



جامعة مصر للعلوم والتكنولوجيا

Course Specification
2015 – 2016



لوم والتكنولوجيا
كلية الصيدلية والتصنيع الدوا

Clinical Pharmacy Department



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**Course Specification
2015-2016**



امعة مصر للعلوم والتكنولوجيا
كلي علوم الصيدلية التصنيع الدوائى

PHCL 412



جامعة مصر للعلوم والتكنولوجيا

Course Specification
2015-2016



امعة مصر للعلوم والتكنولوجيا
كلي علوم الصيدلية التصنيع الدوائى



Clinical Pharmacy Department

A- Basic Information:

Program(s) on which the course is given:	Bachelor degree of Pharmaceutical Sciences
Department offering the course	Clinical Pharmacy Department
College offering the program:	College of pharmaceutical Science & Drug Manufacturing, MUST University
Department responsible for teaching the course:	Clinical Pharmacy Department
Academic year / level:	Fourth level, second semester
Course title:	Clinical Pharmacy Practice
Course code:	PHCL 412
Contact hours (credit hours):	Lecture: (2), Practical: (2), Total 3 credit hours
Course coordinator	Prof. Dr. Mohamed Ismail Hamid
Major or Minor element of programmes:	Major
Date of specification approval:	1/9/2015

B- Professional Information:

The course aim and intended learning outcomes are based on that mentioned in the program specifications, with more course-related specific details.

1. Overall Aims of Course:

The course is designed to integrate and apply the knowledge gained from studying pathophysiology, biochemistry, pharmacology and other pharmaceutical sciences to formulate a rational and safe drug regimen for a particular patient. The course is taught in both lectures and group discussions (tutorials) and provides the student with an understanding of the rational drug and adjunctive therapy in the treatment of selected diseases. During this course the student will develop communication skills through presentation and discussion of clinical materials from case studies and current literature with their professors and instructors.



2. Intended Learning Outcomes of Course (ILOs)

a. Knowledge and Understanding:

By the end of the course, students should be able to explain:

- a1- Integrate basic and recent information on disease processes and their diagnosis
- a2- Integrate lab and other diagnostic markers for disease diagnosis
- a3- Select the appropriate drugs for individual patients
- a4- Explain different therapeutic plans according to patients' diseases states

b. Intellectual Skills:

By the end of the course, students should be able to explain:

- b1- Understand concept of health team;
- b2- Understand different dosage forms and their use in clinical settings
- c3- Solve some problems encountered in formulation of dispersion systems.
- b3- Collect and analysis medical information and their utility in patients history

c. Professional and Practical Skills:

By the end of the course, students should be able to explain:

- c1- Develop the clinical touch regarding diseases and other methods of treatment
- c2- Assess the necessity of drug treatment and their adverse reactions
- c3- Select between different drugs

d. General and Transferable Skills:

By the end of the course, students should be able to explain:

- d1- Adopt ethical, legal and safety guidelines, plan and implement efficient and effective working environment in different settings contributing to organization and management of time.
- d2- Work as a member of team in a clinical team.
- d3- Interact and communicate orally and in writing with other health care professionals in their own specialized language and also express complex issues in terms that lay people can understand.
- d4- Demonstrate critical thinking, problem-solving, decision making and interpretation of laboratory results.
- d5- counsel patients about diseases and drug history.



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3- Contents:

1. Theoretical part:

Topic	Lectures	Tutorial/Practical
Pain management	6	6
Fever management	3	3
Vomiting management	1	1
Coronary artery disease		
- Angina	2	2
- Myocardial infarction	2	2
Congestive heart failure	1	1
Cardiac dysrhythmias	2	2
Hypertension	2	2
Thrombo-embolic disease	1	1
Respiratory disease	1	0
Kidney disease	1	0



4- Teaching and Learning Methods

- 4.1- Formal lectures (board and data show)
- 4.2- Group discussion
- 4.3- Practical sessions
- 4.4- Clinical rounds in hospital
- 4.5- Assignments and clinical cases

5- Student Assessment Methods

- 5.1. Quiz to assess efficient study.
- 5.2. Written exams to assess knowledge and understanding as well as intellectual skills.
- 5.3. Practical exams to assess professional and practical skills.
- 5.4. Oral exams to assess all types of skills and mainly general and transferrable skills

Assessment Schedule

Assessment 1: Q	Week: upon course progression
Assessment 2: Mid Term	Week: 7-8th
Assessment 3: Practical exam	Week: 11-12th
Assessment 4: Final exam	Week: 14th
Assessment 5: oral exam	Week: 14 th

Weighing of Assessments

Mid-Term Examination	16.6%	25 marks
Semester Work and quizzes	13.3%	20 marks
Practical Examination	30 %	45 marks
Final-term Examination	30 %	45marks
Oral Examination.	10%	15 marks
Other types of assessment	none	
Total	100%	150 marks



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كلية علوم الصيدلية والتصنيع الدوائي

6- List of References

6.1- "Clinical Pharmacy note book" prepared by prof. Dr. Mohamed Ismail Hamid (in College Bookstore)

6.2- Essential Books (Text Books)

Allredge BK, Corelli R, Ernst ME, Guglielmo BJ, Jacobson PA, Koda-Kimble MA, Kradjan WE, Williams BR, Young LY, editors. Applied therapeutics: the clinical use of drugs. Wolters Kluwer/Lipincot William & Wilkins; 2013.

Walker R. Clinical pharmacy and therapeutics. Elsevier Health Sciences; 2011 Oct 24.

Katzung BG, Masters SB, Trevor AJ, editors. Basic & clinical pharmacology. New York, NY, USA:: Lange Medical Books/McGraw-Hill; 2004 Jan 5.

Dipiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey LM, Pharmacotherapy 3rd A. A pathophysiologic approach. The McGraw-Hill Companies. Inc. New York; 2008.

7- Facilities Required for Teaching and Learning

Overhead projector and data show

Coordinator of Course: Prof. Dr. Mohamed Ismail Hamid

Head of Department: Prof. Dr. Mohamed Ismail Hamid

Date: 1/9/2015

1/9/2015



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امعة مصر للعلوم والتكنولوجيا
كلي علوم الصيدلية التصنيع الدوائى

PHCL 523



جامعة مصر للعلوم والتكنولوجيا

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كلي علوم الصيدلية التصنيع الدوائى





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امعة مصر للعلوم والتكنولوجيا
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Clinical Pharmacy Department

A- Basic Information:

Program(s) on which the course is given:	Bachelor degree of Pharmaceutical Sciences
Department offering the course	Clinical Pharmacy Department
College offering the program:	College of pharmaceutical Science & Drug Manufacturing, MUST University
Department responsible for teaching the course:	Clinical Pharmacy Department
Academic year / level:	Fifth level, second semester
Course title:	Clinical Pharmacokinetics
Course code:	PHCL 523
Contact hours (credit hours):	Lecture: (1), Practical: (2), Total 2 credit hours
Course coordinator	Prof .Dr AbdelrehimMourad
Major or Minor element of programmes:	Major
Date of specification approval:	1/9/2015

B- Professional Information:

The course aim and intended learning outcomes are based on that mentioned in the program specifications, with more course-related specific details.

1. Overall Aims of Course:

2. The course is designed to enable the student to understand how various disease states alter the pharmacokinetic parameter. The implications of altered pharmacokinetic parameters in pediatric and geriatric age groups, in drug dosing. Concepts of drug monitoring for drugs with narrow therapeutics index are dealt with. The course will provide the student with the principles of dosing patients more rationally and safely



3. Intended Learning Outcomes of Course (ILOs)

a. **Knowledge and Understanding:**

By the end of the course, students should be able to explain:

a1-Describe of pharmacokinetics application in patient care.

a2- Explain Pharmacokinetics modeling.

a3-List pharmacokinetic parameters .

b. **Intellectual Skills:**

By the end of the course, students should be able to explain:

b1- Estimate of patient parameters

b2-Calculate of individual dosing

b3-Modify dosing disease.

c. **Professional and Practical Skills:**

By the end of the course, students should be able to explain:

c1- Design therapy protocol.

c2-Communicate pharmacokinetic knowledge to health care providers

c3- Provide patients consultations

d. **General and Transferable Skills:**

By the end of the course, students should be able to explain:

d1-Work as a member of team in a clinical team.

d2- Interact and communicate orally and in writing with other health care professionals in their own specialized language and also express complex issues in terms that lay people can understand.

d3-Demonstrate critical thinking, problem-solving, decision making and interpretation of laboratory results.

d4- counsel patients about diseases and drug history.

3- Contents:

	Lecture No	Tutorial/Practical No
<p><u>Introduction to clinical pharmacy</u></p> <ul style="list-style-type: none"> • Dose response • Blood level response • Pharmacokinetic/pharmacodynamics 	1	0
<p><u>Compartmental models:</u></p> <ul style="list-style-type: none"> • The concept of a compartment • Types of models • Applications 	1	1
<p><u>One compartmental IV bolus</u></p> <ul style="list-style-type: none"> • Model • Graphical representation • Mathematical treatment • Parameters $K, t_{1/2}, Cl$et • Golden equation 	2	2
<p><u>One compartmental IV infusion</u></p> <ul style="list-style-type: none"> • Model • equation • steady state • Infusion rate 	1	2
<p><u>Two compartmental Model</u></p> <ul style="list-style-type: none"> • Model • equation 	2	2

<ul style="list-style-type: none"> • Application in dosing 		
<p><u>Area under the curve</u></p> <ul style="list-style-type: none"> • Definition • Determinations • Application • Absolute bioavailability • Relative bioavailability • Switching of dosage form 	1	0
<p><u>Multiple dosing</u></p> <ul style="list-style-type: none"> • Graph • Equations • Dose , dosing interval • Factor affecting dosing regimen 	1	1
<p><u>Non –linear peak</u></p> <ul style="list-style-type: none"> • Enzymatic kinetics • Michalis –Menten equation • Parameters Km, Vm • Dosing 	1	0
<p><u>Phenytoin</u></p> <ul style="list-style-type: none"> • Patient parameters • Dosing of phenytoin 	1	1
<p><u>Lidocaine</u></p> <ul style="list-style-type: none"> • Model • Dosing 	1	1



4- Teaching and Learning Methods

4.1-lectures (board and data show)

4.2-Tutorials and discussion sessions

4.3-practical sessions

4.4-self learning and presentation

5- Student Assessment Methods

5.1. Quiz to assess efficient study.

5.2. Written exams to assess knowledge and understanding as well as intellectual skills.

5.3. Practical exams to assess professional and practical skills.

5.4. Oral exams to assess all types of skills and mainly general and transferrable skills

5.4 oral presentation to assess research aspects and communication .

Assessment Schedule

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Assessment 2: Mid Term	Week: 7-8th
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Assessment 4: Final exam	Week: 14th
Assessment 5: oral exam	Week: 14 th

Weighing of Assessments

Mid-Term Examination	16.6%
Semester Work and quizzes	13.3%
Practical Examination	30 %
Final-term Examination	30 %
Oral Examination.	10%
Other types of assessment	none
Total	100%



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6- List of References

6.1- Course Notebook

6.2- Essential Books (Text Books)

- 1- Basic clinical pharmacokinetics Micheal E. Winter
- 2- Applied biopharmaceutics and pharmacokinetics Leon Shargel
- 3- Applied pharmacokinetics edited by: William E. Evans

7- Facilities Required for Teaching and Learning

Overhead projector and data show

Coordinator of Course: Prof. dr. Abdelrehim Mohamed Mourad

Head of Department: Prof. Dr. Mohamed Ismail Hamid

Date: 1/9/2015

1/9/2015