**Course Syllabus**

**Department: Optometry**

**Program: Optometry Doctor**

**Academic year: 1441/1442**

**Semester: Second**

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| Course name  Microbiology II |
| Course code  OPTO435 |
| Credit hours  2 |
| Total credit hours per semester  30 |
| Program in which the course is offered  Optometry Doctor (OD) |
| Course prerequisites  Microbiology I (OPTO425) |
| Level at which this course is offered  8th Level |
| Time  Wednesday 8-11AM |
| Location  KSU Main campus |
| College member responsible for the course  Mrs Sahar Alhogail |
| Contact information  Office Number: 121  Phone: 0505214451  Website: <http://fac.ksu.edu.sa/salhogail/home>  Office hours: Monday (09–10) |
| Course Description  This course covers the physiology, pathology, treatment and epidemiology of infectious diseases caused by bacteria, viruses, fungi and parasitic organisms. Particular emphasis is given to diseases with ocular manifestations and important infectious diseases common in the middle-eastern region. Also, the course will be discussed the mode of action of various antimicrobial reagents. |
| Course Objectives  • To provide the Optometry students with a comprehensive and up-to-date guide to physiology of infectious diseases caused by bacteria, viruses, fungi, protozoa and parasitic organisms.  • To acquire the basic understanding of pathology of infectious diseases.  • To acquire the basic understanding of treatment of infectious diseases.  • To develop an understanding of epidemiology of infectious diseases.  • To gain an overview and identify the nature of diseases with ocular manifestations.  • To provide the students with a basic knowledge about various types of antimicrobial drugs.  • To provide the students with a basic theoretical and practical aspects of various types of bacteria, viruses, fungi and parasitic organisms.  • To provide the students with a basic knowledge about differences between Gram-positive and Gram-negative bacteria.  • To provide the students with a basic knowledge about Kirby-Bauer test.  • To provide the students with a basic concepts of the most common diagnostic methods in microbiology.  • To provide the students with a basic knowledge about the differences between Enveloped and non-enveloped DNA Viruses.  • To provide the students with a basic knowledge about the differences between *Chlamydia trachomatis* and *Mycobacterium tuberculosis*.  • To provide the students with a basic knowledge about mold and yeast.  • To provide the students with a basic knowledge about life cycles of *Toxoplasma gondii* and *Acanthamoeba spp.*  • To provide the students with a basic knowledge about enzyme-linked immunosorbent assay, immunofluorescence staining, fluorescent antibody and polymerase chain reactions techniques.  • To provide the students with a basic concepts of antimicrobial, antifungal and antiviral drugs. |
| Teaching Strategies  • Use of smart board  • Face to face teaching  • Use of black board occasionally  • Notes available on the website before the lecture  • Available for 2 hours per week for individual student counseling and advice  • Can be approached by e-mail for students to ask questions or clarify anything related to the course  • Available outside the office hours for consultation, if needed  • Frequent evaluation of the course topics to identify the weaknesses areas.  • Each student to fill an appraisal form to show level of fulfilment.  • A standard course evaluation questionnaire to be run confidentially. |
| Required Textbooks  • Lippincott's Illustrated Reviews: Microbiology Lippincott's Illustrated Reviews: Microbiology, 2nd Edition, Richard A. Harvey, Pamela C. Champe, Bruce D. Fisher, ISBN: 0781782155, 9780781782159, 2013.  • Microbiology: An Introduction, 11th Edition, Gerard J. Tortora, Berdell R. Funke and Christine L. Case, Benjamin Cummings, ISBN: 9780321733603, 2012.  • Textbook of Microbiology, Naveen Kango, I K International Publishing House Pvt Ltd., ISBN: 9789380026442, 2010. |
| Essential References  • Antibiotic Simplified, 3rd Edition. Jason C. Gallagher, Canan MacDougall, ISBN-13: 978-1284025392, 2014.  • Bailey & Scott's Diagnostic Microbiology, 13th Edition, Patricia Tille, ISBN-13: 978-0323083300, 2013  • Environmental Microbiology, 2nd Edition, Raina M. Maier, Ian L. Pepper and Charles P. Gerba, Academic Press, 2007.  • Bergey's manual of determinative bacteriology, 9th Edition, Edition John G. Holt, Baltimore: Lippincott Williams & Wilkins, 1994. |
| Recommended Journals and Resources  • [www.WHO.org](http://www.WHO.org)  • [www.CDC.org](http://www.CDC.org)  • [www.ASM.org](http://www.ASM.org)  • [www.csep10.physutk.Edu](http://www.csep10.physutk.Edu)  • http://www.microbiologyinpictures.com/  • [www.ent.orst.edu](http://www.ent.orst.edu)  • [www.epa.gov](http://www.epa.gov)  • [www.fathom.com](http://www.fathom.com)  • [www.Libray.thimkquest.org](http://www.Libray.thimkquest.org)  • [www.mbgnet.net](http://www.mbgnet.net)  • [www.serc.carleton.edu](http://www.serc.carleton.edu)  • [www.microbiology\_procedure.com](http://www.microbiology_procedure.com)  • [www.Wikipedia.com](http://www.Wikipedia.com) |

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| Week 1 | Antimicrobial drug |
| Week 2 | Staphylococci |
| Week 3 | Streptococci |
| Week 4 | Gram Negative Bacteria |
| Week 5 | 1st mid term |
| Week 6 | Chlamydia trachomatis and mycobacterium |
| Week7 | Fungi |
| Week 8 | Protozoa |
| Week 9 | Nonenveloped DNA VIRUS |
| Week 10 | 2ND MID TERM EXAM |
| Week 11 | Enveloped DNA virus |
| Week 12 | Diagnostic METHODS IN MICROBIOLOGY |
| Week13 | REVISION |
| Week 14 |  |