Course Description Form of Principles of microbiology

1. Course Name:
Principles of microbiology
2. Course Code:
PRIM209
3. Semester / Year:
First semester/ 2024-2025
4. Description Preparation Date:
15/1/2025
5. Available Attendance Forms:
Full time (theoretical lecture and practical lecture) weekly
6. Number of Credit Hours (Total) / Number of Units (Total)
5 hours (2 hours theoretical and 3 hours practical per week) for 14 weeks, number of units 3.5 units
7. Course Administrator's Name (Mention All, If More Than One Name)
Prof.Dr. Faris M. Suhail farissuhail@.uodiyala.edu.iq
8. Course Objectives

Course Objectives: Graduating students who are able to:	Introduce students the basics of microbiology according to the vocabulary of substance of microbiology for students of second stage of the students Soil and water resources department .

9. Teaching and Learning Strategies

Strategy	In-person lectures for 14 weeks, including two monthly exams, daily exams, and scientific reports

10. Course Structure

Theoretical part

Week	Hours	Required learning outcomes	Unit or Subject	Learning Method	Evaluation Method
1	**2**	Definition and development of microbiology	**Principles of microbiology**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
2	**2**	Taxonomy site of microorganisms in the world of biology	**Principles of microbiology**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
3	**2**	Naming microbiology - Classification of microbiology	**Principles of microbiology**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
4	**2**	Bacteria, presence, components, forms	**Principles of microbiology**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
5	**2**	The bacterial cell wall and its components, cytoplasmic membrane and its components	**Principles of microbiology**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
6	**2**	Permeability and the transition across membranes cytoplasmic	**Principles of microbiology**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
7	**2**	Bacterial flagella, pilli	**Principles of microbiology**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
8	**2**	Cytoplasm, nucleic acids	**Principles of microbiology**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
9	**2**	Objects moderation, Spores, plasmids, cysts	**Principles of microbiology**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports

10	**2**	Fungi, described the fungus, its importance	**Principles of microbiology**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
11	**2**	Installation of the fungal cell, the cytoplasm and its contents	**Principles of microbiology**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
12	**2**	Algae, types, presence, growth and reproduction	**Principles of microbiology**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
13	**2**	Microbiology nutrition, reproduction microbiology	**Principles of microbiology**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
14	**2**	viruses	**Principles of microbiology**	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
Practical part					
Week	**Hours**	**Required learning outcomes**	**Unit or Subject Name**	**Learning Method**	**Evaluation Method**
1	**3**	Identify the microbiology laboratory – Instruments and tools- general guidelines and safety methods .	**Principles of microbiology**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
2	**3**	Sterilization , the microscope , type of microscope	**Principles of microbiology**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
3	**3**	Culture media , types, methods of preparation	**Principles of microbiology**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
4	**3**	Sampling methods of microorganisms- Isolate microorganisms	**Principles of microbiology**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
5	**3**	Sampling methods of microorganisms- Isolate microorganisms	**Principles of microbiology**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
6	**3**	Diagnosis of bacteria , shape of bacteria	**Principles of microbiology**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports

7	**3**	Fungi, Diagnosis of fungi , shape of fungi . Diagnosis of molds and yeasts	**Principles of microbiology**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
8	**3**	Staining of bacteria , simple staining	**Principles of microbiology**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
9	**3**	Staining of bacteria , simple staining	**Principles of microbiology**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
10	**3**	Compound staining , spore staining	**Principles of microbiology**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
11	**3**	Compound staining , spore staining	**Principles of microbiology**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
12	**3**	Mobility of bacteria hanging (drop preparation)	**Principles of microbiology**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
13	**3**	The minimum inhibitory concentration using antibiotics .	**Principles of microbiology**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
14	**3**	The minimum inhibitory concentration using antibiotics .	**Principles of microbiology**	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports

11. Course Evaluation

Examination Monthly & daily exams with discussion questions inside the lecture.
The degree of participation in the questions related to the subject.

12. Learning and Teaching Sources

Required Textbooks (Curricular Books, If Any)	
Main References (Sources)	1-Principles of microbiology. Dr. Faaz Aziz al-Ani and Dr. Amin Suleiman Badawi. 2000 .University of Mosul.
Recommended Books and References (Scientific Journals, Reports...)	2-microbiology. Authoring a committee of my teaching Department of Life Sciences - Baghdad University, Dar al-Hikma for printing and publishing in 1991
Electronic References, Websites	