cells with Extracellular Materials; Interaction of Cells with Other Cells; Tight Junctions: Sealing the	1	

		Extracellular Space; Gap Junctions and Plasmodesmata: Mediating Intercellular Communication; Cell Walls. (Chapter 11)		
10		Extracellular space; Interactions of Cells with Extracellular Materials; Interaction of Cells with Other Cells; Tight Junctions: Sealing the Extracellular Space; Gap Junctions and Plasmodesmata: Mediating Intercellular Communication; Cell Walls. (Chapter 11)	1	
11		Overview of the Major Functions of the Cytoskeleton; Study of the Cytoskeleton; Microtubules; Intermediate Filaments; Microfilaments. (Chapter 13)	1	
12		An Overview of Membrane Functions; A Brief History of Studies on Plasma Membrane Structure; The Chemical Composition of Membranes; The Structure and Functions of Membrane Proteins; Membrane Lipids and Membrane Fluidity; The Dynamic Nature of the Plasma Membrane; The Movement of Substances Across Cell Membranes;	1,3	Tranditional تقليدي

		Membrane Potentials and Nerve Impulses. (Chapter 8)		
13		An Overview of Membrane Functions; Continuous (Chapter 8)	1,3	تقليدي Tranditional
14		Overview of the Endomembrane System; Study of Cytomembranes; The Endoplasmic Reticulum; The Golgi Complex; Types of Vesicle Transport and Their Functions; Lysosomes; Plant Cell Vacuoles; The Endocytic Pathway: Moving Membrane and Materials Into the Cell Interior. (Chapter 12)	1,4	تقليدي Tranditional
15				Choose an item.
16				Choose an item.
28.			28. بيان النزاهة الأكاديمية	
Students are to observe the highest level of honesty and academic ethics in pursuit of their academic goals as per UOB Regulations of Student Conduct and Academic Integrity, Anti-plagiarism Policies , and Students' Rights and Responsibilities Handbook . The consequences for cheating, plagiarism, unauthorized collaboration, and other forms of academic dishonesty can be very serious and will be dealt with as per the aforementioned policies and regulations.			يتعين على الطلبة الالتزام بأعلى مستويات الصدق والأمانة والأخلاق الأكاديمية في سعيهم لتحقيق أهدافهم الأكاديمية وفقاً للوائح سلوك الطلاب والنزاهة الأكاديمية، سياسات مكافحة الانتحال ، دليل حقوق الطلبة واجباتهم ، المعمول بها في جامعة البحرين. يمكن لعواقب الغش والسرقة الأدبية والتعاون غير المصرح به وغيرها من أشكال عدم الأمانة الأكاديمية أن تكون خطيرة للغاية وسيتم التعامل معها وفقاً للسياسات واللوائح المذكورة آنفاً.	
29. Attendance and Absence Regulations			29. نظام الحضور والغياب	
Students are required to adhere to regular attendance for class lectures and practical sessions, as determined by the nature of the course, as per Article (33) of Regulations of Study and Examination at the University of Bahrain .			يجب على الطلبة الالتزام بالحضور المنتظم للمحاضرات الصفية والعملية، حسبما تحدده طبيعة المقرر الدراسي، ووفقاً للمادة (33) من نظام الدراسة والامتحانات في جامعة البحرين .	