

Course Unit	Clinical and Laboratorial Microbiology II		Field of study	Biomedical Laboratory Sciences	
Bachelor in	Biomedical Laboratory Sciences		School	School of Health	
Academic Year	2022/2023	Year of study	3	Level	1-3
Type	Semestral	Semester	2	ECTS credits	5.0
Code	9995-550-3206-00-22				
Workload (hours)	135	Contact hours	T -	TP 22,5	PL 30
			TC -	S -	E -
			OT 7,5	O -	

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Joao Pedro Afonso Rodrigues

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

Acquiring knowledge of bacterial characteristics (morphological, physiological, biochemical, molecular). Run and interpret methods of identification of microorganisms

Prerequisites

Before the course unit the learner is expected to be able to:
Not applicable.

Course contents

The content of the course includes the following topics: Study of the main bacterial etiological agents of human infections; Study of the main antibacterial agents; Study of infections associated with health care (IACS); Multidrug - resistant present and future.

Course contents (extended version)

- Study of the main bacterial etiological agents of human infections.
 - Nocardiaceae, M. tuberculosis, M. bovis and M. africanum. Others mycobacterias
 - a) Intracellular bacterial agents not cultivable Chlamydia trachomatis and Rickettsia
 - b) Bacteria without wall - Mycoplasma and Ureaplasma
 - c) Spirochetes: Treponema, Borrelia and Leptospira
 - Legionella
 - The role of bacteria in the disease
- Study of the main antibacterial agents:
 - inhibitors of cell wall synthesis
 - Inhibitors of protein synthesis
 - Inhibitors of nucleic acid
 - Antimetabolites and other antibiotics
- Study of infections associated with health care (IACS)
 - IACS epidemiology
 - Sources of infection
 - Potential for transmission
 - Location of infections
 - Prevention and control of IACS
 - Epidemiological surveillance of IACS
- Multidrug - resistant present and future
- Laboratory Programme
 - Isolation and identification-Mycobacterium tuberculosis complex
 - Serodiagnostic
 - urinary/urine sediment type
 - Susceptibility to antimicrobials tests (ATB)
 - Molecular methodologies to identify and characterize bacterial

Recommended reading

- Murray P, Rosenthal K, Kobayashi G, Pfaller M. (2009). Microbiologia Médica. Elsevier Editora Ltda. Brasil.
- Sousa J C. (2001). Antibióticos anti-bacterianos. Publicações Farmácia Portuguesa.
- Pádua M. (2011). Patologia clínica para técnicos - Bacteriologia. LUSOCIÊNCIA Edições técnicas e científicas, Lda. Loures.
- Cowan M. K. (2012). Microbiology Fundamentals: A Clinical Approach. McGraw Education.
- Sousa J. C. (2005). Manual de Antibióticos Antibacterianos. Universidade Fernando Pessoa- Gráficos Reunidos - Porto.

Teaching and learning methods

Lectures using powerpoint presentations. Lectures notes deposited in the e-learning resources. Practical classes - Realization of practical laboratory. Discussion of clinical cases and research papers.

Assessment methods

- Overall Evaluation 1 - (Regular, Student Worker) (Final, Supplementary, Special)
 - Final Written Exam - 60% (Evaluation of theoretical written exam. To get approval minimum grade 8, 5 values.)
 - Final Written Exam - 40% (Practical component in practical and written exam. To get approval minimum grade 8, 5 values.)

Language of instruction

Portuguese

Electronic validation

Joao Pedro Afonso Rodrigues	Josiana Adelaide Vaz	Juliana Almeida de Souza	Adília Maria Pires da Silva Fernandes
18-06-2023	18-06-2023	28-06-2023	28-06-2023