**Course Description Form**

| 1. Course Name:
 |
| --- |
| Microbiology I |
| 1. Course Code:
 |
| ClMm217 |
| 1. Semester / Year:
 |
| 1/2 |
| 1. Description Preparation Date:
 |
| 29/2/2024 |
| 1. Available Attendance Forms:
 |
| In person attendance |
| 1. Number of Credit Hours (Total) / Number of Units (Total)
 |
| 5/3 |
| 1. Course administrator's name (mention all, if more than one name)
 |
|

| prof Dr. Maysoon abdul-zahra | maysoona.merdaw@copharm.uobaghdad.edu.iq |  |
| --- | --- | --- |
| assiss.prof. Zainab Majeed Hashim | zainab.atyia@copharm.uobaghdad.edu.iq |  |
| Assiss lecturer Mohammad Hasan Muhammad | muhammad.h@copharm.uobaghdad.edu.iq |  |
| assiss lecturer: Hiba Haidar Kadhum | heba.h@copharm.uobaghdad.edu.iq |  |
| Sarah Nabil Abdul-Waduod | sarah.nabil@copharm.uobaghdad.edu.iq |  |

 |
| 1. Course Objectives
 |
| **Course Objectives** | * Understanding bacteria in terms of their presence in the environment and their nutritional requirements for growth and reproduction
* Methods of transmission of bacteria and the diseases they cause
* Treatments and resistance to antibiotics and environmental factors
 |
| 1. Teaching and Learning Strategies
 |
| **Strategy** | Lectures TutorialsGoogle class room Researches |
| 1. Course Structure
 |
|

| Week | Hours | Required Learning Outcomes | Unit  | Learning method | Evaluation method |
| --- | --- | --- | --- | --- | --- |
| 1 | 3 | The history of microbiology and its importanceAnatomy of bacteria, surface appendages, capsule, Bacterial cell wall G+ve & G-veCytoplasmic membranePractical: shapes of bacteria | Introduction to microbiology  | Lectures, Discussions, and Reports | Exam and classroom activities |
| 2 | 3 | Physiology of bacterial cell, bacterial growth and bacterial requirement, bacterial growth curve Practical: staining of bacteria | Bacterial growth requirements  | = | = |
| 3 | 3 | Genetics definition of nucleic acids.Genetic codes and types of mutationsMethods of transferring genetic material, biotechnology Recombinant DNAPractical: Bacterial movement | Bacterial genetics | = | = |
| 4 | 3 | Bacterial sporulation Practical: staining of spores and its position | Sporulation | = | = |
| 5 | 3 | Sterilization: (chemical + physical methods).Practical: preparation and sterilization of media  | Sterilization | = | = |
| 6 | 3 | Chemotherapy (antibiotics, etc.)Practical: isolation of bacterial colonies  | Antibiotics | = | = |
| 7 | Mid-term examination |
| 8 | 3 | Pseudomonas and Neisseria Practical: identification of bacterial colonies | Pseudomonas and Neisseria  | = | = |
| 9 | 3 | Staphylococcus and Streptococcus Practical: biochemical reaction; oxidase and catalase test | Staphylococcus and Streptococcus bacteria | = | = |
| 10 | 3 | Bacillus bacteria and Vibrio choleraPractical: biochemical reaction; urease activity  |  | = | = |
| 11 | 3 | Clostridium bacteriaPractical: : bacterial reaction to citrate | Clostridium bacteria | = | = |
| 12 | 3 | Diphtheria bacteria, acne bacteria, and listeriapractical: IMVEC test  | Diphtheria bacteria, acne bacteria, and listeria | = | = |
| 13 | 3 | Enterobacteriaceae familyPractical: identification of lactose fermenter and non-lactose fermenter bacteria | Enterobacteriaceae family | = | = |
| 14 | 3 | Infectious spirochete bacteria and salmonellaPractical: identification of lactose fermenter and non-lactose fermenter bacteria  | Infectious spirochete bacteria and salmonella | = | = |
| 15 | 3 | Tuberculosis and leprosy bacteriaPractical: antibiotics sensitivity test | Tuberculosis and leprosy bacteria | = | = |

 |
| 1. Course Evaluation
 |
| Mid-term examination (15 marks)Quiz and homework (5 marks)Practical work (20 marks)Final examination (60 marks)  |
| 1. Learning and Teaching Resources
 |
| Required textbooks (curricular books, if any) | Lippincotts illustrated review microbiology, 2nd ed.-A color Atlas of microbiology by Ronald John Olds -Jawetz, Melnick, & Adelberg's. Medical Microbiology 26th ed. |
| Main references (sources) |  |
| Recommended books and references (scientific journals, reports...) | -Bailey & Scott’s Diagnostic Microbiology 14th ed. -Hugo and Russell's Pharmaceutical Microbiology; 8th. ed. |
| Electronic References, Websites |  |