جامعة البحرين
University of Bahrain
مركز ضمان الجودة والاعتماد الأكاديمي
Quality Assurance and Accreditation Center

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 وفقا للإطار الوطني للمؤهلات:**
8. Notional Hours:	124	**8. عدد الساعات الافتراضية:**
9. NQF Credits:	12	**9. عدد الساعات المعتمدة للمقرر وفقا للإطار الوطني للمؤهلات:**
10. Prerequisite:	BIOLS 102	**10. المتطلب السابق للمقرر:**
11. Lectures Timing & Location:		**11. وقت المحاضرة ومكانها:**
12. General Mode of Teaching and Learning	Traditional تقليدي	**12. النمط العام للتعليم والتعلّم:**

13. Course Coordinator:		**13. منسّق المقرر:**
14. Course Instructor:		**14. مدرّس المقرر:**
15. Office Hours and Location:		**15. الساعات المكتبية ومكانها:**
16. Instructor's Email:		**16. البريد الإلكتروني لمدرّس المقرر:**
17. Academic Year:		**17. السنة الأكاديمية:**
18. Semester:		**18. الفصل الدراسي:**

19. Textbook(s):	**19. الكتب الدراسية للمقرر:**
Karp's Cell and Molecular Biology (9th edition) or latest by Gerald Karp, Wiley (2019).	
20. References:	**20. المراجع:**
Karp's Cell and Molecular Biology, 9th Edition (2019). Gerald Karp, Janet Iwasa, Wallace Marshall. ISBN: 978-1-119-59816-9	
21. Other Learning Resources Used (e.g. e-learning, field visits, periodicals, software, etc.):	**21. مصادر التعلّم الأخرى (مثال: التعلّم 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	
22. Course Description (as published in the College Catalogue):	**22. 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.	
23. Course Intended Learning Outcomes (3 to 5 CILOs):	**23. مخرجات التعلّم للمقرر (CILOs) (3 إلى 5 مخرجات تعلّمية):**
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 .	

24. Course Assessment Percentages (as per Regulations of Study and Examination at the University of Bahrain):		24. أساليب التقييم ونسبها المئوية (بحسب نظام الدراسة والامتحانات في جامعة البحرين):	
Assessment **التقييم**	**Type** **النوع**	**Percentage** **النسبة**	**Assessment Date** **تاريخ التقييم**
Test I	**Individual** **فردي**	*10%*	
Test II	**Individual** **فردي**	*30%*	
Test III	**Individual** **فردي**	*10%*	
Final Exam	**Individual** **فردي**	*40%*	
Lab Quiz	**Individual** **فردي**	*5%*	
Lab Report	**Individual** **فردي**	*10%*	
Lab Exam	**Individual** **فردي**	*15%*	
Total	**100%**		

25. Description of Topics Covered	25. 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.

26. Weekly Schedule **26. الجدول الأسبوعي**

Week الأسبوع	Date التاريخ	Topics Covered الموضوعات المتناولة	CILOs مخرجات التعلُم للمقرر (CILOs)	Teaching/Assessment Mode and Method منهجية ونمط التدريس/التقييم
1		*Cell Theory; Basic properties of cells* ***(Chapter 1)***	1	Tranditional تقليدي
2		*Comparison: Prokaryotic & Eukaryotic cells.* ***(Chapter 1)***	1	Tranditional تقليدي
3		*Structure and functions of the four types of biological molecules: Carbohydrates+ Proteins* ***(Chapter 2)***	1	Tranditional تقليدي
4		*Structure and functions of the four types of biological molecules: Lipids & Nucleic Acid* ***(Chapter 2)***	1	Tranditional تقليدي
5		*Covered topics include Energy, the first and second laws of thermodynamics,*	1,2	Tranditional تقليدي

		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 Extracellular Space;*	1	

		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	Tranditional تقليدي
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	Tranditional تقليدي
15				
16	Click or tap to enter a date.			

27. Academic Integrity Statement	**27. 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.	يتعيّن على الطلبة الالتزام بأعلى مستويات الصدق والأمانة والأخلاق الأكاديمية في سعيهم لتحقيق أهدافهم الأكاديمية وفقًا للوائح سلوك الطلاب والنزاهة الأكاديمية، سياسات مكافحة الانتحال، ودليل حقوق الطلبة وواجباتهم، 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 وفقًا للسياسات واللوائح المذكورة آنفا.
28. Attendance and Absence Regulations	**28. 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، ووفقا للمادة (33) من نظام الدراسة والامتحانات في جامعة البحرين.