Course Syllabus

Code - Course Title	**FTE642 - Gene Editing Techniques and Their Use in Pharmaceutical Biot**
Course Type	II. SEMESTER
Laboratory + Practice	3+0
ECTS	**7.5**
Language of Instruction	Türkçe
Course Type	Elective Courses
Course Instructor(s)	DOÇ. DR. BEHİYE ŞENEL

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	Oligonucleotide-Based Drugs and Therapeutics: Preclinical and Clinical Consideration for Development", Editör: Nicolay Ferrari, Rosanne Seguin, USA, John Wiley & Son Inc Press,2018. "Genome Editing and Engineering: From TALENs, ZFNs and CRISPRs to Molecular Surgery" editör: Krishnarao Appasani, Cambdridge University Press, UK, 2018.
Work Placement	Practical training is not required for this programme

Course Syllabus

Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 1		Genome Editing	
Week - 2		Genome Editing Methods	
Week - 3		Zinc Finger Nuclease	
Week - 4		Transcription Activator-Like Effector Nucleases (TALENs)	
Week - 5		CRISPR / Cas9 System	
Week - 6		Examples of Genome Editing Application	
Week - 7		Introduction to Antisens Technology	
Week - 8		Antisense Oligonucleotide Types	
Week - 9		RNA Silencing Mechanism and RNA Silencing Molecules	
Week - 10		siRNA and miRNA Differences	
Week - 11		Examples of siRNA and miRNA Applications	
Week - 12		Recombinant Plasmid DNAs	

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Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 13		Tumor Targeting Molecules, and Cell-Free DNAs	
Week - 14		Formulation of Regulated Genes with Carrier Systems	

Learning Outcomes

#	Learning Outcome
1	Defines gene expression
2	List genome editing techniques
3	Explains how tumor targeting peptides are used
4	Explains the uses of cell-free DNAs

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.