Faculty of Medicine
Quality Assurance Unit

Assuit University
Faculty of Medicine

Microbiology
Course Specifications

Code: AMED 012

Third year of M.B.B.Ch. Program

Microbiology

Course specifications

Programme(s) on which the course is given: M.B.B.Ch. program

Major or minor element of programmes: Major

Department offering the programme: Department of Microbiology and Immunology

Department offering the course: Department of Microbiology and Immunology

Academic year / Level: Third year

Date of specification approval: 20/5/2006

A- Basic information

Title: Microbiology and Immunology **Code:** Amed012

Lecture: 90 hours **Tutorial/Practical:** 60 hours **Total:** 150 hours

B-Professional information

1-Overall aims

- To educate students about the basic features of general bacteriology, virology and mycology and to provide students with an understanding of the immune system, its protective functions and its role in the patho-physiology of infectious and non-infectious diseases.
- To familiarize students with the common infections and diseases of medical importance, their microbial causes, as well as laboratory diagnosis, treatment, prevention and control of such diseases.
- To enable the students to practice the principles of sterilization and infection control

2- Intended learning outcomes (ILOs)

A- Knowledge and understanding

By the end of the course, students should he able to:

A1- Illustrate general bacterial, viral and fungal morphology, physiology and genetics

A2- Explain the host parasite relationship and microbial pathogens

A3- Explain the physiology of the immune system, its beneficial role, as well as its detrimental role in hypersensitivity, autoimmunity and transplant rejection

A4- Describe the morphology, culture, antigenic structure and virulence factors of microorganisms of medical importance

A5- Recognize the most important infectious clinical conditions and outline the diagnosis, treatment, prevention and control of the most likely organisms causing such diseases.

A6- Describe the most important methods of decontamination and principles of infection control.

A7- Describe the basics of antimicrobial uses and resistance

A8- Mention the impact of molecular technology in microbiology and immunology

B- Intellectual skills

By the end of the course, students should he able to:

B1- Interpret results of microbiological, serological and molecular tests.

B2- Interpret microbiological, immunological and molecular reports

B3-Formulate a systematic approach for laboratory diagnosis of common infectious clinical conditions and select the most appropriate and cost-effective tool leading to the identification of the causative organism.

B4- Evaluate according to evidence the causal relationship of microbes and diseases

B5- Categorize a microorganism as a bacterium, virus or fungus according to standard taxonomy

B6- Report and appraise a concise scientific activity according to standard scientific thinking and integrity

B7- Appreciate the danger of handling and use of infectious agents on community and environment as a part of their ethical heritage

C- Professional and practical skills

By the end of the course, students should he able to:

C1- Examine and identify medically important bacteria based on microscopic examination of stained preparations.

C2- Perform a Gram stain and a Zichl-Neelsen stain and identify, according to morphology and characteristics, stained preparations.

C3- Examine and identify culture media and biochemical tests commonly used for bacterial identification and distinguish positive and negative results.

C4- Perform hand wash and control of steam sterilization.

D- General skills

By the end of the course, students should he able to:

D1- Write reports and essay on the different scientific items in the filed of bacteriology and immunology.

D2- Report the facts using printable sheets in the field of bacteriology and immunology

D3- Write a full scientific reports in the field of bacteriology and immunology.

D4- Work in groups and team

D5- Use computer and internet to extract information and knowledge

3- Course contents

Topic	No. of Hours	Lecture	Practical/Tutorial
General Bacteriology	30	18	12
Immunology	20	12	8
Systemic Bacteriology	65	35	30
General Virology	4	4	-
Systemic Virology	10	10	-
General Mycology	8	4	4
Systemic Mycology	3	3	-
Applied Microbiology	10	4	6
Total	150	90	60

4- Teaching and learning Methods

4.1- Lectures

4.2- Small group discussion sessions

4.3- Practical classes

4.4- Micro assignment and reports

4.5- Quiz

4.6- Office hours (Tutorial)

5- Student assessment Methods

5.1- Written Examination for assessment of knowledge and understanding and intellectual skills (a1-a8, b1-b7)

5.2- Oral Examination for assessment of knowledge and understanding outcomes, intellectual skills, and general skills (a1-a8, b1-b7, d1-d5)

5.3- Practical Examination for assessment of practical skills (c1-c4.d1-d5) and intellectual skills (b1-b7)

5.4- Quiz to assess intellectual skills (b1-b7)

5.5- Micro-report to assess general skills (d1-d5)

Assessment schedule

Assessment 1: Mid term exam (formative/summative) by the end of the 1st term

Assessment 2: Course assignment (Microreports and quiz)

Assessment 3: Final practical examination by the end of the year

Assessment 4: Final written examination by the end of the year

Assessment 5; Final oral examination by the end of the year

Weighting of assessments

Assessment 1 and 2	20 %
Final written exam	50 %
Final Oral exam	10 %
Final Practical exam	20 %
Total	**100%**

6- List of references:

6.1- Course notes:

Department theoretical books and practical manual (Lectures and practical)

6.2- Essential books:

Department notes

6.3- Recommended books: Text Book Of Microbiology,by R. Ananthanarayan, CK.J Paniker 6th

6.4- periodicals and web sites of Microbiology and Immunology, http://www.med-ed-online.org/

7- Facilities required for teaching and learning

7.1- Overhead projectors

7.2- Computers

7.3- Microscope slides

7.4- Laboratories instruments

Course coordinator: **Prof. Ehsan Abdel- Saboor Hasan**
Dr. Noha Abdel-Haleem Afify

Head of Department: **Prof. Dr. Shaban Hashim Ahmed**

Date: **20/5/2006**