Course Specification

Microbiology

3rd year of M.B.B.Ch. Program
2016-2017

Microbiology
2016-2017

University: **Assiut** **Faculty:** Medicine

Department: Medical Microbiology and Immunology

Programme(s) on which the course is given: M.B.B.ch Program
Department offering the programme: **Medical Microbiology and Immunology**
Department offering the course: **Medical Microbiology and Immunology**
Academic year / Level: Third year
course of **M.B.B.ch Program : Microbiology and Immunology**
Date of specification approval **(approved by the department council)**
10/2016
Date of last revision:

10-2016

External evaluator: Prof. Dr. Mohamed Mostafa Ameen, Professor of Medical Microbiology and Immunology, Faculty of Medicine, Aswan University.
Prof Dr. Mahmoud Shoukry, Professor of Medical Microbiology and Immunology, Faculty of Medicine, Minia University, **Prof. Dr.** Hazem Abdelwahab, Professor of Medical Microbiology and Immunology, Faculty of Medicine, Minia University.
Prof Dr: Gamal Fadel, Professor of Microbiology and Immunology, Faculty of Pharmacy, Minia University.

1.1.1.1.1 A- Basic information

1- Basic information

Course title: Medical Microbiology and Immunology
Code: **Amed012**
Academic year / Level: Third
course of **M.B.B.ch Program: Microbiology& Immunology**
Department offering the course: **Medical Microbiology and Immunology**
Date of specification approval
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Lecture: **90 hours** **Tutorial/ Practical:** **60 hours**

1.1.1.1.2 B- Professional Information

2- Overall aims

1 Understand the basic features of general bacteriology, virology and mycology.

2 Provide an appropriate background covering the immune system, its protective functions against the infection, Graft and tumor progression. In addition its role in the patho-physiology of infectious and non-infectious diseases.

3 Know the common infections and diseases of medical importance: etiology, mode of transmission, virulence factors, laboratory diagnosis, treatment, prevention and control of such diseases.

4 Practice the principles of sterilization and infection control

3- Intended Learning Outcomes (ILOs)

A- Knowledge and understanding:

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

A1- Describe bacterial, viral and fungal morphology and know their physiology and genetics
A2- Identify the host parasite relationship and microbial pathogens

A3- Describe 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- Mention 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 be able to:

B1- Comprehend microbiological, immunological and molecular reports

B2- Correlate according to evidence the causal relationship of microbes and diseases

B3- Predict the danger of handling and use of infectious agents on community and environment as a part of their ethical heritage

B4- Categorize a microorganism as a bacterium, virus or fungus according to standard taxonomy

B5- Analyze the results of microbiological, serological and molecular tests.

B6- Develop a systematic approach for laboratory diagnosis of common infectious clinical conditions and recommend the most appropriate and cost-effective tool leading to the identification of the causative organism.

C: Professional and practical skills:

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

C1- Carry out examination of medically important bacteria based on microscopic examination of stained preparations.

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

C3- Examine 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 and transferable skills:

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

D1- Display the facts using printable sheets in the field of bacteriology and immunology

D2- Complete a full scientific reports in the field of bacteriology and immunology.

D3- Communicate in groups and team in laboratory experiments

D4- Follow the computer-based tools and internet to extract information and knowledge

D5- Understand and to some extend interrupt the laboratory diagnosis results

D6- Do diagnostic laboratory tests

D7- Know the main clinical criteria of most infectious diseases.

4- Course Contents

Topics	No. of hours	Lecture	Tutorial / Practical
General Bacteriology	**30**	**18**	**12**
Immunology	**17**	**13**	**4**
Systemic Bacteriology	**64**	**34**	**30**
General Virology	**6**	**4**	**2**
Systemic Virology	**12**	**10**	**2**
General Mycology	**8**	**4**	**4**
Systemic Mycology	**3**	**3**	**-**
Applied Microbiology	**10**	**4**	**6**
Total	**150**	**90**	**60**

5- Teaching and Learning Methods

1- Lectures

2- Small group discussion sessions in laboratory

3- Practical classes

4- Micro assignment and reports on up-date infection problems.

5- Quiz to solve case studies

6- Office hours (Tutorial)

7-Special classes outside the teaching schedule

8- Case studies.

9- E-Learning system interactive discussions.

Facilities used for Teaching and Learning

1- Laminar flow

2- Lap Top

3- Microscope (oil immersion)

4- Laboratories instruments (Incubator – Hot air oven - autoclave)

5- E- learning .

6- Teaching and learning Methods for students with learning difficulties:

1- Lectures

2- Small group discussion sessions in laboratory

3- Practical classes **using powerpoint facility**

4- Micro assignment and reports on up-date infection problems.

5- Quiz to solve case studies

6- Office hours (Tutorial)

7- Special classes outside the teaching schedule

7- Student Assessment :

A- Methods

1- Written Examination for assessment of knowledge and understanding and intellectual skills (a1-a8, b1-b6)

2- Oral Examination for assessment of knowledge and understanding outcomes, intellectual skills, and general skills (a1-a8, b1-b6, d1-d4)

3- Practical Examination for assessment of practical skills (c1-c4) and intellectual skills (b1-b6)

4- Quiz to assess intellectual skills (b1-b6)

5- Micro-report to assess general skills (d1-d4)

6- Case studies (A1-A8, B1-B6, C1-C4, D1-D4)

B- Assessment Schedule

Assessment 1: Mid term exam 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

Assessment 6 - Attendance criteria (STUDENT PORTFOLIO)

C- Weighting of Assessments

Assessment 1 and 2	20%
Final written exam	50 %
Final Oral exam	15 %
Final Practical exam	15 %
Total	**100%**

8- List of References

1- Course notes:

Department theoretical books and practical manual (Lectures and practical)

2- Essential books:

Medical Microbiology by E.Jawetz 2007.

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

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

Course Coordinators:

Prof Dr.Ehsan abdel saboor hassan
Dr Ibrahim Mahmoud Sayed Ibrahim

Head of Department:

Prof Dr.khaled Hassanein

Date: 10-2016