Al-Ayen University / Biomedical Engineering Department

Template of Course Specification
Name of Course: Chemistry

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	15% (15)	2,5,6, 11,12	LO #1,2,4,6,7,8 10 and 11
	Assignments	0	0	-	-
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	15% (15)	13	LO # 1, 2,3,4,5 and 11
Summative assessment	Midterm Exam	3hr	10% (10)	7	LO # 1-7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Solutions, solution terminology (solubility, factor influencing solubility, saturated solutions, unsaturated solutions, supersaturated solutions)
Week 2	Dilutions, isotonic solutions, aqueous solutions, ionic solutions, electrolytes and non-electrolytes.

Week 3	Osmosis and osmotic pressure, colloids, emulsifying agents dialysis and living systems
Week 4	Acids& Bases, measuring pH, acid- base titration, buffer solutions, blood buffers and buffering capacity in blood.
Week 5	Nuclear chemistry , Isotopes, Radioactivity, type of radiation, properties of Alpha, Beta and Gamma radiation, Ionizing radiation, Units, detection devices, physiological effects of radiation, radioactive decay series, nuclear reactions, half – life, uses of radioisotopes(especially in medicine).
Week 6	Gases, Ideal gas laws, Boyle, s low, Charle,s low , Gay- Lussac, s low, The combined gas low, and Dalton,s low, Gas low and breathing, the combined gas low, and Dalton, s low, Gas low and breathing
Week 7	Introduction, metabolism (anabolism and catabolism), homeostasis.
Week 8	Blood
Week 9	Carbohydrates (definitions, functional group, characteristics, reactions).
Week 10	Proteins (definitions, functional group, characteristics, reactions).
Week 11	Lipid (definitions, functional group, characteristics, reactions). Lipid profile, Body mass index (BMI).
Week 12	Interpretation of metabolism (pathways of metabolism, disease due to error in metabolism) PART I
Week 13	Interpretation of metabolism (pathways of metabolism, disease due to error in metabolism) PART II
Week 14	Hormones

Week 15	Enzymes,
Week 16	Vitamins and minerals.

Delivery Plan (Weekly Lab. Syllabus)
المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Lab 1: introduction , chemical glassware, Laboratory safety practices
Week 2	Lab 2: Melting and Boiling point
Week 3	Lab 3: prepare standard solution
Week 4	Lab 4: Determine the exact concentration of HCl solution (by titration)
Week 5	Lab 5: Identify an unknown chemical mixture
Week 6	Lab 6: Simple or fractional distillation
Week 7	Lab 7: Identify and distinguish carbohydrate
Week 8	Lab 7: Identify and distinguish protein
Week 9	Lab 7: Identify and distinguish lipid + measuring body mass index (BMI)
Week 10	Lab 8: separation of human blood and measure the level of plasma glucose in blood

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

Note: Marks 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.