**Course Specifications**

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| **University** | Beni-Suef |
| **Faculty** | Pharmacy |
| **Dept.** | **Microbiology and Immunology** |

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| **1-Course Info.** |
| **Programme(s) on which the course is given: Clinical program** |
| **Course Name and code No.: Clinical Microbiology (PM502)** |
| **Academic year/ Level:** 2017-2018 /Second year Clinical students |
| **Credit hours:** 3 total credit hours: Lecture (2) hours + Practical (2) hours |

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| **2-Overall Aim of the Course**  The aim of course is to ensure that the students have the necessary knowledge and skills enabling them to develop professional competence in the recognition, diagnosis and discussion of the medically important infectious diseases, related to different groups, regarding the etiological agent(s), mode of transmission, pathogenesis and clinical symptoms, laboratory diagnosis as well as prophylaxis, control and treatment against infectious diseases. |
| **3-Intended Learning Outcomes of the course (ILOs)** |
| **a. Knowledge and understanding**  **After completing the course, the student should be able to:**  a 1. Define basic principles of medical microbiology.  a 2. Describe matters related to of infectious diseases, such as mechanisms of transmission, prevention measures and control of diseases.  a.3. Describe the general biological and virulence properties of bacteria  a 4. Identify the etiology, epidemiology, laboratory diagnosis and treatment of different diseases. |
| **b. Professional and Practical Skills**  **After completing this course the student will acquire the following skills::**  b 1. Distinguish characteristic clinical symptoms of the diseases  b 2. Apply the laboratory diagnosis of infectious diseases  b 3. Demonstrate planning policies for treatment as well as prophylactic measures for each disease. |
| **c. Intellectual Skills**  **After completing this course the student will acquire the following skills:**  c 1. Relate between diseases and their causative factors.  c 2. Illustrate the most important and effective way to reduce infectious diseases.  c 3. Illustrate preventive measures to control infectious diseases, nosocomial infection, and outbreaks.  c 4. Distinguish symptoms of different bacterial diseases.  c 5. Illustrate mechanism of pathogenesis and immunity to bacterial diseases. |
| **d. General and Transferable Skills**  **After completing this course the student will acquire the following skills:**  d1. Measures for control of infectious diseases.  d2. Develop general education concerning infectious diseases.  d3. Work effectively in a team and to give seminar to small group of students.  d4. Manage time effectively.  d5. Engage effectively in oral and written communications with members of the health medical profession. |

| **4-Course Contents** | | |
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| **Topics** | **No. of hours** | |
| **Tutorial / Practical** | **Lecture** |
| **A. Bacteriology**  1- Gram positive rods  *Corynebacterium rods*  *Listeria monocytogenes*  *Bacillus anthracis*  *Clostridium tetani*  *Clostridium botulinum*  *Clostridium perfringens* |  | 4 |
| 2- Gram positive cocci  *Staphylococcus aureus*  *Streptococcus spp.* |  | 2 |
| 3- Gram negative cocci  *Neisseria gonorrhoeae*  *Neisseria meningitides* |  | 2 |
| 4- Gram negative rods  *Escherichia coli*  *Salmonella* spp.  *Shigella* spp.  *Proteus* spp.  *Yerseinia pestis*  *Pseudomonas* spp.  *Campylobacter* spp.  *Helicobacter pylori*  *Vibrio cholerae*  *Haemophilus influenza*  *Bordetella pertusis*  *Brucella* spp.  *Pasteurella multcoida*  *Francisella tularensis*  *Legionella pneumophila*  *Bacteroids* |  | 4 |
| 5- Acid fast bacteria  *Mycobacterium tuberculosis*  *Mycobacterium leprae* |  | 2 |
| 6- Spirochetes  *Treponema pallidum*  *Borrelia rcurrentis & Borrelia duttoni*  *Borrellia burgdorferi*  *Leptospira interrogans.* |  | 2 |
| **B-Virology**  **1- Introduction to virology**  General properties  Virus replication  Virus detection |  | 2 |
| **2- DNA viruses**  Smallpox virus  Human herpes viruses  Herpes simplex viruses  Varicella zoster virus  Epstein-Barr virus  Cytomegalo virus  Papova virus  Adenovirus |  | 4 |
| **3- RNA viruses**  Poliomyelitis virus  Coxackie viruses  Rhino viruses  Orthomyxo infkuenza virus  Paramyxoviruses  Mumpes virus  Measles virus  Rubella virus  Yellow fever virus  Rift valley  Corona virus  Rabies virus  Hepatitis viruses  Human immunodeficiency virus (HIV) |  | 4 |
| **C-Mycology**  Basic mycology  Cutaneous mycosis  Subcutaneous mycosis  Systemic mycosis |  | 2 |
| Tutorial | 2 |  |
| **Microbiological culture media:**  Basic media,enriched media, enrichement media ,selective media and media for anaerobes. | 2 |  |
| **Identification of human pathogens**  Staphylococcus species | 2 |  |
| Streptococcus species | 2 |  |
| Corynebacterium species | 2 |  |
| Mycobacterium species | 2 |  |
| Bacillus species | 2 |  |
| Clostridium species | 2 |  |
| *Escherichia coli,Klebsiella* | 2 |  |
| Salmonella, Shigella, Proteus | 2 |  |
| Pseudomonas species | 2 |  |
| Vibrio cholerae | 2 |  |
| Students presentation | 2 |  |
| Total | 26 | 28 |

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| **5- Teaching and learning Methods**  5.1- Lectures  5.2- Practical and tutorial periods  5.3- Office hours  5.4- Discussion and net search.  5.5- Tutorial.  5.6- Oral presentations |
| **7- Student Assessment Methods** |
| **a-Methods**  5.1. Quiz to assess efficient study.  5.2. Written exams to assess knowledge and understanding as well as intellectual skills.  5.3. Practical exams to assess professional and practical skills.  5.4. Oral exams to assess all types of skills and mainly general and transferrable skills  **b- Assessment Schedule**  Assessment 1: Sheet exam……………… ……. Week 7 or 9  Assessment 2: Assignment (reports/presentation) Week 10-11  Assessment 3: Practical Exam………………… Week 12-13  Assessment 4: Final Written Exam…………… Week 14 - 16  Assessment 5: Final Oral Exam………………. Week 14 - 16  **c- Weighting of Assessment Marks**   |  |  |  | | --- | --- | --- | | **Type of Assessment** | **Marks** | **Weight (%)** | | Semester work | 5 | 5% | | Sheet exam | 5 | 5% | | Practical exam | 25 | 25% | | Final written exam | 50 | 50% | | Final oral exam | 15 | 15% | | **Total** | **100** | **100%** | |
| **8-List of References** |
| 1. **Notes**   **Course handouts.** |
| **b. Mandatory Books**  1. Cortan,R.S., Kumar,V. Collins,T.,Robbins,S.L.and Schmitt,B.(1999) Robbins Pathologic basis of diseases 6th Edition, W.B.Saunders Co.  2. Baron, E.J. and Finegold , M. (1998) Bailey and Scott’s Diagnostic Microbiology ,10th Edition , The C.V. Mosby Company  3. Henry, J.B. and Day, L. (1996) Clinical Diagnosis and Management by Laboratory Methods , 19th Edition , W.B. Saunders Co.  4. Inglis, T.J.J. (1996) Microbiology and Infection , 1st Edition, Churchill livingstone Medical Division of Pearson Professional Limited |
| c. Suggested Books  Medical microbiology and immunology , Abla M.El-Mishad, 6th ed., 2007.  Medical microbiology and immunology, Oar El-Daly, 2007.  Will Irving, Dlaer, a. A. and Boswell, T. (2005) Medical Microbiology by taylor & Francis Group.  Geo. F. Brooks Medical Microbiology, 24th edition (Jawetz, Melnick & Adelberg)) |
| **d. Journals**  Journal of Medical Microbiology (http://jmm.sgmjournals.org/contents-bydate.0.shtml)  Journal of infectious diseases (http://www.journals.uchicago.edu/JID/home.html)  http://www.cdc.gov  http://www.indstate.edu/thcme/micro/  http://www.fda.gov/default.htm  http://www.medlineplus.gov/  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi  http://www.med.sc.edu:85/book/welcome.htm  http://www.slic2.wsu.edu:82/hurlbert/micro101/pages/101hmpg.html |

**Course Coordinator: Dr. Ahmed Osama Elgendy**

**Head of department:** Associate Prof. Amal Eissa Safan

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