

Planning and Quality Assurance Affairs

Form (A)

Course Specifications

General Information

Course name	Nanotechnology of Pharmaceutical dosage Forms
Course number	PHTC5218
Faculty	
Department	
Course type	Major Needs
Course level	5
Credit hours (theoretical)	2
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - To get acquainted the principle of pharmaceutical nanotechnology
2 - To identify the advantages of nanotechnology in dosage forms
3 - To identify the types of nano- drug delivery systems
4 - To get acquainted with using nanotechnology in diagnosis
5 - To understand the application of nanotechnology in modified release system
6 - To understand the application of nanotechnology in therapeutics
7 - To understand nanotoxicity

Intended Learning Outcomes

Knowledge and Understanding	* Getting acquainted the principle of pharmaceutical nanotechnology * Identifying the advantages of nanotechnology in dosage forms * Identifying the types of nano- drug delivery systems * Getting acquainted with using nanotechnology in diagnosis * Understanding the application of nanotechnology in modified release system * Understanding the application of nanotechnology in therapeutics
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Course Contents

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| 1 - Introduction to nanotechnology |
| 2 - Polymeric micelles |
| 3 - Liposomes |
| 4 - Dendrimer |
| 5 - Nanoemulsion |
| 6 - Quantum dots |
| 7 - Metallic nanoparticles |
| 8 - Application of nanotechnology in modified release system |
| 9 - Therapeutics and nanotechnology |
| 10 - Nanotechnology and cancer |
| 11 - Nanotoxocity |

Teaching and Learning Methods

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| 1 - Lectures |
| 2 - Presentations |

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Mid term exam	60 min	30
Quizzes	60 min	30
Final exam	90 min	40

Books and References

Course note	Lectures
	Nanotechnology in drug delivery. By Melgardt Villiers, Pornanong Aramwit, and Glen Kwon
Recommended books	Pharmaceutical nanotechnology, fundamentals and practical applications. By Costas Demetzos