

Al-Al Bayt University
Faculty of Sciences
Biological Science

Course Title :Principles of Microbiology

Course Number :404230

Credit Hours :3

Pre requisite :404107

Placement :

Instructor: jaran ,

Course Description :

null

General objectives :

the students have to learn

Course outline :

one

Al al-Bayt University

Department of Biological Sciences

Microbiology for Nursing 404230

Course Coordinator: Dr. Adnan Jaran, Ph.D.

No. of weeks Subject Chapter

1 MICROBIOLOGY: WHAT IS MICROBIOLOGY? WHY STUDY MICROBIOLOGY.

CAREERS IN MICROBIOLOGY. FIRST MICROORGANISMS ON EARTH. EARLIEST KNOWN INFECTIOUS DISEASE. PIONEERS IN THE SCIENCE OF MICROBIOLOGY.

MICROSCOPY:

INTRODUCTION: USING THE METRIC SYSTEM TO EXPRESS THE SIZES OF MICROORGANISMS. MICROSCOPES 1 + 2

2 CELL STRUCTURE AND TAXONOMY

INTRODUCTION :EUCARYOTIC CELL STRUCTURE, PROCARYOTIC CELL STRUCTURE.

RECAP OF STRUCTURAL DIFFERENCES BETWEEN PROCARYOTIC AND EUCARYOTIC CELLS.

REPRODUCTION OF ORGANISMS AND THEIR CELLS

TAXONOMY, DETERMINING RELATEDNESS AMONG ORGANISMS 3

3 DIVERSITY OF MICROORGANISMS

ACELLULAR AND PROCARYOTIC MICROBES.CATEGORIES OF MICROORGANISMS.

ACELLULAR INFECTIOUS AGENTS

THE DOMAIN BACTERIA. THE DOMAIN ARCHAEA 4

4 MICROBIAL PHYSIOLOGY AND GENETICS. MICROBIAL PHYSIOLOGY, METABOLIC ENZYMES.

METABOLISM :BACTERIAL GENETICS GENETIC ENGINEERING. GENE THERAPY 7

5 CONTROLLING MICROBIAL GROWTH IN VITRO

INTRODUCTION: FACTORS THAT GROWTH OF MICROORGANISMS IN VITRO, INHIBITING THE GROWTH OF MICROORGANISMS IN VITRO 8

FIRST EXAM

6 + 7 ANTIMICROBIAL AGENTS TO CONTROL MICROBIAL GROWTH IN VIVO

INTRODUCTION

IDEAL QUALITIES OF AN ANTIMICROBIAL AGENT

HOW ANTIMICROBIAL AGENTS WORK , ANTIBACTERIAL AGENTS

ANTIFUNGAL AGENTS, ANTIPROTOZOAL AGENTS

ANTIVIRAL AGENTS ,DRUG RESISTANCE

WHAT PHYSICIANS AND PATIENTS CAN DO TO HELP IN THE WAR AGAINST DRUG RESISTANCE? EMPIRICAL THERAPY

UNDESIRABLE EFFECTS OF ANTIMICROBIAL AGENTS 9

8 MICROBIAL ECOLOGY

INTRODUCTION :SYMBIOTIC RELATIONSHIPS INVOLVING MICROORGANISMS

INDIGENOUS MICROFLORA OF HUMANS

BENEFICIAL AND HARMFUL ROLES OF INDIGENOUS MICROFLORA

MICROBIAL COMMUNITIES 10

9 + 10 EPIDEMIOLOGY AND PUBLIC HEALTH

EPIDEMIOLOGY, INTERACTIONS AMONG PATHOGENS, HOSTS, AND THE ENVIRONMENT.CHAIN OF INFECTION. RESER

Evaluation methodology :

First Exam.....25

Secomd Exam.....25

Final Exam.....50

References :

*Microbiology for the Health SciencesSeventh edition, ,

*Microbiology for the health sciences, by Jensen, and Wright. .Fourth edition, 1,

Course Schedule :

Topic _____ **Hours**

No Information Available...