

Planning and Quality Assurance Affairs

Form (A)

Course Specifications

General Information

Course name	Biochemistry(2)
Course number	BIOL3311
Faculty	
Department	
Course type	College Needs
Course level	3
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

- 1 - The objective of this course is to know the metabolic pathways of different food stuffs
- 2 - To know different biochemical reactions taking place in our bodies catalysed by enzymes and how metabolic disorder of some pathways lead to diseases

Course Contents

- 1 - Introduction to metabolism, Bioenergetics
- 2 - Digestion and absorption of carbohydrates, transport, transport of glucose
- 3 - Anaerobic oxidation of Glucose (Glycolysis)
- 4 - Aerobic oxidation of Glucose (Krebs cycle)
- 5 - Krebs cycle
- 6 - Oxidative phosphorylation, pentose phosphate pathway
- 7 - Glycogen metabolism, galactose and fructose metabolism
- 8 - Digestion and mobilization of fats, beta oxidation
- 9 - Lipoproteins and cholesterol metabolism, fatty acids synthesis, metabolism of odd no. fatty acids
- 10 - Digestion of proteins, transport of amino acids, essential vs non- essential, nitrogen balance
- 11 - amino acids metabolism, trans amination, deamination, liver function enzymes, urea cycle
- 12 - Nucleic acids metabolism, fed and fasting states
- 13 - Diabetes, glucose homeostasis, glycated proteins, fed and fasting status of liver, muscles, adipose tissue
- 14 - Metabolic disorders, selected topics including lactic acidosis, lactic intolerance, fructose- urea, galactosemia, glycogen storage disease, m.m. acid urea, chlosterolemia, PKU, albinism, maple syrup disease, alkaptun urea, tay-sachs disease. etc

Teaching and Learning Methods

- 1 - power point
- 2 - lectures
- 3 - problems
- 4 - assignments and selected articles

Teaching and Learning Methods for the Disabled Students

- 1 - power point lectures, problems, assignments, selected articles
- 2 - 50 % الامتحان النهائي 10 % امتحان فصلي خامسا: طريقة تقييم المقرر (توزيع درجات المقرر 100%) أعمال فصل
- 3 - 1- Principle of Biochemistry, Smith et al, seventh ed. 2- Harpers principles of Biochemistry, D. Martin

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
First hour exam	60minutes	20
Second hour exam	60minutes	20
Attendance		10
Final exam	120minutes	50

Books and References

Essential books	Principle of Biochemistry, Smith et al, seventh ed
Recommended books	Harpers principles of Biochemistry, D. Martin