

Radio, Television and Cinema (English)			
Bachelor	TR-NQF-HE: Level 6	QF-EHEA: First Cycle	EQF-LLL: Level 6

Course Introduction and Application Information

Course Code:	UNI272		
Course Name:	Nanobiotechnology		
Semester:	Spring		
Course Credits:	<div>ECTS</div> <div>5</div>		
Language of instruction:	English		
Course Condition:			
Does the Course Require Work Experience?:	No		
Type of course:	University Elective		
Course Level:	<div>Bachelor</div> <div>TR-NQF-HE:6. Master`s Degree</div> <div>QF-EHEA:First Cycle</div> <div>EQF-LLL:6. Master`s Degree</div>		
Mode of Delivery:	E-Learning		
Course Coordinator:	Doç. Dr. PINAR ÇAKIR HATIR		
Course Lecturer(s):	Dr. Öğr. Üyesi Pınar ÇAKIR HATIR		
Course Assistants:			

Course Objective and Content

Course Objectives:	To give students the basic concepts of nanotechnology and to provide their understanding in biotechnology applications.
Course Content:	Introduction to Nanotechnology Carbon-Based Nanomaterials Fabrication of Nanomaterials

Classification of Nanomaterials
 Characterization of Nanomaterials
 Polymer Nanoparticles and Hydrogels
 Drug Delivery Systems
 Natural Nanomaterials and Biomimicry
 Nanobiosensors
 Nanobiomaterials
 Biolabeling
 Lab-on-a-Chip
 Microscopy
 Medical Applications of Nanobiotechnology

Learning Outcomes

The students who have succeeded in this course;

- 1) Understands the basic knowledge of nanobiotechnology.
- 2) Explains the use of nanomaterials in biotechnology and understands the importance of nanostructures in the design of biomaterials such as drug-carrying systems, artificial organs, and tissue scaffolds, etc.
- 3) Understands the importance of nanotechnology for biomedical applications.

Course Flow Plan

Week	Subject	Related Preparation
1)	Introduction to Nanotechnology	Literature search
2)	Carbon-Based Nanomaterials	Literature search
3)	Fabrication of Nanomaterials	Literature search
4)	Classification of Nanomaterials	Literature search
5)	Characterization of Nanomaterials	Literature search
6)	Polymer Nanoparticles and Hydrogels	Literature search
7)	Drug Delivery Systems	Literature search
8)	Natural Nanomaterials and Biomimicry	Literature search
9)	Nanobiosensors	Literature search
10)	Nanobiomaterials	Literature search
10)	Nanobiomaterials	Literature search
11)	Biolabeling	Literature search

12)	Lab-on-a-Chip	Literature search
13)	Microscopy	Literature search
14)	Medical Applications of Nanobiotechnology	Literature search

Sources

Course Notes / Textbooks:	Ders kitabı bulunmamaktadır.
References:	<p>1. Hall, J. S. (2005). What's next for nanotechnology. The futurist, 39(4), 28.</p> <p>2. Gazit, Ehud, and Anna Mitraki. Plenty of room for biology at the bottom: an introduction to bionanotechnology. World Scientific, 2013.</p> <p>3. Williams, L. ve Wade Adams, Dr. (2007) Nanotechnology Demystified.</p> <p>4. Goodsell, D. S. (2004). Bionanotechnology: lessons from nature. John Wiley & Sons</p> <p>5. Hatır, P. Ç. (2020). Biomedical Nanotechnology: Why “Nano”? In Biomedical and Clinical Engineering for Healthcare Advancement (pp. 30-65). IGI Global.</p>

Course - Program Learning Outcome Relationship

Course Learning Outcomes	1	2	3
Program Outcomes			
1) By providing both theoretical and practical education, it prepares students for academic and business life.			
2) It provides a critical perspective on mass media.			
3) With the English curriculum, it allows students to follow the international market and academic studies from original sources.			
4) Students will be an expert in front of the camera, behind-the-scenes, news center, light, sound, editing, directing, cinematography, screenwriting.			
5) Thanks to the media professionals, the students will be ready for the sector.			
6) Acquires production skills such as short and medium films, screenplays, documentaries and TV programs.			
7) Have the basic knowledge and experience of image technologies.			
8) Thanks to sectoral cooperation, professional business life will be started.			
9) Through an applied curriculum, students gain an interdisciplinary perspective on different media studies.			

10) With the technical training to be taken in studio environment, students gain experience in the sector.	1	2	3
Course Learning Outcomes			
11) They will have skills such as negotiating with the group, taking initiative.			
12) Acquire basic values related to media and business ethics.			
13) Follow the developments in the field and communicate with colleagues by using a foreign language at least at the level of European Language Portfolio B1.			
14) Students use information and communication technologies together with computer software at the advanced level of European Computer Driving License required by the field.			

Course - Learning Outcome Relationship

No Effect	1 Lowest	2 Average	3 Highest

	Program Outcomes	Level of Contribution
1)	By providing both theoretical and practical education, it prepares students for academic and business life.	
2)	It provides a critical perspective on mass media.	
3)	With the English curriculum, it allows students to follow the international market and academic studies from original sources.	
4)	Students will be an expert in front of the camera, behind-the-scenes, news center, light, sound, editing, directing, cinematography, screenwriting.	
5)	Thanks to the media professionals, the students will be ready for the sector.	
6)	Acquires production skills such as short and medium films, screenplays, documentaries and TV programs.	
7)	Have the basic knowledge and experience of image technologies.	
8)	Thanks to sectoral cooperation, professional business life will be started.	
9)	Through an applied curriculum, students gain an interdisciplinary perspective on different media studies.	
10)	With the technical training to be taken in studio environment, students gain experience in the sector.	

11)	They will have skills such as negotiating with the group, taking initiative.	
12)	Acquire basic values related to media and business ethics.	
13)	Follow the developments in the field and communicate with colleagues by using a foreign language at least at the level of European Language Portfolio B1.	
14)	Students use information and communication technologies together with computer software at the advanced level of European Computer Driving License required by the field.	

Assessment & Grading

Semester Requirements	Number of Activities	Level of Contribution
Quizzes	5	% 15
Presentation	1	% 15
Midterms	1	% 30
Final Sözlü	1	% 40
total		% 100
PERCENTAGE OF SEMESTER WORK		% 100
PERCENTAGE OF FINAL WORK		%
total		% 100

Workload and ECTS Credit Calculation

Activities	Number of Activities	Workload
Course Hours	12	24
Total Workload		24