BIOLOGY UNIT
KOLEJ MATRIKULASI KELANTAN
KEMENTERIAN PENDIDIKAN (KPM)

KEMENTERIAN PENDIDIKAN

RANCANGAN INSTRUKSIONAL SEMESTER (RIS)
BIOLOGY / SB025
SEMESTER 2 2026 / 2027

WEEK & DATE	TOPIC	LECTURE	CONTACT HOURS	TUTOR	CONTACT HOURS		PRACTICAL	CONTACT HOURS	NOTES
WEEK 1 (15/11/26-19/11/26)	**1.0 BIODIVERSITY** 1.1: Biodiversity and classification 1.2: Domain Bacteria & Domain Archaea 1.3: Diversity of bacteria (Practical) 1.4: Domain Eukarya: Kingdom Protista 1.5: Domain Eukarya: Kingdom Fungi 1.6: Domain Eukarya: Kingdom Plantae 1.7: Domain Eukarya: Kingdom Animalia	1.1 1.2 1.4 1.5	10 m 25 m 20 m 5 m	1.1 1.2 1.4 1.5 1.6 1.7	15 m 30 m 45 m 30 m 30 m 30 m	1h 1h	Pre Exp 1 Pre Exp 2		
WEEK 2 (22/11/26-26/11/26)		1.5 (cont.) 1.6	10 m 50 m	1.7 (cont.)	3h		Experiment 1 : Diversity of Bacteria	2h	
WEEK 3 (29/11/26-3/12/26)	**2.0 ECOLOGY** 2.1: Ecosystem Concept 2.2: Energy Flow Through Ecosystem 2.3: Biogeochemical Cycle 2.4: Conservation and Management 2.5: Population Ecology	1.6 (cont.) 1.7	30 m 30 m	2.2 2.3 2.4 2.5	1h 1h 20 m 40 m		Experiment 2: Plant Diversity: Bryophytes and Pteridophytes	2h	**ASSIGNMENT BRIEFING CHAPTER 1&2**
WEEK 4 (6/12/26-10/12/26)	**3.0 SELECTION AND SPECIATION** 3.1: Selection 3.2: Speciation	2.1 2.2	40 m 20 m	2.5 (cont.) 3.1 3.2	1h 1h 1h	1h 1h	Post Exp 1 Post Exp 2		
WEEK 5 (13/12/26-17/12/26)	**4.0 BIOCATALYSIS** 4.1: Properties of enzyme and mechanism of actions 4.2: Cofactor 4.3: Inhibitors 4.4 Biocatalysis (practical)	2.3 2.4 2.5	30 m 20 m 10 m	3.2 (cont.) 4.1 4.2 4.3	1h 1h 10 m 30 m 20 m	1h 1h	Pre Exp 3 Pre Exp 5		*UPS 1 (C1 & C2)
WEEK 6 (20/12/26-24/12/26)		3.1 3.2	35 m 25 m	4.3 (cont.) 5.1	1h 2h		Experiment 3: Biocatalysis	2h	
CUTI KHAS SEMESTER (1) (25/12/26-2/1/27)									
WEEK 7 (3/1/27-7/1/27)	**5.0 CELLULAR RESPIRATION AND FERMENTATION** 5.1: Aerobic respiration 5.2: Fermentation & its application 5.3: Cellular Respiration (practical)	4.1 4.2 4.3	45 m 5 m 10 m	5.1 (cont.)	3h		Experiment 5: Chromatography	2h	**ASSIGNMENT SUBMISSION (DEADLINE: 7/1/27)**
WEEK 8 (10/1/27-14/1/27)		5.1	1h	5.1 (cont.) 5.2 6.3	1h 1h 1h	1h 1h	Post Exp 3 Post Exp 5		
WEEK 9 (17/1/27-21/1/27)	**6.0 PHOTOSYNTHESIS** 6.1: Overview of photosynthesis 6.2: Absorption spectrum of photosynthetic pigments	5.1 (cont.)	1h	6.3 (cont.) 6.4 6.5	30 m 1h 30m 1h		*PRACTICAL TEST		
WEEK 10 (24/1/27-28/1/27)	6.3: Light dependent reaction 6.4: Light independent reaction / Calvin cycle 6.5: Alternative mechanism of carbon fixation: C4 and Crassulacean Acid Metabolism (CAM) pathways 6.6: Chromatography (practical)	6.1 6.2 6.3	20m 20m 20m	6.5 (cont.) 7.1	1h 2h		*PRACTICAL TEST		*UPS 2 (C3, C4, C5 & C6)
WEEK 11 (31/1/27-4/2/27)	**7.0 GASEOUS EXCHANGE** 7.1: Gaseous exchange and control in mammals 7.2: Roles of chemoreceptors in controlling breathing 7.3: Gaseous exchange and control in plants	7.1 7.2 7.3	40m 5m 15m	7.1 (cont.) 7.2	2h 1h		*PRACTICAL TEST		
CUTI PERTENGAHAN SEMESTER (5/2/27-13/2/27)									
WEEK 12 (14/2/27-18/2/27)	**8.0 TRANSPORT SYSTEM** 8.1: Mammalian Heart and Its Regulation 8.2: Human Lymphatic System 8.3: Transport in Plants 8.4: Mammal Organ System (practical)	8.2	1h	8.1 8.3	2h 1h	1h 1h	Pre Exp 4 Pre Exp 6		
WEEK 13 (21/2/27-25/2/27)	**9.0 HOMEOSTASIS** 9.1: Concept Of Homeostasis	8.3	1h	8.3 (cont.) 9.3	1h 2h		Experiment 4: Cellular Respiration	2h	**CUTI NUZUL AL-QURAN (24/2/27 - Wednesday)**
WEEK 14 (28/2/27-4/3/27)	9.2: Negative Feedback Mechanism 9.3: Human Homeostatic Organ: Structure And Function Of Kidney	9.1 9.2	20m 40m	9.3 (cont.) 10.1	2h 1h		Experiment 6: Mammal organ System	2h	*UPS 3 (C7, C8 & C9)
CUTI KHAS SEMESTER (2) (5/3/27-13/3/27)									
WEEK 15 (14/3/27-18/3/27)	**10.0 COORDINATION** 10.1: Nervous System 10.2: Mechanism of Muscle Contraction 10.3: Hormones in Mammals 10.4: Photoperiodism	10.1	1h	10.1 (cont.) 10.2	2h 30m 30m	1h 1h	Post Exp 4 Post Exp 6		
WEEK 16 (21/3/27-25/3/27)		10.1 (cont.) 10.2 10.3	30m 25m 5m	10.2 (cont.) 10.3	2h 1h		REVISION		
WEEK 17 (28/3/27-1/4/27)	**11.0 IMMUNITY** 11.1: Immune Response 11.2: Antibody 11.3: Lymphocyte Development	11.1 11.2 11.3	20m 20m 20m	10.4 11.4	1h 2h		REVISION		
WEEK 18 (4/4/27-8/4/27)	11.4: Development of Adaptive Immunity 11.5: Immunization 11.6: Health Issue related to Immune Response	11.5 11.6	40m 20m	11.4 (cont.) 11.6	2h 1h		REVISION		
STUDY WEEK (9/4/27 - 14/4/27)									
MATRICULATION PROGRAMME SEMESTER EXAMINATION II & IV (PSPM II & IV) (15/4/27 - 22/4/27)									

Sesi bermula pada 15/11/2026

* *Subject to change*

Prepared by :

29/10/26

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