

TOROS ÜNİVERSİTESİ

Faculty Of Engineering
Electrical And Electronics Engineering (English)

Course Information

NANOTECHNOLOGY					
Code	Semester	Theoretical	Practice	National Credit	ECTS Credit
		Hour / Week			
EEE312	Spring	3	0	3	3

Prerequisites and co-requisites	
Language of instruction	English
Type	Elective
Level of Course	Bachelor's
Lecturer	
Mode of Delivery	Face to Face
Suggested Subject	
Professional practise (internship)	None
Objectives of the Course	To have a knowledge about nanotechnology materials, their productions, characterizations and applications
Contents of the Course	The topics covered in this course include: ● What is nanotechnology? ● Nano-scale effects ● Nanomaterials and their classification ● Characterization of nanomaterials

Learning Outcomes of Course

#	Learning Outcomes
1	Understand nanotechnology terms
2	Learn to classify nanomaterials
3	Learn to produce nanomaterials
4	Learn characterization of nanomaterials
5	Have ability to work interdisciplinary

Course Syllabus

#	Subjects	Teaching Methods and Technics
1	What is Nanoscience and Nanotechnology? And Their Historical Development	Lecture
2	Physical and chemical phenomena seen at Nano-scale	Lecture
3	Nanomaterials and Their Classification	Lecture
4	Quantum Dots	Lecture
5	Quantum Wires	Lecture
6	Quantum Wells	Lecture
7	Midterm Exam	Exam
8	Nanoparticles	Lecture
9	Manufacturing methods of nanostructures	Lecture
10	Characterization of nanostructures	Lecture
11	Nanotechnological applications	Lecture
12	Nanotechnological risks	Lecture

13	Economic Impact of Nanotechnology	Lecture
14	General Overview	
15	General Overview	
16	Final Exam	Exam

Course Syllabus

#	Material / Resources	Information About Resources	Reference / Recommended Resources
1	Charles P. Poole Jr., Frank J. Owens, Introduction to Nanotechnology, ISBN-10: 0471079359.		
2	Tarık Baykara, Nanoteknolojiler Dünyasına Doğru, 2016.		
3	Fritz Allhoff, Patrick Lin, Daniel Moore, What Is Nanotechnology and Why Does It Matter?: From Science to Ethics, ISBN: 978-1-405-17545-6, 2010.		

Method of Assessment

#	Weight	Work Type	Work Title
1	40%	Mid-Term Exam	Mid-term Exam
2	60%	Final Exam	Final Exam

Relationship between Learning Outcomes of Course and Program Outcomes

#	Learning Outcomes	Program Outcomes	Method of Assessment
1	Understand nanotechnology terms	1	
2	Learn to classify nanomaterials	1	
3	Learn to produce nanomaterials	1	
4	Learn characterization of nanomaterials	1	
5	Have ability to work interdisciplinary	1	

PS. The numbers, which are shown in the column Method of Assessment, presents the methods shown in the previous table, titled as Method of Assessment.

Work Load Details

#	Type of Work	Quantity	Time (Hour)	Work Load
1	Course Duration	14	3	42
2	Course Duration Except Class (Preliminary Study, Enhancement)	0	0	0
3	Presentation and Seminar Preparation	0	0	0
4	Web Research, Library and Archival Work	0	0	0
5	Document/Information Listing	0	0	0
6	Workshop	0	0	0
7	Preparation for Midterm Exam	0	0	0
8	Midterm Exam	0	0	0
9	Quiz	0	0	0
10	Homework	0	0	0
11	Midterm Project	0	0	0
12	Midterm Exercise	0	0	0
13	Final Project	0	0	0
14	Final Exercise	0	0	0

15	Preparation for Final Exam	0	0	0
16	Final Exam	0	0	0
				42