Course SPECIFICATION

(micro biology)

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) course Title & Code	Micro biology OSURG 507
(2) Final award/degree	First part / master degree
(3) Department (s)	Micro biology
(4) Coordinator	Dr. Khalid Nour
(5) External evaluator (s)	
(6) Date of approval by the Department`s .council	11.5.2016
(7) Date of last approval of course specification by Faculty council	9/8/2016
(8)Total teaching hours:	7.5
(9)Credit hours:	1/2

(1) course Aims:

The broad aims of the Programme are to provide the students with :

1- Comprehensive understanding of commonly known pathogenic organisms (Bacteria, Fungi, Viruses) through study the microbial characters including morphology, Cultural characters, biochemical activities, antigenic and virulence properties, pathogenicity, Laboratory diagnosis, prophylaxis and treatment with focusing on different mechanisms of antimicrobial resistance.

2- The basic elements of immune response and the pathological immune response and the pathological immune reactions towards infections and tumours.

3- The classical and modern approaches to the development of therapeutic agents and vaccines for the prevention of human microbial diseases

4- The advances in microbial genetics and how to do genetic research in practice

5-The fungi causing different types of mycoses, mycotoxins and to provide the candidate with updated knowledge about antifungal agents and how to perform antifungal susceptibility with emphasis on the different mechanisms of antifungal drug resistance.

6- Efficient practice of all available techniques for diagnosis of microbial infections.

7- The skill of practicing the available immunological techniques.

8- A specified knowledge about hospital acquired infections, how to prevent and how to carry out surveillance system in the hospital and to prepare him to lead infection prevention and control services and develop, implement, supervise and audit a comprehensive infection prevention and control program.

B1 Distinguish the proper typing method that can be used for investigation of outbreaks.

B 2 Differentiate between infection, colonization and contamination.

B 3 Suggest the antibiotic of choice for treatment of each type of bacterial infection.

B4 Design a scheme for classification of microbes.

B5 Categorize the mechanism of resistance of bacteria to antibiotics.

B6 Differentiate the pathogenic mechanisms of different pathogenic bacteria.

B7 Interpret the results of molecular diagnostic techniques.

B 8 Assess the advantages of individual methods of molecular diagnosis for diagnosis of infections.

B 9 Analyze and explain the pitfalls encountered in PCR results.

B10 Interpret the results of serological tests.

B 11 Analyze the warning signs of immune disorders.

B 12 Achieve a specific or differential diagnosis

B13 Differentiate the mechanisms and type of graft rejection.

B14 Distinguish the mechanism of autoimmune diseases.

B15 Relate the clinical features, etiology, pathogenesis of infectious diseases.

Course content

SUBJECT	LECTURES	HOURS OF TEACHING
• Immunology: *Basic immunology:* ➢ Immune system & Types of immunity ➢ Cells of the immune system and their functions ➢ Antigens, Immunoglobulins and Cytokines ➢ Immunomodulation: immunopotentiation and immunosuppression	**5**	**1**
Clinical immunology: ➢ Stem cell therapy in Orthopedics. ➢ Hypersensitivity {Allergic reactions to bone graft}. ➢ Tumor immunology. ➢ Transplantation immunology. ➢ Autoimmunity {Autoimmune joint diseases}: Rheumatoid arthritis RA Reiter's disease (reactive arthritis)	**5**	**1**
Clinical Microbiology • Septicemia • Post operative infection • Bone infections (osteomyelitis) • Joint infections (septic arthritis) • Tuberculosis of bones & joints. • Anaerobic bone infections.	**5**	**1**
Nosocomial Infection and Infection Control: • General considerations • Types of hospital-acquired infections • Organisms causing hospital-acquired	**1**	**1**

infections		
• The problem of MRSA as nosocomial pathogen	**1**	**1**
• Health care workers protection and vaccination	**1**	**1**
Infection control measures used to prefent infecti		
• Sterilization and disinfection.	**1**	**1**
• Health care acquired infections.	**1**	

(2) Curriculum structure and contents:

2.a- Duration of the programme (in years or months) 6 months.

2.b- programme structure:

Candidates should fulfill a total of 1/2 credit hours.

7- Student Assessment Methods

7.1 **Written examination**: to assess **knowledge.**

7.2 **Oral examination:** to assess **knowledge**.

Assessment Schedule

Exam	**Mark**			**total**
	Written	**MCQ**	**Oral**	
microbiology	**72**	**18**	**60**	**150**

Course coordinator:

Dr.Khalid Nour

Head of the department:

Prof dr. Hani Elmowafi

Date