

**University of Baghdad
College of Nursing
BSN program**

Course Syllabus
Microbiology (1) for nurses

2022/2023
1st semester

**This syllabus is subject to change. Changes will be announced to students.
It is the responsibility of the student to comply with any changes.**

**Created: September 2, 2018 by © Dr. Zahid Jasim Mohammed
Revised: September 01, 2022**

General Information & Policies

Course Number and Title: Microbiology (1) for nurses

Number of Credit Hours: (3) credits

Times & Places: Tuesday, @8:30 am-10:30 am Hall (2)

Prerequisites: None

Course Description: This course is designed to enable nursing students to acquire understanding of fundamentals of Microbiology and identification of various microorganisms. It also provides opportunities for practicing identifying different types of bacteria which may have an important medical view and how to control and treated it in hospital and community setting.

Teaching Methods: Lectures, handouts, discussions, & homework's. Google Classroom shall be used for online discussion (Class Code: **ogljnpz**)

Evaluation Methods: Unit exam(s), homeworks, & written assignments.

Faculty, Contact Information, & Office Hours:

Dr.Zahid Jasim MOhammed , Room No.2 in Basic Sciences Department- College of Nursing- University of Baghdad

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Office hours ► See my weekly schedule!

Required Textbook(s) and Other Materials:

- 1- Jawetz, Melnick and Adelberg. 2016. Medical Microbiology 27st ed. Lange
- 2- KANTI GOR. 2008. MCQs IN MICROBIOLOGY. New age international publishers.
- 3- W. Levensone. 2008. Review of Medical Microbiology and immunology. 10st ed . Lange
- 4- Harvey, Richard A.; Champe, Pamela C.; Fisher, Bruce D. 2017. Lippincott's Illustrated Reviews: Microbiology, 2nd Edition. Lippincott Williams & Wilkins.

Academic Dishonesty: Academic honesty is required in all aspects of a student's relationship with the university. **Students are advised that cheating are not tolerated.** If that happens, the student shall earn zero and be under the legal circumstances.

Course Objectives

By the completion of this course the student will be able to:

1. Have a broad knowledge of the type and structure of microorganisms.
2. Understand the physiological principles, anatomical structures, biochemistry and genetic characteristics of microorganisms.
3. Learn how to use a microscope and the processes of preparing microscopic slides to perform laboratory tests in addition to various diagnostic tests.
4. Principles and methods of sterilization and disinfection for nursing care procedures.
5. Learn about the different types of microorganisms and ways to differentiate them, as well as the diseases and injuries they cause to humans, and how to diagnose and treat them.
6. Collecting clinical samples and contaminated materials and identifying their types and disposal methods
7. Identifying the human immune system, its components, how it works in sick cases, and what are the most important ailments and disorders that may affect it.

Course Requirements

To complete the course successfully, the student must:

1. Adhere to the policies stated in this syllabus and printed in the *College of Nursing Student Handbook*.
2. Complete and submit each assignment by the due date and time.
4. Earn a grade of **50% or higher**. The aforementioned grade in NURS courses **is the minimum passing grade at the undergraduate level**.
5. Attend classes! Based on *The Student Guideline*, the student shall be marked “failure” if (s)he absents 10% of the total hours.

Evaluation & Grading

Distribution of Points:

| Requirements | Possible Points |
|--|--|
| Two exam (s) | $12.5 * 2 =$ points of assignment = 25 % |
| Practical exam | 15 % |
| Total | 40 % |
| The total of 40% before the final exam. | |
| The Final exam | 60 % |
| Total | 100 % |

Course Schedule and activities

Course Outline:

Theoretical Content

| Week | Topics |
|------------------|--|
| 1 st | Introduction and the historical development of microbiology. |
| 2 nd | The classification of microorganisms Nutritional requirements of bacteria |
| 3 rd | Bacterial Morphology (Anatomy & Physiology of bacteria) |
| 4 th | Microbial control Sterilization and Disinfection |
| 5 th | Gram positive bacteria (cocci bacteria) Genus: Staphylococcus Genus: Streptococcus |
| 6 th | Gram negative bacteria (cocci bacteria) Genus: <i>Nesseria meningitidis</i> Genus: <i>Nesseria gonorheae</i> |
| 7 th | Gram positive bacteria (bacilli bacteria) Genus: Bacillus Genus: Clostridium |
| 8 th | Mid-term Exam. |
| 9 th | Irregular gram positive bacteria Genus: Corynebacterium Genus: Listeria Genus: Mycobacterium |
| 10 th | Gram negative bacilli (Enterobacteriaceae) |
| 11 th | Other gram negative bacteria |
| 12 th | Immunity and immune system |
| 13 th | Immune response Antigens and Antibodies |
| 14 th | Hypersensitivity |
| 15 th | Final exam. |

Practical Content

| Week | Topics |
|------------------|--|
| 1 st | Lab Safety |
| 2 nd | Sterilization and disinfectant |
| 3 rd | Types of culture media (According to the functions and Structure) and cultural characteristics of bacteria |
| 4 th | Bacterial isolation techniques |
| 5 th | Bacterial staining techniques (Simple staining , Gram staining and Zeihl-Neelsen stain) |
| 6 th | Antibiogram (Antibiotic Sensitivity test) |
| 7 th | Laboratory diagnosis of gram positive cocci (<i>Staphylococcus</i> spp. and nasal swab) |
| 8 th | <i>Streptococcus</i> spp (Laboratory diagnosis) |
| 9 th | Laboratory diagnosis of enterbacteriaceae family <i>E .coli</i> , <i>Klebsiella</i> and <i>Proteus</i> |
| 10 th | <i>Pseudomonas</i> and other non lactose fomentor bacteria (Laboratory diagnosis) |
| 11 th | <i>Neisseria</i> spp. and <i>Vibrio</i> spp. (Laboratory diagnosis) |
| 12 th | <i>Mycobacterium</i> spp. and <i>Corynebacterioum</i> spp. (Laboratory diagnosis) |
| 13 th | <i>Salmonella</i> spp. and <i>Shigella</i> spp. (Laboratory diagnosis) |
| 14 th | Throat swab and culture |
| 15 th | Review of course |

Distribution of Points in the practicum:

| Requirements | Possible Points |
|--|-----------------|
| Quizzes | 1 |
| Home works | 1 |
| Discussion of the procedures outcomes | 1 |
| Practical exam | 12 |
| The total of 15% before the final exam. | |
| The Final exam | 20% |
| Total | 35% |