Course Syllabus

Code - Course Title	**ECZ241 - Immunology**
Course Type	III. SEMESTER
Laboratory + Practice	2+0
ECTS	**2.5**
Language of Instruction	Türkçe
Course Type	Required Courses
Course Instructor(s)	PROF. DR. HÜLYA KARACA ATSAROS, DR. ÖĞR. ÜYESİ PERVİN SOYER

Mode of Delivery	The mode of delivery of this course is face to face.
Prerequisites	There is no prerequisite or co-requisite for this course.
Courses Recomended	There is no recommended optional programme component for this course.
Recommended Resources	BROCK BIOLOGY OF MICROORGANISMS, Twelfth Edition, Madigan, M.T., Martinko, J.M., Dunlap, P.V., Clark, D.P., 2009, Pearson Education Inc., USA.
Work Placement	It continues with the laboratory course.

Course Syllabus

Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 1		Human Microbiome Structure and Properties Laboratory: Antibiogram Tests, Macrobroth Test Application	
Week - 2		Microbiome Changes in Microbiota with Different Factors and Time, Probiotics and Prebiotics, Microorganism-derived Antimicrobial Agents Laboratory: Antibiogram Tests Evaluation of Macrobroth Test Result	
Week - 3		Introduction to Immunology: Basic Concepts Laboratory: Dry Disc Diffusion Test Application	
Week - 4		Immune System Innate Immunity and Acquired Immunity Laboratory: Evaluation of Dry Disc Diffusion Test Results	
Week - 5		Immune Response Mechanisms: Cellular-Humoral Immune Mechanisms Laboratory: Throat Flora Examination Throat Culture Sowing	
Week - 6		Complement System Complement System Mechanisms Laboratory: Throat Flora Examination Throat Culture Result Evaluation	
Week - 7		Cytokines and Chemokines: Functions of Cytokines and Chemokines Laboratory: Enteric Flora Examination Enterics Sowing	
Week - 8		Hypersensitivity Reactions Type 1, Type 2, Type 3 and Type 4 Hypersensitivity Reaction Laboratory: Enteric Flora Examination Enterics Result Evaluation	
Week - 9		Immune Tolerance, Autoimmune Diseases: Mechanism of Immune Tolerance and Mechanism of Autoimmune Diseases Laboratory: Vaccination Schedule and Blood Group Determination	
Week - 10		Transplantation Immunology and Immunogenetics Laboratory: ELISA Methods	

Course Syllabus

Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 11		Tumour Immunology: Immune system and Cancer Laboratory: Agglutination and Haemagglutination	
Week - 12		Clinical Immunology and Serology: Serology and Serological Tests Laboratory: General review	
Week - 13		Vaccine and Serum: Immunisation types and Vaccine Types Laboratory: General review	
Week - 14		Vaccine and Serum: Types of Immunization and Types of Vaccine Laboratory: General review	

Learning Outcomes

#	Learning Outcome
1	Will be able to explain the structure and properties of human microbiome.
2	Will be able to explain the change of microbiota with different factors and time.
3	Define probiotics and prebiotics.
4	Will be able to make general definitions about antimicrobials.
5	will be able to explain the mechanisms of antimicrobial resistance.
6	Will be able to explain the basic concepts of immunology.
7	Explain the structure of the immune system.
8	will be able to explain natural immunity.
9	Will be able to explain acquired immunity.
10	Will be able to define Cellular-Humoral Immune Mechanisms.
11	will be able to explain the mechanisms of complement system.
12	Explain the functions of cytokines.
13	Explain the functions of chemokines.
14	Explain Type 1 Hypersensitivity Reaction.
15	Explain Type 2 Hypersensitivity Reaction.
16	Will be able to explain Type 3 Hypersensitivity Reaction.
17	will be able to explain Type 4 Hypersensitivity Reaction.
18	will be able to explain the mechanism of immune tolerance.
19	will be able to explain the mechanism of autoimmune diseases.
20	Will be able to explain the mechanism of immunodeficiency.
21	Will be able to explain Transplantation Immunology.
22	Will be able to explain what immunogenetics is.
23	Will be able to define the relationship between immune system and cancer.
24	Explain Serology and Serological Tests.
25	Will be able to list the types of immunisation.
26	Will be able to count vaccine types.
27	Laboratory: Will be able to explain the disc diffusion method.
28	Laboratory: Will be able to explain Microbroth Dilution Technique.

Learning Outcomes

#	Learning Outcome
29	Laboratory: Will be able to explain the Macrobroth Dilution Technique.
30	Laboratory: Explain the evaluation of microbial content of different flora regions.
31	Laboratory: Vaccination schedule and Blood Group Identification Test will be able to explain.
32	Laboratory: Enzyme-induced Immunological Methods will be able to explain.
33	Laboratory Agglutination and Haemagglutination Methods will be able to explain.

Sustainable Development Goals

No content has been provided.

Course Theme

No content has been provided.

AKTS Workload

Activity	Duration (Hour)	Count	Workload
Teorik Derse Katılım	0	0	0
Sınıf Dışı Çalışma (Ön Hazırlık & Pekiştirme Amaçlı)	0	0	0
Ödevler	0	0	0
Proje - Rapor - Sunum Hazırlama	0	0	0
Ara Sınav Hazırlığı (sınav süresi dahil)	0	0	0
Final Sınavı Hazırlığı (sınav süresi dahil)	0	0	0
Uygulama (Laboratuvar, Müzik/Enstrüman Uygulaması, Atölye/Saha Çalışması vb.)	0	0	0
Staj Uygulaması	0	0	0
		Calculated ECTS	**0**

Assessment Method and Passing Requirements

No content has been provided.