Kurdistan Region Government Ministry of Higher Education and Scientific Research

Erbil Polytechnic University

**Module (Course Syllabus) Catalogue**

**2020-2021**

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| **College/ Institute** | **Health Technical College** | | | | | |
| **Department** | **Medical Laboratory Technology** | | | | | |
| **Module Name** | **Medical Microbiology** | | | | | |
| **Module Code** | **MEM01** | | | | | |
| **Degree** | **Technical Diploma** | |  | **Bachelor** |  |  |
| **High Diploma Master** | | 1 | **PhD** |  |  |
| **Semester** | **2** | | | | | |
| **Qualification** |  | | | | | |
| **Scientific Title** | **Assist. Prof.** | | | | | |
| **ECTS (Credits)** | **6** | | | | | |
| **Module type** | **Prerequisite Core** 1 | |  | **Assist.** |  |  |
| **Weekly hours** | **3** |  | | | | |
| **Weekly hours (Theory)** | **(3)hr Class** | **( )Total hrs Workload** | | | | |
| **Weekly hours (Practical)** | **( )hr Class** | **( )Total hrs Workload** | | | | |
| **Number of Weeks** | **12** | | | | | |
| **Lecturer (Theory)** | **Assist. Prof. Dr. Sazan Moffaq Abdulaziz** | | | | | |
| **E-Mail & Mobile NO.** | [**sazan.moffaq@epu.edu.iq**](mailto:sazan.moffaq@epu.edu.iq) | | | | | |
| **Lecturer (Practical)** |  | | | | | |
| **E-Mail & Mobile NO.** |  | | | | | |
| **Websites** |  | | | | | |

# Course Book

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| **Course Description** | Students enter Medical Laboratory college with a wide variety of educational needs and learning styles. Accordingly, we offer a variety of learning resources with the hope that we can better meet their academic needs. The combination of lectures, handout materials, large group sessions, optional presentations, and objective-based examinations should provide each student with a solid foundation in microbial classification and pathogenesis. |
| **Course objectives** | 1. Identify the species of pathogenic bacteria, viruses and fungi 2. 2. Determine the modes of transmission of infectious diseases and pathogenesis 3. 3. Know of the theoretical foundations for the differentiation of the major pathogenic groups 4. 4. Know the Pathogenesis of different microorganisms 5. Diagnosis certain groups of fungi and viruses 6. Diagnosis of different types of uncommon pathogens 7. Determine the antimicrobials to be used in the sensitivity testing of different types of pathogens. |

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| **Student's obligation** | General advice:  Attendance at all lectures is strongly recommended (but not required). Attendance at participatory activities such as presentations/discussions, and at any guest lectures is always required. Students who miss more than a few lectures often do poorly in class; such students will find little sympathy for their plight. The beginning of class may also include handing in assignments, quizzes, and discussion among the class that will be scored. (Consequently, please be on time.) For any missed lecture, a student should consult a fellow student for notes. Office hours are for further explanation and discussion, not a repeat of material presented in lecture. | | | | | |
| **Required Learning Materials** |  | | | | | |
| **Evaluation** | **Task** | | **Weight (Marks)** | | **Due Week** | **Relevant Learning Outcome** |
| Paper Review | | 15 | |  |  |
| Assignments | Homework |  | |  |  |
| Class Activity |  | |  |  |
| Report |  | |  |  |
| Seminar | 10 | |  |  |
| Essay |  | |  |  |
| Project |  | |  |  |
| Quiz | | 5 | |  |  |
| Lab. | |  | |  |  |
| Midterm Exam | | 20 | |  |  |
| Final Exam | | 50 | |  |  |
| Total | | 100 | |  |  |
| **Specific learning outcome:** | **Upon successful completion of this course students will be able to:**  1. Apply theory, microbiology knowledge and technical skills to identify bacteria in the laboratory, appreciating hazards associated with handling microorganisms in the laboratory and the subsequent safety requirements  2. Asses appropriate methods for isolation and identification of infectious agents.  3. Operate different laboratory procedures in analysis of biological samples.  4. Monitor and control microbial growth and carry out laboratory tests to identify infectious diseases.  5. Control sterilization processes and aseptic procedures.  6. Devise a dichotomous key to aid in the identification of disease-causing bacteria in the lab, and accurately identify disease-causing bacteria by using the key and experimental techniques.  7. Critically analyse the results of clinical investigations;  8. Perform laboratory tests to investigate anti-microbial agents;  9. Communicate using the proper scientific language of the field including clinical laboratory reports written with a professional approach.  10. Work collaboratively and evaluate team work in small groups. | | | | | |
| **Course References:** | **References:**  Samaranayake L. (2018). Essential microbiology for dentistry, 5th ed. Elsevier.  <https://drive.google.com/file/d/1UZAWVWVtnjwBCLDuy08c5ij7pHkn34mE/view?usp=sharing>  Ryan K. J. (ed.) (2017). Sherris Medical Microbiology, 7th ed*.* McGraw-Hill Education.  <https://drive.google.com/file/d/1k1LlgzX8wT5eYs9vQZk5nWcIjQUAQwMt/view?usp=sharing> | | | | | |
| **Course topics (Theory)** | | | | **Week** | | **Learning**  **Outcome** |
| Introduction, course syllabus  Different groups of m.os | | | | 1 | |  |
| Microbial Physiology & genetics | | | | 2-3 | |  |
| Pathogenesis of Bacterial infections | | | | 4 | |  |
| Pathogenesis of Viral infections | | | | 5 | |  |
| Common bacterial pathogens & their clinical significance | | | | 6-7 | |  |
| Common bacterial pathogens & their clinical significance | | | | 8-9 | |  |
| Diagnostic microbiology | | | | 10-12 | |  |
| **Questions Example Design**   1. ***MCQ*** 2. ***Essay*** 3. ***Short Answers*** | | | | | | |
| **Extra notes:** | | | | | | |
| **External Evaluator** | | | | | | |