INSTITUTO POLITÉCNICO DE BRAGANÇA

Course Unit	Immunology	Field of study	Biology and Biochemistry
Bachelor in	Dietetics and Nutrition	School	School of Health
Academic Year	2021/2022	Year of study	2
Level	1-2	ECTS credits	3.0
Type	Semestral	Semester	2
Code	8149-501-2205-00-21		

Workload (hours)	81	Contact hours	T -	TP 30	PL -	TC -	S -	E -	OT 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): Joaquina Teresa Gaudêncio Dias

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:
1. Understand what is a Immune system and his role in organisms.
2. Know organs, cells and molecules of immune system and theirs role in the immune response.
3. Summmarize the knowledge of immmune system and explain how is important in pathogenesis and auto-immune diseases.

Prerequisites

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

Course contents

Cells and organs of immuny system ; antigens, antibody and TCR. Complement. Humoral and cellular response. Immune response regulation. Mechanisms of hypersensibility, tolerance/auto-immunity.

Course contents (extended version)

1. Overviews of the immune system. Historical perspective.
2. Nature and specific immunity. Humoral and celullar immunity
3. Hematopoiesis Cells of the immune system Organs of the immune system
4. Antigen processing and presentation . MHC.
5. Antigen – antibody . Immunogenicity versus antigenicity Epitopes and haptens. BCR receptor
6. T e B-cells generation, maturation and differention . TThymic selectyion of the T-cell
7. Structure of class I and Class II molecules of MHC. Peptide binding . Polymorphism of MHC.
8. Immune effector mechanisms. Cytokynes and complement system.
9. Cell-mediated effector responses Cytotoxic T cells . Natural killer cells. Inflammation.
10. Hypersensitive reaction (typel, II, III, IV).
11. The role of immune system in: Autoimmunity, transplantation and cancer)
12. Food allergy . Food allergens. Risk factors. Food allergy and intolerance in children

Recommended reading

1. Arosa, F. A. , Cardoso, E. M. , Pacheco, F. C. (2012). Fundamentos de imunologia. Lisboa: Lidel
2. Kindt, T. J. , Goldsby, R. A. , Osborne, B. A. (2007). Kuby Immunology. New York : W. H. Freeman and Company
3. Jorge, A. O. C. (2006). Princípios de Microbiologia e Imunologia. São Paulo: Livraria Santos Editora
4. Roitt, I. , Brostoff, J. , Male, D. (2003) Imunologia. Rio de Janeiro : Guanabara Koogan

Teaching and learning methods

Conventional lectures; use of power point presentations and internet resources. Course materials available in the e-learning plataform.

Assessment methods

1. courswork - (Regular, Student Worker) (Final)
   - Intermediate Written Test - 50% (Written test)
   - Intermediate Written Test - 50% (Written test)
2. written exam - (Regular, Student Worker) (Final, Supplementary, Special)

Language of instruction

Portuguese

Electronic validation

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07-03-2022	05-04-2022	05-04-2022	06-04-2022