



Course Specification

1-Basic Information

Title: **Pharmaceutical preparation technology**

Code: MPT 053

Level: Level: M. of Pharm. Sci. (Pharmaceutics) year 2

Department: **Pharmaceutics**

Unit: 2 **Hour/week**

Lecture: Two hours per week Tutorial:0 Practical:0

Total: 2hr/week

Year: 2015-2016

2- Aims of Course

This course aims to provide the master students with deep and specialized knowledge of modern technology of pharmaceutical preparations.

3- Intended Learning Outcomes of Course(ILOs)

a- Knowledge and Understanding:

The graduate should be able to:

- a6-Define basics of pharmaceutical preparation technology.
- a6-Illustrate methods of preparation and evaluation of pharmaceutical dosage forms.
- a6-List new pharmaceutical trends in drug manufacturing.

b- Intellectual Skills:

The graduate should be able to:

- b10-Calculate the expiration dates of pharmaceutical preparations.
- b10-Stabilize the prepared pharmaceutical preparations.
- b11-Explain formulation factors affecting pharmaceutical preparations.
- b12-Solve problems encountered during formulation of pharmaceutical preparations.

c- Professional and practical Skills:

The graduate should be able to:

c9-Make decision concerning choice of preparations techniques and evaluation of formulations

d- General and Transferable Skills:

The graduate should be able to:

d6-Communicate with pharmaceutical companies to apply modern preparation techniques.

d15-Offer counseling in all problems encountered in applying advanced preparation techniques.

Course Contents

| Topic | No. of hours | Lecture | Tutorial / Practical |
|---|--------------|---------|----------------------|
| Introduction on nanoparticles | 4 | | |
| Nanoparticles preparation methods | 4 | | |
| Properties of nanoparticles | 4 | | |
| Nanoparticles uses and applications | 4 | | |
| Introduction on liposomes and extended release systems | 4 | | |
| Liposomes preparations methods and medical applications | 4 | | |
| Factors affecting extended release systems | 4 | | |
| Problems of extended release systems | 2 | | |
| Total | 30 | | |

4- Teaching and Learning Methods

- 4.1-Lectures
- 4.2- Discussion
- 4.3- Essay writing and reports.

5- Teaching and learning methods for disables

None

6- Student Assessment

a- Student Assessment methods

6.1-Written exam to assess understanding and knowledge.

b- Student Assessment Schedule

| No. | Assessment | week |
|-----|--------------------|---------|
| 1. | Final written exam | In June |

c- Weighting of Assessments

| No. | Exam. | Mark | % |
|-----|----------------------------------|------|------|
| 1. | Mid-Term Examination | | |
| 2. | Final-Term Examination | 100 | 100% |
| 3. | Oral Examination | | |
| 4. | Practical Examination | | |
| 5. | Semester Work | | |
| 6- | <u>Other types of assessment</u> | | |
| | <u>Total</u> | 100 | 100% |

7- List of References

a- Essential Books (Text Books)

- FanunM. (2016). Colloids in Drug Delivery. Volume 150. CRC Press.
- Schmid G. (2010). Nanoparticles: From Theory to Application. Wiley.

b- Recommended Books

- Weissig V.(2009). Liposomes: Methods and Protocols, Volume 1: Pharmaceutical Nanocarriers. Humana Press.

c- Periodicals, Web Sites,etc

- De Jong WH, Borm PJ. Drug delivery and nanoparticles:applications and hazards. Int J Nanomedicine 2008;3(2):133-49.
- Steichen SD, Caldorera-Moore M, Peppas NA. A review of current nanoparticle and targeting moieties for the delivery of cancer therapeutics. Eur J Pharm Sci 2013 Feb 14;48(3):416-27.
- <https://en.wikipedia.org/wiki/Liposome>
- https://en.wikipedia.org/wiki/Dosage_form

- **8- Facilities Required for Teaching and Learning**

Course Coordinator:Mona Mostafa El-Mahdy

Head of Department:Prof. Dr. Mahmoud El-Badry

Date: 7/ 3 /2016

University

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Course Title

**Pharmaceutical
preparation
technology**

Faculty

Pharmacy

Course Code

MPT 053

Department

Pharmaceutics

Matrix of the Intended Learning Outcomes (ILOs) of the Course

| Topic | Week | Knowledge and Understanding | Intellectual Skills | Professional and Practical Skills | General and Transferable Skills |
|---|-------------------------------------|------------------------------------|----------------------------|--|--|
| Introduction on nanoparticles | 1 st , 2 nd | a6 | | | |
| Nanoparticles preparation methods | 3 rd , 4 th | a6 | | c9 | d6,d15 |
| Properties of nanoparticles | 5 th , 6 th | a6 | | | d6,d15 |
| Nanoparticles uses and applications | 7 th , 8 th | a6 | | | d6,d15 |
| Introduction on liposomes and extended release systems | 9 th , 10 th | a6 | | | d6,d15 |
| Liposomes preparations methods and medical applications | 11 th , 12 th | a6 | | | d6,d15 |
| Factors affecting extended release systems | 13 th , 14 th | a6 | | | d6,d15 |
| Problems of extended release systems | 15 th | a6 | b10, b11, b12 | c9 | d6,d15 |

Course Coordinator: Mona Mostafa El-Mahdy

Head of Department: Prof. Dr. Mahmoud El-Badry

Date: 7/ 3 /2016