

**(Lab. Technology) Course Catalogue**

**2022-2023**

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| **College/ Institute** | **Medical Technical Institute** | |
| **Department** | **Medical Laboratory Technology** | |
| **Module Name** | **Lab. Technology** | |
| **Module Code** | **LAT205** | |
| **Semester** | **2** | |
| **Credit** | **7** | |
| **Module type** | **Cor** | |
| **Weekly hours** | **4** |  |
| **Weekly hours (Theory)** | **( 2 )hr Class** | **( 3 )hr Workload** |
| **Weekly hours (Practical)** | **( 2 )hr Class** | **( 1 )hr Workload** |
| **Lecturer (Theory)** | **Dlshad Saadallah Othman** | |
| **E-Mail** | **Dilshad.Saadulla@gmail.com** | |
| **Lecturer (Practical)** | **Dlshad Saadallah Othman** | |
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**Course Book**

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| * **Course overview:**   This course aims to provide a comprehensive theoretical knowledge of medical microbiology diagnosis technique and medical physiology disorder, diagnosis of disease disorder of human system and advanced practical training in this diverse field. | | |
| * **Course objective:** * Demonstrate and understanding of basic laboratory technique on the medical microbiology examination of disease. * Demonstrate an understanding of basic concepts of medical physiology disorder, diagnosis of disease disorder of human system and advanced practical training in this diverse field. * Have advanced skills on processing blood and physiological analysis and disease diagnosis. | | |
| * **Student's obligation**   1-The student attention in all theoretical and practical lectures in academic year.  2-Completion of all tests.  3-Attendance in exams.  4-Write or prepare reports. | | |
| * **Forms of teaching**   lecture halls with data show equipment for lecture presentations, white board, overhead projector, posters | | |
| * **Assessment scheme**   ‌10% Mid. Theory exam  15% Mid. practical exam  8% Quiz  27% Activity  20% final practical  20% final theory | | |
| * **Specific learning outcome:**   On successful completion of this program, graduates will be able to identify, evaluate and apply major theoretical traditions in medical microbiology and medical physiology studies, also understanding how the human body work. And personal save.   * Demonstrate the ability to think critically and solve problems in a laboratory setting * Ability to apply knowledge in practice * Ability to search for process and analysis information from a variety of sources | | |
| * **Course Reading List and References‌:**   **1-Manual of medical Laboratory Techniques S Ramakrishnan and KN Sulochana. JAYPEE. 2012**  **2- Text book of medical physiology, 11 th editions, C. Guyton, M.D.**  **3- Diagnostic Microbiology. Bailey and Scott’s. 13 edition 2014** | | |
| * **Course topics (Theory)** | **Week** | **Learning Outcome** |
| **Sterilization methods& disinfection with difference physical and chemical methods** | First week | Student be able to know the methods of sterilization and the differences between sterilization and disinfection |
| **Examination of Urine samples** | Second Week | Be able to know the methods of urine analysis in laboratory |
| **Culture media , types , and methods of culturing media** | Third Week | Be able to know every types of culture media and the types of culturing |
| **Examination of stool samples** | Fourth Week | Be able to know every methods in stool examination in laboratory |
| **Examination of throat , ear , swabs, burns and wound** | Fifth Week | Be able how to take sample from patients need these types of examination |
| **Examination of sputum or respiratory secretion** | Sixth Week | Be able how to take sample sputum and how to analysis |
| **Examination of semen samples** | Seventh Week | Be able how to take sample semen and how to analysis |
| **Examination of cerebrospinal fluid (CSF)** | Eightieth Week | Be able how to take sampleCSF and how to analysis |
| **How to identification bacteria, Vitek2 compact system** | Ninth Week | Be able to knowing about the vitek2 compact system |
| **Serology test (reaction) antigen –antibody interaction** | Ten week | Be able to know about serological methods in diagnosing disease |
| **Immunoassay sorbent (ELIZA)** | Eleven Week | Be able to know on this apparatus ELIZA |
| **Complete blood count** | Twelve Week | Be able to knowing on how counting blood component by coulter apparatus |
| **Practical Topics (If there is any)** | **Week** | **Learning Outcome** |
| **Sterilization methods& disinfection with difference physical and chemical methods** | First week | Student be able to know the methods of sterilization and the differences between sterilization and disinfection |
| **Examination of Urine samples** | Second Week | Be able to know the methods of urine analysis in laboratory |
| **Culture media , types , and methods of culturing media** | Third Week | Be able to know every types of culture media and the types of culturing |
| **Examination of stool samples** | Fourth Week | Be able to know every methods in stool examination in laboratory |
| **Examination of throat , ear , swabs, burns and wound** | Fifth Week | Be able how to take sample from patients need these types of examination |
| **Examination of sputum or respiratory secretion** | Sixth Week | Be able how to take sample sputum and how to analysis |
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| **Examinations (question design):**  ***1. Compositional***  ***What are the steps for collection swabs from infected throat***  ***2.True or false type of exams:***  *1- anaerobic bacteria mean that the bacteria do not need oxygen for their growth*  ***3. Multiple choices:***  **1- for taking sample from otitis media without discharge it must be done by:**  **a- swab b- aspiration c- saliva**  **-** | | |  |
| * **Extra notes:** | | |
| * **External Evaluator**   **The outcome of course book evaluation is commonly more explicit and follows the principles and rules in general.** | | |