Course Syllabus

Code - Course Title	**FBİ509 - Vaccines and Their Production Technologie**
Course Type	I. SEMESTER
Laboratory + Practice	3+0
ECTS	**6.0**
Language of Instruction	Türkçe
Course Type	Elective Courses
Course Instructor(s)	PROF. DR. GÜLAY BÜYÜKKÖROĞLU

Mode of Delivery	Face to face
Prerequisites	There is no prerequisite
Courses Recomended	ECZ482 Pharmaceutical Biotechnology, FBI505 Therapeutic Proteins
Recommended Resources	Lecture notes
Work Placement	There is no Work Placement

Course Syllabus

Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 1		Immunological Principles: Definition of immunotherapeutic products	
Week - 2		Production technology and uses of immunotherapeutic products,	
Week - 3		Factors enhancing immune reaction	
Week - 4		Active and passive immune reaction with immunotherapeutic products,	
Week - 5		Immune reaction inducing agents and their pharmaceutical design;	
Week - 6		Vaccines: Traditional vaccine techniques,	
Week - 7		Midterm	
Week - 8		Modern vaccine techniques, Anti-idiotype antibody vaccines, Synthetic peptide based vaccines	
Week - 9		Nucleic acid vaccines, Cancer vaccines	
Week - 10		Adjuvants: Definition and development of adjuvants	
Week - 11		Carrier systems designed as adjuvants,, Emulsions, Nanoparticles.	
Week - 12		Large-scale vaccine production technology: Upstream-Downstream processes	
Week - 13		Homework presentation	
Week - 14		Final exam	

Learning Outcomes

#	Learning Outcome
1	Lists Immunological Principles
2	Definitions of immunotherapeutic products
3	Comments the production technology of immunotherapeutic products
4	Lists the factors that increase immune reaction
5	Compares active and passive immune reaction with immunotherapeutic products
6	Plans the agents that cause immune reaction and their pharmaceutical design
7	Compares traditional and modern vaccine techniques
8	Explains anti-idiotype antibody vaccines, synthetic peptide-based vaccines and nucleic acid vaccines
9	Discuss the mechanism of cancer vaccines
10	Lists the development of adjuvants and carrier systems designed as adjuvants

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.