

**YTU Biyomühendislik Doktora Programı**

**BYM6201 Karbon Nano Malzemeler ve Biyomedikal Uygulamaları**

**REVIEW PAPER PRESENTATION TOPICS**

1. Carbon Nanomaterials for Drug Delivery Applications
2. Carbon Nanomaterials for Phototherapy (Photodynamic-PDT and Photothermal Therapy-PTT)
3. Carbon Nanomaterials for Biosensor
4. Carbon Nanomaterials for Tissue Engineering
5. Carbon Nanomaterials for Neural Tissue Engineering
6. Carbon Nanomaterials for Bone Tissue Engineering
7. Carbon Nanomaterials for Cardiovascular Tissue Engineering
8. Carbon Nanomaterials for Vaccine Delivery
9. Carbon Nanomaterials for Biomedical imaging (diagnosis)
10. Carbon Nanomaterials for Theranostic
11. Carbon Nanomaterials for lab on a chip
12. Toxicity and Biocompatibility of Carbon Nanomaterials
13. Carbon Nanomaterials for Environmental Applications

***Some of reviews on CNMs***

* A review of optical imaging and therapy using nanosized graphene and graphene oxide
* Advanced review of graphene-based nanomaterials in drug delivery systems: Synthesis, modification, toxicity and application
* An Overview of Carbon Nanotubes and Graphene for Biosensing Applications
* Assessing biocompatibility of graphene oxide-based nanocarriers: A review.
* Bioapplications of graphene constructed functional nanomaterials.
* Biomedical applications of the graphene-based materials.
* Graphene and graphene oxide as new nanocarriers for drug delivery applications.
* Graphene as cancer theranostic tool: progress and future challenges.
* Graphene-Based Electrochemical Platform for Biosensor Applications
* Graphene-based nanomaterials for drug delivery and tissue engineering
* Graphene-based nanomaterials for nanobiotechnology and biomedical applications.
* Graphene-based platforms for cancer therapeutics
* Nano-graphene in biomedicine: theranostic applications.
* New horizons for diagnostics and therapeutic applications of graphene and graphene oxide.
* Pharmaceutical applications of graphene-based nanosheets
* Recent Developments of Phototherapy Based on Graphene Family Nanomaterials.
* Surface-engineered graphene-based nanomaterials for drug delivery
* The advancing uses of nano-graphene in drug delivery.



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**BYM6201 Karbon Nano Malzemeler ve Biyomedikal Uygulamaları Sunum Planı**

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| --- | --- | --- | --- |
| ***Week*** | ***Date*** | ***Lecture / Status*** | ***Presenter / Topic*** |
| 1 | 3.10.2023 | ***Introduction*** | **Introduction to Course** |
| 2 | 10.10.2023 | **Lectıre-1** | **Introduction to Bioengineering & Carbon Nano Materials** |
| 3 | 17.10.2023 | **Lectıre-2** | **Nanostructured Materials** |
| 4 | 24.10.2023 | **Lecture-3** | **Carbon Nanotubes** |
| 5 | 31.10.2023 | **Lecture-4** | **Graphene** |
| 6 | 7.11.2023 | **Lecture-5** | **Biomedical Applications of Graphene** |
| 7 | 14.11.2023 | **Lecture-5** | **Biomedical Applications of Graphene** |
| 8 | **21.11.2023** | ***Ara sınav*** | # |
| 9 | 28.11.2023 | **Lecture-6** | **Biosensor Application of CNMs** |
| 10 | 5.12.2023 | ***Review Paper Presentation*** |  |
| 11 | 12.12.2023 | ***Review Paper Presentation*** |  |
| 12 | 19.12.2023 | ***Review Paper Presentation*** |  |
| 13 | 26.12.2023 | ***Project Presentation*** |  |
| 14 | 2.01.2024 | ***Project Presentation*** |  |
| 15 | **9.01.2024** | ***Final Sınavı*** | # |