**Course Description Form**

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| 1. Course Name:
 |
| Biochemistry 1 |
| 1. Course Code:
 |
| **304CHBC1** |
| 1. Semester / Year:
 |
|  **First semester /Third year** |
| 1. Description Preparation Date:
 |
| 1/10/2024 |
| 1. Available Attendance Forms:
 |
| mandatory |
| 1. Number of Credit Hours (120) / Number of Units (2)
 |
| **30h – 3 units** |
| 1. Course administrator's name (mention all, if more than one name)
 |
| Name: Ekhlas Abdallah Hassan Email: ekhlasbiochemistry@gmail.com ekhlasabdullah@uodiyala.edu.iq |
| 1. Course Objectives
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| **Course Objectives** | **1- Giving the student broad information about biochemistry** **2- How the student knows how to understanding the chemistry of macromolecules**  **3- Giving the student sufficient information bout macromolecules and knowing the**  **chemical sources related to them,**  |
| 1. Teaching and Learning Strategies
 |
| **Strategy** | **Engage, Explore, Explain, Elaborate, and Evaluate** |
| 1. Course Structure
 |
| **Week**  | **Hours**  | **Required Learning Outcomes**  | **Unit or subject name**  | **Learning method**  | **Evaluation method**  |
| 1 | **2** | CARBOHYDRATE CHEMISTRY | • Definition, •Classification and Functions of Carbohydrates n• Structure of Glucose | blackboard + PowerPoint | Daily exams and homework + monthly exams |
| 2 | **2** | CARBOHYDRATE CHEMISTRY | • Isomerism• Mutarotation• Chemical •Properties of Monosaccharides •Glycoside Formation | blackboard + PowerPoint | Daily exams and homework + monthly exams |
| 3 | **2** | CARBOHYDRATE CHEMISTRY | Derivatives of Monosaccharides• Disaccharides• Polysaccharides (Glycans)• Glycoproteins | blackboard + PowerPoint | Daily exams and homework + monthly exams |
| 4 | **2** | CHEMISTRY OF LIPIDS | -Definition, Classification and Functions of Lipids• Fatty Acids• Essential Fatty Acids | = | = |
| 5 | **2** | CHEMISTRY OF LIPIDS | • Reactions of Lipids Characterization of Fat• Triacylglycerols or Triacylglycerides or Neutral Fat | = | = |
| 6 | **2** | CHEMISTRY OF LIPIDS | Phospholipids• GlycolipidsCholesterol Lipoproteins | = | = |
| 7 | **2** | CHEMISTRY OF LIPIDS | Eicosanoids• Micelles, Lipid Bilayer and Liposomes Detergents | = | = |
| 8 | **2** | CHEMISTRY OF PROTEINS | • General Nature of Amino Acids Classification of Amino Acids | = | = |
| 9 | **2** | CHEMISTRY OF PROTEINS | • Modified or Nonstandard Amino AcidsProperties of Amino Acids | = | = |
| 10 | **2** | CHEMISTRY OF PROTEINS | • Biologically Important Peptides • Definition, Classification and Functions of Proteins• Structure of Proteins• Properties of Proteins • Denaturation of Proteins | = | = |
| 11 | **2** | ENZYMES | • Definition • Zymogen or Proenzyme• Cofactors (Coenzyme and Activator) • How Enzymes Work• Mechanism of Enzyme Action | = | = |
| 12 | **2** | ENZYMES | Enzyme Classification• Specificity of Enzyme Action • Factors | = | = |
| 13 | **2** | ENZYMES | Affecting the Velocity of Enzyme Reaction• Enzyme Kinetics• Enzyme Inhibition | = | = |
| 14 | **2** | ENZYMES | Allosteric Enzyme• Isoenzyme • Clinical Significance of Enzymes | = | = |
| 15 | **2** | CHEMISTRY OF NUCLEIC ACIDS | Nucleic Acids • Nucleotide• Biologically Important | = | = |
| 1. Course Evaluation
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| Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc  |
| 1. Learning and Teaching Resources
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| 1. Books Required reading: | ESSENTIALS OF BIOCHEMISTRY. Pankaja Naik PhDProfessor and HeadDepartment of BiochemistryMVPS Dr Vasantrao Pawar Medical CollegeNashik, MaharashtraIndia |
| 2. Main references (sources) | Harper's Illustrated Biochemistry, 31e |
| A- Recommended books and references (scientific journals, reports…). |  |
| B-Electronic references, Internet sites… |  Textbook of Biochemistry - For Medical Students, 6th Edition |