MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

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| **Module Information****معلومات المادة الدراسية** |
| **Module Title** | Biochemistry | **Module Delivery** |
| **Module Type** | Basic | * **☒ Theory**
* **☒ Lecture**
* **☒ Lab**
* **☐ Tutorial**
* **☐ Practical**
* **☐ Seminar**
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| **Module Code** | BME-111 |
| **ECTS Credits**  | 8 |
| **SWL (hr/sem)** | 200 |
| **Module Level** | UGx11 1 | **Semester of Delivery** | 1 |
| **Administering Department** | Type Dept. Code |  **College** |  Type College Code |
| **Module Leader** |  |  **e-mail** |  |
| **Module Leader’s Acad. Title** |  | **Module Leader’s Qualification** | Assist. Lecturer |
| **Module Tutor** | Maryam Abdullah Saib |  **e-mail** | Mayram.ab@uowa.edu.iq |
| **Peer Reviewer Name** | Name |  **e-mail** | E-mail |
| **Scientific Committee Approval Date** | 11/11/2023 | **Version Number** | 1.0 |

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| **Relation with other Modules****العلاقة مع المواد الدراسية الأخرى** |
| **Prerequisite module** | None | **Semester** |  |
| **Co-requisites module** | None | **Semester** |  |

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| **Module Aims, Learning Outcomes and Indicative Contents****أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية** |
|  **Module Aims****أهداف المادة الدراسية** | 1. To know the types of food molecules distinguish their characteristics.
2. To understand the structure of chemical molecules
3. This course deals with the basic concept of proteins.
4. This is the basic subject for all body organic and inorganic molecules.
5. To develop skills Dealing with concentration .
6. To Know the types of instrument used in diagnosis.
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| **Module Learning Outcomes****مخرجات التعلم للمادة الدراسية** | 1. Recognize proteins and amino acid.
2. Summarize What is charbohydrates .
3. Learn about the function of enzymes .
4. Discuss the most important enzymes that play vital role in the mechanism
5. Discuss the characteristics of prteins in the all system
6. Explain the lipids in circulatory system and tissues
7. Describe the importance of the lipid tissues and other system
8. Discuss the most important dyes used in diagnosis
9. Description of the immunohistochemistry technique
10. Electron microscopy and its importance in chemoffice diagnosis were discussed
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| **Indicative Contents****المحتويات الإرشادية** | Indicative content includes the following.Lipids Metabolism of lipids, Structure of lipids, Lipid synthesis , Alternative pathway, Degradation of lipid, Fatty acid [12 hrs].Carbohydrates , Metabolism of glucose , Structure of glucose , glycolysis, kerb cycles , glycogen synthesis , gluconeogenesis [12 hrs].Proteins , Metabolism of proteins , Structure of proteins , Catabblism of proteins , Anabolism of proteins , Fate of proteins , Amino acid. [12 hrs].Hormones Structure of hormones , Types of hormones, Function of hormones , Receptors of hormones , Pituitary hormones. [20 hrs]. |

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| **Learning and Teaching Strategies****استراتيجيات التعلم والتعليم** |
| **Strategies** | The main strategy that will be adopted in delivering this module is to encourage students’ to prepration of soltution and measurement of concentration and laboratory technique, This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students. |

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| **Student Workload (SWL)****الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا** |
| **Structured SWL (h/sem)****الحمل الدراسي المنتظم للطالب خلال الفصل** | 123 | **Structured SWL (h/w)****الحمل الدراسي المنتظم للطالب أسبوعيا** | 9 |
| **Unstructured SWL (h/sem)****الحمل الدراسي غير المنتظم للطالب خلال الفصل** | 77 | **Unstructured SWL (h/w)****الحمل الدراسي غير المنتظم للطالب أسبوعيا** | 6 |
| **Total SWL (h/sem)****الحمل الدراسي الكلي للطالب خلال الفصل** | 200 |

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

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| **Delivery Plan (Weekly Syllabus)****المنهاج الاسبوعي النظري** |
| **Week**  | **Material Covered** |
| **Week 1** | Introduction of chemistry Preparation of solutions , Molarity , Molality , Reagents , Acids |
| **Week 2** | Alkaline, Buffer solution , Concentration , Calibration  |
| **Week 3** | Proteins , Metabolism of proteins , Structure of proteins , Catabblism of proteins , Anabolism of proteins , Fate of proteins , Amino acid |
| **Week 4** | Reaction of amino acid , Relationship of amino acid with other molecules , Protein synthesis , Translation , Transcription , Globulins, Albumins  |
| **Week 5** | Liver function tests , Bilirubin , GOT and AST , ALP, Kidney function tests, Urea , creatinine and uric acid  |
| **Week 6** | Lipids Metabolism of lipids, Structure of lipids, Lipid synthesis , Alternative pathway, Degradation of lipid, Fatty acid |
| **Week 7** | Mid-term Exam |
| **Week** 8 | Cholesterol , Triglyceride , HDL, LDL, Ketone bodies , Bile saltS , Lipase  |
| **Week** 9 | Carbohydrates , Metabolism of glucose , Structure of glucose , glycolysis, kerb cycles , glycogen synthesis , gluconeogenesis |
| **Week** 10 | diabetes , hyperglycemia , HbA1C, Fasting glucose, Fructose, Sucrose , Lactose  |
| **Week 11** | Enzymes , Metabolism of enzymes, Types of enzymes, Function of enzymes , Structure of enzymes |
| **Week 12** | Liver enzymes , Kidney enzyme , Digestion enzyme , Co- enzyme , Glycolysis enzymes |
| **Week 13** | Hormones Structure of hormones , Types of hormones, Function of hormones , Receptors of hormones , Pituitary hormones |
| **Week 14** | Thyroid hormones, Adrenal hormones , Sex hormones , GIT hormones, Pinal hormones  |
| **Week 15** | Nucleic acid DNA, RNA, Guanine, Thiamine, Cytosine, Adenine, Uracil  |
| **Week 16** | Preparatory week before the final Exam |

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| **Learning and Teaching Resources****مصادر التعلم والتدريس** |
|  | **Text** | **Available in the Library?** |
| **Required Texts** | Clinical of Biochemistry , (8 th editions), by leipencotts | Yes |
| **Recommended Texts** |  | yes |
| **Websites** |  |

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|  **Grading Scheme****مخطط الدرجات** |
| **Group** | **Grade** | التقدير | **Marks (%)** | **Definition** |
| **Success Group****(50 - 100)** | **A -** Excellent | **امتياز** | 90 - 100 | Outstanding Performance |
| **B -** Very Good | **جيد جدا**  | 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 |
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| **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. |