

### توصيف مقرر دراسي

١ - بيانات المقرر		
الرمز الكودي: Es307	أسم المقرر: Physiology & Ecology	المستوى: الثالث
التخصص: علوم البيئة	عدد الوحدات الدراسية: 3	نظري 2    تمارين 0    عملي 2

<p>٢ - هدف المقرر:</p> <p>For students undertaking this course, the aims are to: The course comprises: -Nutrition- Digestion- Metabolism: General idea about nutrition- digestion in alimentary canal- contractile movement of alimentary canal- Hormone of alimentary canal (Gastrin- cholecystokimine- Enterokine)- secretion of HCl liver cycle and bile juice- Intestinal movement and regulation of its secretion. Absorption (normal- abnormal)- fecation- defect in fecation- (diarrhea- constipation). Metabolism: Carbohydrate metabolism: glycolysis- kreb's cycle- Electron transfer chain- oxidative phosphorelation. Metabolism of monophosphate hexoses- metabolic change between different types of hexoses- Glycogen synthesis and glycogenolysis. Fat metabolism: metabolism of simple lipid (triglyceride)- (formation- storage- oxidation) stored lipid- metabolism of phospholipids and glycolipid)- Metabolism of cholesterol- plasma lipid. Protein metabolism: Metabolism of amino acid- deaminatin- urea cycle- biosynthesis of amino acids- changes of amino acid into specific compound. Mal nutrition- metabolism in disease. Metabolism of nucleic acids. Enzymes. Role of vitamins and trace element. -Circulatory system: Blood component- haemostasis- blood group- structure of the heart- valves- pulses- factors affecting circulation. -Respiratory system: component of respiratory system and adaptation to function- Mechanism of respiration- Gas exchange- Gas transport. Control of respiration- Types of respiration.</p>	
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### ٣ - المستهدف من التدريس المقرر:

<p>أ- المعلومات والمفاهيم:</p> <p>a- Knowledge and Understanding : On completing this course, students will be able to: a1. Acquire general information about food and enzymes required for metabolism of different food stuffs as well as the site and methods of their action in the cell. a2. Provide a deep-rooted knowledge of the principles of cellular metabolism of different food sorts and energy production. a3. Know the meeting point of the metabolism of different food stuffs. a4. Know the adverse effect of high fat diet and how to treat. a5. Describe the structural components of circulatory system. a6. Determine the blood groups. A7. Know the respiratory system.</p>	
<p>ب- المهارات الذهنية:</p> <p>b- Intellectual Skills: On completing this course, students will be able to: b1. Recognize health problems resulted from abnormal metabolism.</p>	

b2. Distinguish the different pathways of glucose metabolism. b3. Conclude the association between carbohydrate, lipid and protein metabolism. b4. Develop their capacity to argue and think in the relation between the circulatory system & respiratory systems. b5. Illustrate the gas exchange. b6. Recognize types of respiration.	
c-Professional and Practical Skills: On completing this course, students will be able to: c1. Work in selected groups using physiological and biochemical instruments. c2. Identify the energy released from metabolism of different food stuffs. c3. Gain practical skills of measuring of glucose, lactose, urea and enzymes. c4. Investigate the normal structure of circulatory system. c5. Define respiration mechanism.	ج- المهارات المهنية الخاصة بالمقرر:
d-General and Transferable Skills: On completing this course, students will be able to: d1. Develop transferable skills through communication and management skills through individual and group activities. d2. Observe, interpret, record and present the results of the practical experiments. d3. Share information through team work and oral discussions. d4. Use computers for communication, data handling and word processing.	د- المهارات العامة :
-Nutrition- Digestion- Metabolism: General idea about nutrition- digestion in alimentary canal- contractile movement of alimentary canal- Hormone of alimentary canal (Gastrin- cholecystokimine- Enterokine)- secretion of HCl liver cycle and bile juice- Intestinal movement and regulation of its secretion. Absorption (normal- abnormal)- fecation- defect in fecation- (diarrhea- constipation). Metabolism: Carbohydrate metabolism: glycolysis- kreb's cycle- Electron transfer chain- oxidative phosphorelation. Metabolism of monophosphate hexoses- metabolic change between different types of hexoses- Glycogen synthesis and glycogenolysis. Fat metabolism: metabolism of simple lipid (triglyceride)- (formation- storage- oxidation) stored lipid- metabolism of phospholipids and glycolipid)- Metabolism of cholesterol- plasma lipid. Protein metabolism: Metabolism of amino acid- deaminatin- urea cycle- biosynthesis of amino acids- changes of amino acid into specific compound. Mal nutrition- metabolism in disease. Metabolism of nucleic acids. Enzymes. Role of vitamins and trace element. -Circulatory system: Blood component- haemostasis- blood group- structure of the heart- valves- pulses- factors affecting circulation. -Respiratory system: component of respiratory system and adaptation to function- Mechanism of respiration- Gas exchange- Gas transport. Control of respiration- Types of respiration.	٤- محتوى المقرر:
4 - Teaching and Learning Methods 4.1 - Lectures. 4.2 - Practical training and research in lab. 4.3 - Home work (preparing a report on some topics related to the course). 4.4- Library and online research.	٥- أساليب التعليم والتعلم:
As normal students.	٦- أساليب التعليم والتعلم للطلاب ذوي القدرات المحدودة:
٧- تقويم الطلاب :	

5 - Student Assessment Methods				أ- الأساليب المستخدمة :
5-1.	Final exam	to assess	a1,a2,a3,a4,a5,a6-b1,b2,b3,b4,b5,b6	
5-2.	Oral exam	to assess	a1,a2,a3,a4,a5,a6-b1,b2,b3,b4,b5,b6-d1,d2,d3,d4	
5-3.	Practical exam	to assess	c1,c2,c3,c4,c5-d1,d2,d3,d4	
5-4.	Written projects	to assess	d1,d2,d3,d4	
Assessment Schedule				ب- التوقيت :
Assessment 1	Week #	14		
Assessment 2	Week #	14		
Assessment 3	Week #	13		
Assessment 4	Week #	6		
Weighting of Assessments				ج- توزيع الدرجات :
Final-Term Examination		60		
Oral Examination		10		
Practical Examination		20		
Semester work		10		
Other types of assessment		0		
Total		100		
٨- قائمة الكتب الدراسية والمراجع :				
Course notes (available for all students).				أ- مذكرات:
William & Ganong, medical book, 16th ed.), 2000 Physiology, David Levay 196				ب- كتب ملزمة
Biology the unity and diversity				ج- كتب مقترحة :
Web sites				د- دوريات علمية أو نشرات..

### مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسي

المحتويات للمقرر	أسبوع الدراسة	المعارف الرئيسية	مهارات ذهنية	مهارات مهنية	مهارات عامة
Nutrition requirements & importance, balanced food	1	a1,a2	b1,b2	c1	d2,d3
Metabolism of Carbohydrates	2	a2,a3	b2,b3	c1,c2	d1, d2,d4
Glycolysis, Krebs cycle	3	a1,a2	b3	c1,c2	d1, d3
Glycogen (synthesis, sources and importance). glycogenolysis.	4	a3	b1,b2	c3	d1, d4
Fat metabolism	5	a1,a4	b1, b3	c2	d4
Protein metabolism	6	a2	b1,b3	c2,c3	d1,d3,d4
Components of circulatory system	7	a5	b4	c4	d2,d3
Blood groups	8	a6,a7	b6	c5	d1, d2,d4
Factors affecting circulation	9	a5	b5	c4	d1, d3

Respiratory system	10	a5,a7	b4	c5	d1, d4
Mechanism of respiration- Gas exchange- Gas transport.	11	a5	b5	c4,c5	d4
Control of respiration- Types of respiration.	12	a5,a7	b6	c4,c5	d1,d3,d4
Practical according to the course content.	2-11			c1,c2,c3, c4,c5	

رئيس مجلس القسم العلمى: أ.د. هناع على حسن

أستاذ المادة: أ.د./ وفاء محمد الخولى